

Issues in Psycholinguistics:

First Language Acquisition

Errors in Speech and Perception

The Babbling Stage

- Children begin to babble regardless of what linguistic environment they are growing up in. Even deaf children babble and their early babbling is very similar to that of normal children.
- Sounds like [b], [p], [m] and [a] are most common, because they are easy to produce (normal articulator positions). But they produce many different sounds, and many of them are not found in the environment around them.
- There is no link between sound and meaning.
- There is no biological need for babbling; children babble for social reasons. They learn to interact with others by the responses their babbling receives—and children who are neglected and receive no encouragement from parents stop babbling.

Stages of Acquisition

As we saw in the film, one can distinguish several major stages in language acquisition (cf. Language File 9.4):

1. The Babbling Stage (around 6 months)
2. The One-Word stage (around 1 year)
3. The Two-Word stage (around 2 years)
4. Child reaches the grammatical complexity of utterances of colloquial adult language (around 3 years)

The age connected with each stage can be slightly different for different children. Interestingly, it has nothing to do with the child's IQ.

The One-Word stage

- Children understand multi-word utterances, but utter only single words.
- They use words like *cookie*, *drink*, *bad*, *no*, but never functional words like *in*, *the*, and
- Words generally monosyllabic (Consonant + Vowel).

The Two-Word stage

- First, just putting two words next to another (each has its own intonation)
- Later, the two words form a simple sentence
 - word-order expresses semantic roles,
 - intonation contour extends over both of them.
- Virtually no syntactic markers, i.e., no inflection for number, tense, etc.
- Pronouns are rare (*me* being the most frequent, sometimes *you*)

Examples: *hi Mommy, baby sleep, byebye doggie, here pretty, allgone doggie, ...*

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Theories of Language Acquisition

- Imitation Theory
- Reinforcement Theory
- Active Construction of a Grammar Theory

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From two-word sentences onward

- Usually function words and morphemes are initially missing (*to, the, can, is, etc.*). This stage, including two word and longer utterances, is therefore often referred to as *telegraphic speech*.
- Function words and morphemes come in gradually, and there tends to be a specific order in which function morphemes are acquired, e.g. plural morpheme 's' is acquired early
- Children seem to constantly change/add rules.

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Imitation Theory

“Children learn language by hearing and imitating what they hear”

However:

- Many things they say, they never hear around.
a my pencil, two foots, Cowboy did fighting me., Cat stand up table.
- Even when they try to imitate what they hear they are unable to reproduce many sentences.

Parent: *He's going out*

Child: *He go out.*

Parent: *That's an old-time train.*

Child: *Old-time train.*

Parent: *Where can I put them?.*

Child: *Where I can put them?*

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Reinforcement Theory

“Children figure out what’s correct because parents reward proper uses of language and discourage improper uses.”

However:

- Parents seldom correct the *form* of child’s utterances, usually just content.

Parents do not say: *I’ll give you a bowl of ice cream if you invert subjects with auxiliaries in all your Wh-questions*

- Even if they (sometimes) do, it does not have much effect.

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Active Construction of a Grammar Theory

“Children create grammars and continually modify them until they are identical to adult grammars.”

- Children look for general patterns, systematic occurrences in language around them, deriving rules from them.
- At every point in time, children have a fully functional grammar.
- They start with a simple grammar (overgeneralize or undergeneralize) slowly increasing complexity.
- This explains, why
 - mistakes children make are systematic.
 - children do not respond to corrections from adults readily (it takes some time, before they correct their internal grammars)

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An example for a conversation:

Child: Want other one spoon, Daddy.

Father: You mean, you want “the other spoon”.

Child: Yes, I want other one spoon, please, Daddy.

Father: Can you say “the other spoon”?

Child: Other ... one ... spoon.

Father: Say ... “other”.

Child: Other.

Father: Spoon.

Child: Spoon.

Father: Other ... spoon.

Child: Other ... spoon. Now give me other one spoon?

- Children are generally consistent at any given point → they use some rules (just different than adults). This theory cannot explain the existence of such rules.

