

Psych 215L: Language Acquisition

Introduction

Language is special



René Descartes

“It is a very remarkable fact that there are none ... without even excepting idiots, that they cannot arrange different words together, forming of them a statement by which they make known their thoughts; while on the other hand, there is no other animal, however perfect and fortunately circumstanced it may be, which can do the same.”

Language is special

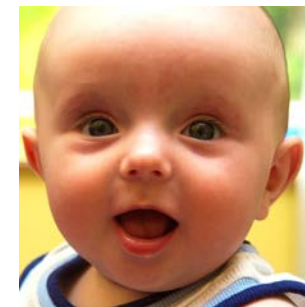
“What is so special about language? Maybe nothing if you are a snail or a camphor tree. But language is paramount among the capacities that characterize humans, setting us off from even the most perfectly formed and functioning of the other beasts on earth; so, as a matter of species pride – if nothing else – we would hold up language as a marker of our humanity and thus a focus of our scientific interest.” (Gleitman & Liberman 1991: xix)



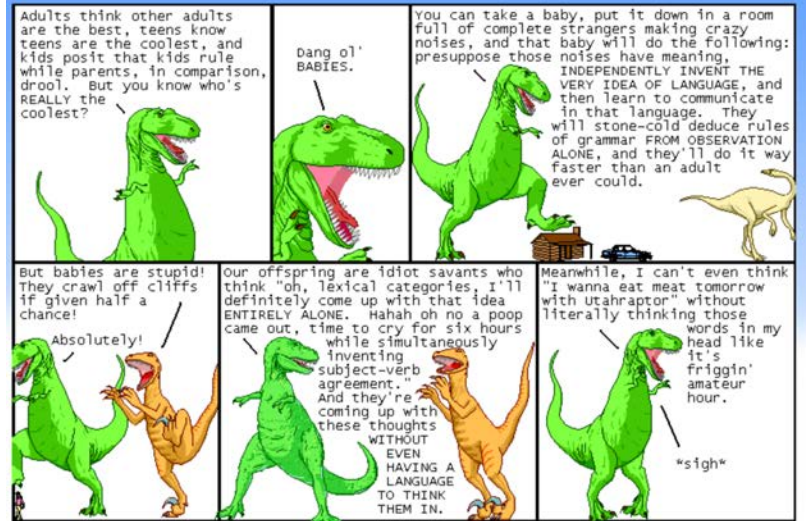
Knowledge of language

It's so natural for us to produce and comprehend language that we often don't think about what an accomplishment this is.

Or how we learned language in the first place.



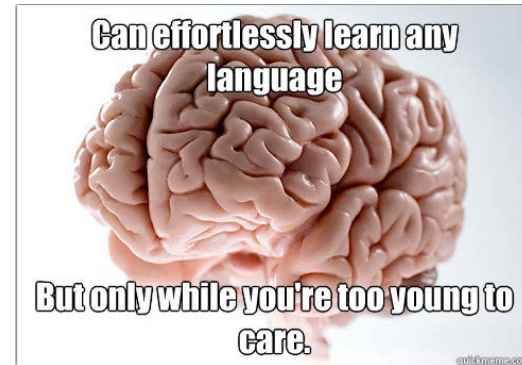
Babies are amazing at learning language



<http://www.qwantz.com/index.php?comic=2479>

The mystery of language acquisition

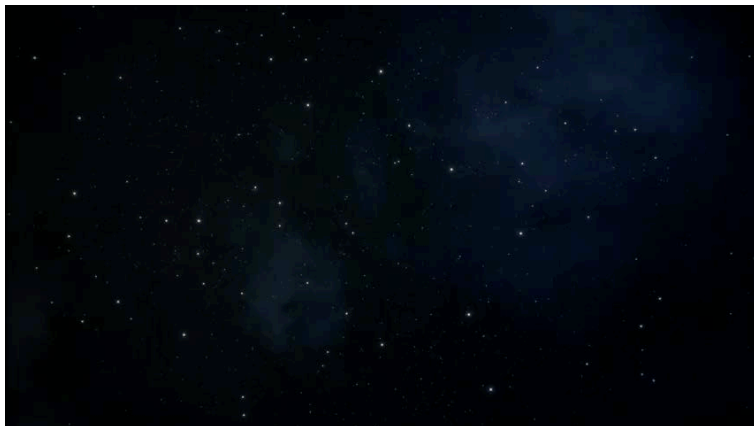
<http://www.quickmeme.com/meme/36f39x/>



“The Linguistic Genius of Babies”

http://www.ted.com/talks/patricia_kuhl_the_linguistic_genius_of_babies.html

(up through 10:07)



