

Language Acquisition

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Plato's Problem:

How do children learn language so fast, given the limited and faulty input?

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...are we just imitating what we hear?
(learning what we're taught?)
(Skinner: behaviorism)

Plato's Problem

- parents' priorities:

child: Momma isn't a boy, he a girl.

mother: That's right.

Plato's Problem

- parents' priorities

child: Momma isn't a boy, he a girl.

mother: That's right.

child: And Walt Disney comes on Tuesday.

mother: No, he does not.

Plato's Problem

- parents' priorities
- when parents *do* try to teach, they get ignored:

child: Nobody don't like me.

father: No, say "Nobody likes me."

(repeat six times)

child: Oh! Nobody don't likes me.

Plato's Problem

- parents' priorities
- when parents *do* try to teach,
they get ignored
- we acquire complicated things
we're never taught

(X-bar theory! conservativity of quantifiers!
Tagalog infixation!...)

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- we acquire complicated things we're never taught
- acquisition is unrelated to intelligence (Williams syndrome)

Plato's Problem

- parents' priorities
- when parents *do* try to teach,
they get ignored
- we acquire complicated things
we're never taught
- acquisition is unrelated to intelligence
- children never make certain errors...

Plato's Problem

The man is claiming that 24.900 is fun.

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The man [who is bearded] is tall.

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Plato's Problem

Children don't ever make mistakes about this. Human beings aren't able to make mistakes about this; we're set up to only consider certain hypotheses.

- Move I of main clause to C
- ~~• Move first I to C~~

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Chomsky's solution:

We are genetically endowed with Universal Grammar, which limits the hypotheses we consider as we acquire language.

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(**careful!** UG isn't the grammar of a particular language...)

Principles and Parameters

I think **that** Susan likes chess.

I think Susan likes chess.

What do you think **that** Susan likes ___ ?

What do you think Susan likes ___ ?

...usually, *that* is optional...

Principles and Parameters

I think **that** Susan likes chess.

I think Susan likes chess.

What do you think **that** Susan likes ___ ?

What do you think Susan likes ___ ?

*Who do you think **that** ___ likes chess?

Who do you think ___ likes chess?

...but not always.

Principles and Parameters

I think **that** Susan likes chess.

I think Susan likes chess.

What do you think **that** Susan likes ___ ?

What do you think Susan likes ___ ?

*Who do you think **that** ___ likes chess?

Who do you think ___ likes chess?

probably hard to acquire: sentences are pretty complicated.

Principles and Parameters

...and it's not universal.

that-trace effect:

*Who do you think that ___ likes chess?

English *

French *

Italian ✓

Spanish ✓

Levantine Arabic *

Beni-Hassan Arabic ✓

Since the "*that*-trace effect" isn't universal, it can't be innate. And it looks difficult to acquire; you have to hear (and understand) pretty complicated sentences to know whether it's there.

-->but if it's linked to something that's easy to observe, that would make things easier...

postverbal subjects

John left.

*Left John.

Gianni è andato.

È andato Gianni.

that-trace

postverbal subjects

English

*

*

French

*

*

that-trace

postverbal subjects

English

*

*

French

*

*

Italian

✓

✓

Spanish

✓

✓

	<i>that</i> -trace	postverbal subjects
English	*	*
French	*	*
Italian	√	√
Spanish	√	√
Levantine Arabic	*	*
Beni-Hassan Ar.	√	√

Good news for the learner! You don't have to hear your parents say:

Who do you think (that) ___ likes chess?

You just have to hear them say:

Left John.

Good news for the learner! You don't have to hear your parents say:

Who do you think (that) ___ likes chess?

You just have to hear them say:

Left John.

-->no need for negative evidence

Principles and Parameters

-->the hope is that every obscure fact is linked to an easy-to-observe fact.

Principles and Parameters

children have some innate principles
(Principle C; phrase structure; if my
language has postverbal subjects it'll lack
the that-trace effect...)

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children have some innate principles
(Principle C; phrase structure; if my
language has postverbal subjects it'll lack
the that-trace effect...)

...and some parameters (does my language
have postverbal subjects or not? are my
heads initial or final?)

Principles and Parameters

The principles are universal, and can be complicated; they're innate, so you don't have to learn them.

The parameters are not universal, but are set on the basis of easy-to-learn phenomena.

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This is the content of UG.

What is innate/universal?

What is learned?

Clearly, something has to be learned...

not all languages are the same...

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critical period (first 7 years or so)

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- "Genie"

Clearly, something has to be learned...

not all languages are the same...

critical period (first 7 years or so)

- "Genie"
- "Chelsea"

Clearly, something has to be learned...