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Over- and Undergeneralization

- Morphological rule overgeneralizations, i.e., using a morphological rule generally, ignoring its restrictions and exceptions.
 - they learn past tense as separate words, e.g. *brought*
 - they discover the *-ed* morpheme, forming all past tenses using it, e.g., *bringed*
 - they learn the exceptions: *brought*Other examples: *foots, feets, mouses, etc.*
- Word meaning overgeneralizations: Words denote more than they do to adults, but there is a general characteristics which all objects share.
e.g., *doggie* = any animal, *moon* = anything round (cakes, letter o, etc.)
- Word meaning undergeneralizations: Words denote less than to adults.
e.g., *ball* = a ball under the sofa

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Errors in Speech Production and Perception

- Humans sometimes make errors when they speak or mishear what has been said.
- Studying such errors can help us understand what goes on when humans process language since only things/representations that exist can break.

Two kinds of errors:

- Production errors ("Slips of the Tongue")
- Perception errors ("Slips of the Ear")

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Slips of the Tongue 2

- (2) a. *pale sky* (intended)
b. *pale skay* (actual)
- (3) a. *John praised the man* (intended)
b. *John praised the pan* (actual)

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Slips of the Tongue 1

- (1) a. *splicing from one tape* (intended)
b. *splacing from one tape* (actual)

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Slips of the Tongue 3

- (4) a. *dear old queen* (intended)
b. *queer old dean* (actual)
- (5) a. *fill the pool* (intended)
b. *fool the pill* (actual)
- (6) a. *a floor full of holes* (intended)
b. *a hole full of floors* (actual)
- (7) a. *a language learner needs* (intended)
b. *a language needer learns* (actual)

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- (8) a. I turned in a change of address (intended)
 b. I changed in a turn of address (actual)
- (9) a. clear blue sky (intended)
 b. glear plue sky (actual)
- (10) a. Cedars of Lebanon (intended)
 b. Cedars of Lemadon (actual)

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Some conclusions on the psychological reality of linguistic representations

Speech errors help us understand which kind of linguistic representations have psychological reality:

- In order to move a sound, the speaker must think of it as a separable unit.
- In order to move features of a sound (voiced, nasal, etc.), the speaker must have access to these features of sounds.
- In order to exchange morphemes, the speaker must be able to that split words into morphemes.

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Slips of the Tongue 4

- (11) a. *spic and span* (intended)
 b. *spic and splan* (actual)
- (12) a. *chrysanthemum plants* (intended)
 b. *chrysanthemum pants* (actual)

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Slips of the Tongue 6

In English, the sequence [sr] is not possible at the beginning of a word. Interestingly, we follow this phonotactic property of English even when we make errors:

- (13) a. *Freudian slip* (intended)
 b. *fleudian shrip* (actual)

→ Regularities, such as those about possible sequences of sounds in a language, seem to be psychologically real.

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Slips of the Tongue 7

- (14) a. *My thesis is too long.* (intended)
b. *My thesis is too short.* (actual)
- (15) a. *We might get there before the place opens.* (intended)
b. *We might get there before the place closes.* (actual)
- (16) a. *I can't concentrate when my gums bleed.* (intended)
b. *I can't concentrate when my tongue bleeds.* (actual)

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Some conclusions on how we access words

- Words in a lexicon are organized and indexed according to some property or properties; cf. dictionaries are often organized alphabetical, or by strokes as in Chinese.
- Since we sometimes make errors picking semantically related words, we seem to access words in the lexicon through the meaning.
- Since we sometimes make errors picking phonologically similar words, at some stage in processing words must be organized and searched using their phonological form.

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Slips of the Tongue 8

- (17) a. *spreading like wildfire* (intended)
b. *spreading like wildflowers* (actual)
- (18) a. *equivalent* (intended)
b. *equivocal* (actual)
- (19) a. *marinade* (intended)
b. *serenade* (actual)

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Perception errors

- (20) a. *death in Venice* (said)
b. *deaf in Venice* (heard)
- (21) a. *give them an ice bucket* (said)
b. *give them a nice bucket* (heard)
- (22) a. *the stuffy nose* (said)
b. *the stuff he knows* (heard)
- (23) a. *the biggest hurdle* (said)
b. *the biggest turtle* (heard)
- (24) a. *some others* (said)
b. *some mothers* (heard)