About language

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It includes sound structure, word structure, word meaning, sentence structure, mapping from sentence structure to meaning, unspoken rules of conversation...



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Stress pattern

go blins

Individual sounds (in IPA)

g a b l i n z

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Don't goblins like children?

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Some terminology

Phonology: sounds and sound system of the language

g a b l i n z

go blins

Lexicon & Lexical Semantics: Words and associated knowledge (word forms, word meanings, etc.)

goblins =

(not koblins)



Morphology: system for combining units of meaning together
(goblin + [plural] = goblins)

Some terminology

Syntax: system for combining words into sentences

Goblins like children.



Pragmatics: knowledge of language use

Don't goblins like children? = surprise if the answer is 'no'
(expectation is that the answer is 'yes')
Use this question format to show expectation of a 'yes' answer.

Kids do amazing things

Much of the linguistic system is already known by age 3.



...when kids can't tie their own shoes
or reliably recognize "4".

What kids are doing: extracting patterns and making generalizations from the surrounding data **mostly without explicit instruction.**

Terminology: Patterns or "rules" of language = **grammar**

How do we know they're not only imitating or being taught?

Imitation certainly *is* useful for learning some aspects of language, such as learning that the sequence of sounds “*cat*” refers to a furry, purring pet.



However, children can't learn how to understand and produce full sentences by imitating what they hear and repeating it word for word.

Why not?

One reason: Most sentences are novel – you understand and produce them on the fly, and may never have heard them before.

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Also, it turns out that children are bad at imitating sentences where they don't know some of the words (so how could they learn those words by imitating them?):

“The cat is hungry” becomes “Cat hungry.”

In addition, children don't often repeat word-for-word what adults around them say.

How do we know they're not only imitating or being taught?

(From Martin Braine)

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?



How do we know they're not only imitating or being taught?

It's also unlikely children learn by being explicitly taught. This is because once we go beyond the most superficial things (like “cat” is a furry, purring pet), most of our knowledge is subconscious. We know it – but we don't know *how we know it or why it's so*.

Knowledge of language & hidden rules

Some examples from language:

You know that...

...*strop* is a possible word of English, while *stvop* isn't.

Knowledge of language & hidden rules

Some examples from language:

You know that...

...to ask about "someone" in the sentence
"You think that [someone] did it",
you can't ask it this way:

"Who do you think that did it?"



(Instead: "Who do you think did it?")



Knowledge of language & hidden rules

Some examples from language:

You know that...

...In "She ate the peach while Sarah was reading", *she* ≠ *Sarah*

but *she* can be *Sarah* in all of these:

Sarah ate the peach while *she* was reading.
While *she* was reading, *Sarah* ate the peach.
While *Sarah* was reading, *she* ate the peach.



Knowledge of language & hidden rules

Some examples from language:

You know that...

...the 's' in 'cats' sounds different from the 's' in *goblins*



Knowledge of language & hidden rules

Some examples from language:

You know that...

... contracted forms like “**wanna**” and “**gonna**” can’t always replace their respective full forms “**want to**” and “**going to**”.

You get to choose who you will rescue.

“Who do you **want to** rescue?”

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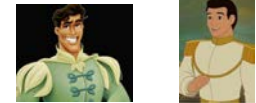
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You get to choose who will do the rescuing.

“Who do you **want to** do the rescuing?”

