

Child Language Acquisition into the 21st Century

Rebecca Woods

University of Huddersfield

r.woods@hud.ac.uk

[@rlwling](https://twitter.com/rlwling)

Mainstays of Language Acquisition

- Skinner's behavioural theory
- Piaget's developmental theory
- Chomsky's LAD

What do they all have in common?

Mainstays of Language Acquisition

- Skinner's behavioural theory
- Piaget's developmental theory
- Chomsky's LAD

What do they all have in common?

All of these theories are over 40 years old

All of these theories have been debunked/superseded

All of the practitioners are old or dead white men

Mainstays of Language Acquisition

- Framing the field in terms of “**nature vs nurture**”

Both main approaches believe that “nature” is involved...
...and they both state that the child needs “nurture” too...

What differs is the **nature of nature**
and the **nature of nurture**.

Conflicting pressures

- Inspiring students to think about the nature of language and the nature of the language user
- Equipping candidates with useful theory to apply to the texts/questions they receive in the short time allotted

Aim of this session

- Introduce more recent iterations of the famous theories/newer ideas
 - Case study: embedded clauses
- Introduce new data sources and opportunities to discuss language acquisition

Generative grammar

- Chomsky is still going strong...
- ...but here are some other, more recent researchers focusing specifically on acquisition



Jill de Villiers
(Smith College)



Ana Teresa Perez-Leroux (Toronto)



Tom Roeper
(UMass Amherst)

Generative grammar

Key points:

- Language is species-specific
- The acquisition of language is different from other learning processes
- Is there a specific part of the brain specialised for language? Probably not...
- There is a Universal Grammar (UG) as part of the child's innate language-specific predisposition
- Input (Primary Linguistic Data) is key
- Data = child production and comprehension

Generative grammar

Changes since Chomsky (1965)

- Less tied to the idea that language is a separate “organ” in the brain
- More likely that a range of different processes and brain areas are involved
- Many still subscribe to some version of the Critical Period Hypothesis (Lenneberg 1967)

Generative grammar

Changes since Chomsky (1965)

- Continuity Hypothesis: UG is available to the child from the beginning and child-adult differences are due to other developmental processes
 - Nina Hyams (1986,1996), Harald Clahsen (1992) and others
- Maturation Hypothesis: UG matures with the child and some parts of it mature later than others
 - Hagit Borer and Ken Wexler (1987), Radford (1990)

Generative grammar

An example: acquiring embedded clauses

- (1) Mary said [that Peter is happy].
- (2) James thinks [that Kate will come later].
- (3) Rachel asked [whether John ate all the cakes].
- (4) Emma sagte, [dass Theresa gekommen ist].
Emma said that Theresa come.participle is.
“Emma said that Theresa has come.” (German)

Generative grammar

- Embedded clauses, especially embedded questions, are rare in the input
- Children use embedded clauses correctly quite early on...
 - Aran: Daddy said it was frosty [Aran25b.cha, 2;7.21]
 - Anne: I said get it off [Anne19a.cha, 2;4.12]
 - Ole: ikke da, at det da ikke blir stramt
not then that it then not becomes tight
“Not then, that it doesn’t become (too) tight.” [Norwegian, 2;9.15]

Generative grammar

But they don't interpret them correctly until around age 4

- 3 year old children show difficulties in answering questions like (5) but not (6)

(5) The girl thought she had a bug in her hair, but it was only a leaf. What did the girl think she had in her hair?

(6) The girl wanted to go to the beach but they went to the park. Where did the girl want to go?

- The difference? (5) is finite while (6) is non-finite

Generative grammar

How can we explain whether difference between *think* and *want* matters?

Take a verb like *hope* (Harrigan 2015)

- Children hear *hope* very infrequently
- Its embedded clauses can be both finite and non-finite

(7) I hope that he will visit today.

(8) I hope to see him visit today.

- Children interpret (7) like (5), and (8) like (6)

Generative grammar

- Children are unlikely to be getting this information from the input – *hope* is very rare in child-directed speech
- ...and in any case, why would they misinterpret *hope* in one set of cases, and not in others?
- The difference truly seems to be down to the syntactic differences between finite and non-finite embedded clauses and how children understand the link between tense and truth

Generative grammar

- The Continuity Hypothesis

- Children have all the structure necessary to use embedded clauses, but they lack the ability to see things from others' points of view, which you need to understand embedded clauses under *think*
 - Evidence for: Children fail false belief tasks like (5) until well after they can use embedded clauses
 - : Deaf children who come to signing late also fail false belief tasks until quite late in childhood (7-8 years old)
 - Evidence against: Much younger children can pass non-verbal false belief tasks
 - : Other linguistic evidence for children's ability to understand the world from others' points of view