...but, equally clearly, something must be innate.

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- study of language in adults

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...but, equally clearly, something must be innate.

- study of language in adults
- study of acquisition directly

The course of acquisition

5 months-	babbling
12-18 months	one-word stage
18 months	2+ word stage: 50-word vocab
2-3 years	fluent sentences

The course of acquisition

comprehension outpaces production:

- ->10 mo.: 'universal listener'
(sucking rate, looking task)

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comprehension outpaces production:

- ->10 mo.: 'universal listener'
(sucking rate, looking task)
- anecdotes: "no, I say it that way"

The course of acquisition

morphological problems (~2 yrs):

- he run

The course of acquisition

morphological problems:

- he run
- me go

The course of acquisition

morphological problems:

- he run *I runs
- me go *he sees I

The course of acquisition

morphological problems:

• he run *I runs

• me go *he sees I

-->use either the default form, or the correct one.

The course of acquisition

morphological problems:

(accusative is the default in English:)

"who's that?" "me!"

- me go *he sees I

-->use either the default form, or the correct one.

The course of acquisition

(nominative's the default in German:)

"wer ist dass?" "ich!"

(accusative is the default in English:)

"who's that?" "me!"

- me go *he sees I

-->use either the default form, or the correct one.

The course of acquisition

(nominative's the default in German:)

"wer ist dass?" "ich!"

(accusative is the default in English:)

"who's that?" "me!"

- me go *he sees I
- *mich gehe er sieht ich

The course of acquisition

German kids also use infinitives:

Du dass **haben**
you that have-INF

Ich **hab** ein dossen Ball
I have a big ball

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FINAL
infinitive

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SECOND
finite

The course of acquisition

German kids also use infinitives:

	finite	infinitive
verb final	15	44
verb second	216	7

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The course of acquisition

cf. adult German!

Ich möchte einen grossen Ball **haben** **FINAL**
I 'd.like a big ball have-INF *infinitive*

Ich **habe** einen grossen Ball **SECOND**
I have a big ball *finite*

The course of acquisition

English, German kids have a morphological problem:
they use default forms in inappropriate contexts.

The course of acquisition

English, German kids have a morphological problem:

they use default forms in inappropriate contexts.

-->but they get the syntax right!

Children and Binding Theory

Mama Bear_i is touching herself_i

*Mama Bear_i is touching her_i

Children and Binding Theory

Mama Bear_i is touching herself_i

*Mama Bear_i is touching her_i

4-5-year-olds only * this about 50%
of the time.

Adults and Binding Theory?

That must be John...

..at least, **he_j** looks like **him_j**.

Adults and Binding Theory?

That must be John...

..at least, **he_j** looks like **him_k**.

- "accidental coreference"

Adults and Binding Theory?

That must be John...

..at least, **he_j** looks like **him_k**.

*He_i saw him_i in the mirror.

- "accidental coreference"
- ...plus a principle saying "no gratuitous use of accidental coreference" ("**Rule I**")

Children and Binding Theory

"Rule I" presumably says something like "If you see a pronoun, think about whether coreference could felicitously be expressed with an anaphor instead: if so, don't interpret the pronoun as coreferring."

Children and Binding Theory

"Rule I" presumably says something like "If you see a pronoun, think about whether coreference could felicitously be expressed with an anaphor instead: if so, don't interpret the pronoun as coreferring." **This sounds hard.**

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Mama Bear_i is touching herself_i

*Mama Bear_i is touching her_i

4-5-year-olds only * this about 50%
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Children and Binding Theory

Mama Bear_i is touching herself_i

*Mama Bear_i is touching her_i

*Every bear_i is touching her_i

Children and Binding Theory

Mama Bear_i is touching herself_i

*Mama Bear_i is touching her_i

⊛ Every bear_i is touching her_i

...but on this, they behave perfectly!

Himself versus *him*

- Do children judge the anaphor *himself* to be more informative than the ordinary pronoun *him* on its local co-reference reading?
 - If so, children should prefer (3) over (2)
 - If not, children should judge (2) and (3) to be equivalent (Jakubowicz, 1984).
- (2) *Papa bear_j covered him_j
- (3) Papa bear_j covered himself_j

Experimental design

To address this question we conducted two experiments:

- Experiment I: 20 children, age 4;2 to 5:01 (mean age 4;8;15) were tested using a Felicity Judgment Task. At the end of each story children were presented with two sentences:
 - Mickey mouse covered **him**.
 - Mickey mouse covered **himself**.

Experiment I: Results

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Mickey Mouse covered *him*

Mickey Mouse covered *himself*

Children rewarded the puppet who has used the anaphor *himself* 73 times out of 80 (91%).