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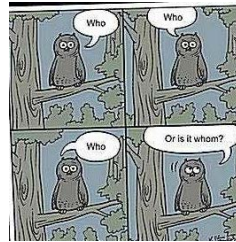
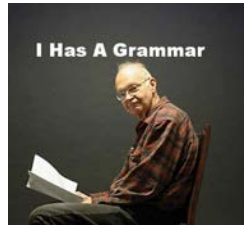
“I’m **going to** the witch’s lair to rescue her.”

* “I’m **gonna** the witch’s lair to rescue her.”



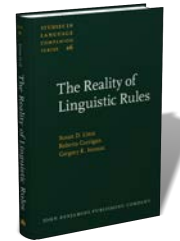
What's being learned:

Patterns or "rules" of language = **grammar**



Linguistic rules

The point: our minds store words and meanings and the **patterns** into which they can be placed.



The mental grammar

"In short, in order for us to be able to speak and understand novel sentences, we have to store in our heads not just the words of our language but also the patterns of sentences possible in our language. These patterns, in turn, describe not just patterns of *words* but also patterns of *patterns*. Linguists refer to these patterns as the *rules* of language stored in memory; they refer to the rules as the *mental grammar* of the language, or *grammar* for short." - Jackendoff (1994)



What about learning by explicit correction?

Even if the knowledge is subconscious, couldn't parents teach children these rules of language by explicitly correcting them when they say something wrong?

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Even if the knowledge is subconscious, couldn't parents teach children these rules of language by explicitly correcting them when they say something wrong?

The problem: parents don't correct their children that often about the **form of the language**. Instead, they tend to correct when the **meaning is incorrect**.

Child: "Her curl my hair."

Parent: "Uh huh."

Child: "There's an animal farmhouse."

Parent: "No, that's a lighthouse."

What about learning by implicit correction?

Parents may provide implicit correction by offering alternative language forms when a child has said something incorrect. In effect, **the parents provide a good example of language use for children without explicitly correcting them**. This is called a **recast**.

Child: The dog **runned** really fast, Daddy.

Parent: Yeah, he **ran** really fast, didn't he?

What about learning by implicit correction?

However, parents don't provide recasts all the time or all that consistently. One study looking at interactions between 2-year-olds and their mothers showed that they **only made recasts after 26.3% of incorrect sentences**. The rest of the time, they didn't bother.

Also, sometimes parents will **repeat children's incorrect utterances** if they agree with the meaning of them! This would seem to reinforce the incorrect language usage.

Child: Read book.

Mother: Alright, you **read book**.

(instead of *read the book*)

What about learning by implicit correction?

Still, recasts can be very helpful when they offer a direct and immediate contrast between the child's way of saying something and the correct way. Saxton et al. (1998) found that children learned more quickly when they were given recasts.

Recasts may help speed up learning, but probably aren't responsible for learning all knowledge about language.

Why study language development?

The big picture, theoretically speaking:

“The study of language acquisition still plays a central role in the debate over how to characterize human cognition, for the same reason that language acquisition played a central role in the cognitive revolution. That is, **it is so difficult to explain how language acquisition is possible that accounting for language acquisition is a test not likely to be passed by inaccurate cognitive theories.**” – Hoff (2008), p.8

Why study language development?

More on the big picture:

“...there is the challenge of **explaining why language has the particular properties that it does** (the problem of language design) and **how those properties emerge so reliably in the course of early childhood** (the problem of language acquisition). It is the search for answers to these two problems that makes work in linguistics central to the larger enterprise of cognitive science.” – O’Grady (2012)

Why study language development?

More practically speaking, applications of language development research:

- (1) Understanding how normal language development proceeds so that we can help children who have problems with their language development (**language pathology**)
- (2) Understanding how learning more than one language works, and how to best teach children who are learning multiple languages simultaneously (**language pedagogy**)

The interaction of theory & practice

These two areas aren’t always separate - insights from one can help understanding in the other.

Example: Research on children with autism
(Tager-Flusberg, 1994, 2007)



Autistic children have severe communicative deficiencies. However, they still acquire language structure.

Implication: Learning language involves more than learning how to fulfill a need to communicate.

What this means: **applied language development research influences understanding of the process of language development**

Questions?