Generative grammar

- The Maturation Hypothesis
 - Embedded clauses require more complex syntax than matrix clauses; this emerges later
 - Children manage to use them earlier because they make use of the means they have, such as coordination or adjunction (this is why the complementiser “that” is very rare, even in utterances with ‘embedded’ clauses)
 - Evidence for: cross-linguistic similarities of acquisition of embedded clauses
 - Evidence against: the facts on deaf children

Usage-based approaches



Elena Lieven
(Manchester)



Ben Ambridge (Liverpool)



Michael Tomasello
(Max Planck Institute)

Usage-based approaches

- Language is species-specific
- Language is *not* learned using any particular process but by general learning mechanisms
- Language development is cognitive development – as children's brains and cognitive abilities develop, language can progress
- Input is key
- The brain does not contribute any specifically linguistic knowledge for the child to exploit
- Data = child production and adult production

Usage-based approaches

Embedded clauses (again) - Diessel and Tomasello (2001)

- Most utterances with finite complements by children are actually simple utterances
- In these cases the main clause (e.g. I think) is something like an “attention getter” or “epistemic marker”

Usage-based approaches

In child utterances, the main clause:

- Is often short and formulaic
- Has a first/second person subject
- Contains a present tense indicative active verb, without any auxiliaries or modals
- Tends to contain one of a restricted set of verbs

And the embedded clause:

- Has no ‘that’ complementiser
- Tends to be much longer and “more diverse”

Usage-based approaches

Proposal:

- These characteristics of main clauses suggest that they are parenthetical formulae
- Children use these formulae largely in the kinds of context in which they have learned them and do not analyse them
- Non-formulaic uses of main clauses – and other types of verb which take complement clauses – emerge later (4 years +)

Usage-based approaches

Problems:

- This account is only based on what children produce, not what they understand
 - Bearing in mind the limitations of longitudinal data
- There are no clues towards a syntactic difference of the kind that they are proposing (no way to tell whether there are two clauses or just one) and no hint from any other language that this is so

What is it all about?

- So much of the debate comes down to how we can interpret a child's production, particularly their errors
 - Are they signs of creativity?
 - Are they signs of conservative behaviour?
 - Are they signs of processing difficulty, e.g. short-term memory?
- And their choice of structures
 - How can we be sure that children are generating sentences on-line...
 - ...rather than just copying what they've heard?

What is it all about?

- Not *just* about how children learn language
- Deep seated debates about:
 - How the mind works and is organised
 - How language changes – it’s not only people who can already talk who can affect the language we speak
 - Forming new dialects and changing existing ones
 - Forming new languages (sign languages, creoles)
 - Multilingualism – can children “cope” with learning more than one language at a time, and what is the result?
 - Two monolinguals in one brain?
 - ...or something else?

Resources: CHILDES

- A free-to-access database of child language transcriptions
- Longitudinal and experimental studies
- Examples of child language from all stages of development
- Software is free to download and relatively straightforward to use

Resources: CHILDES

The screenshot shows the CHILDES website interface. The browser address bar displays 'chilDES.psy.cmu.edu'. The page title is 'CHILDES Child Language Data Exchange System'. Below the title, a paragraph states: 'CHILDES is the child language component of the [TalkBank](#) system. TalkBank is a system for sharing and studying conversational interactions.'

The main content area is organized into three columns:

- System:** Contains links for [**Ground Rules**](#), [Contributing New Data](#), [IRB Principles](#), and [Overviews and Introductions](#).
- Databases:** Contains links for [**Index to Corpora**](#) (circled in red), [Browsable Database](#), and [Hints on Downloading](#).
- Manuals:** Contains links for [CHAT Transcription Manual](#), [CLAN Program Manual](#), [SLP's Guide to CLAN and 中文](#), and [EVAL manual](#).

Additional sections include:

- Links:** [Other TalkBank databases](#), [Other Child Language sites](#), [Research based on CHILDES](#).
- Phonology and Fonts:** [Phon and PhonBank](#).
- Programs:** [CLAN : Program - Manual - Tutorial](#), [XML creator and XML Schema](#), [Related Software](#).
- Ideas:** [Topics](#) in language acquisition, Teaching [Tips](#) and [Resources](#), [Child Language Bibliographies](#).
- Contact:** Brian MacWhinney : [homepage](#), [Joining Membership Lists](#), How to subscribe to [Mailing Lists](#).
- Morphology and Lexicon:** [Part of Speech Analysis by MOR](#), [MRC lexical dictionary](#), [Syntactic analysis by GRASP](#).

The Windows taskbar at the bottom shows the time as 08:55 on 25/11/2016.

Resources: CHILDES

The screenshot shows the CHILDES website interface. At the top, the browser address bar displays 'chilides.psy.cmu.edu'. The page title is 'CHILDES Child Language Data Exchange System'. Below the title, a brief description states: 'CHILDES is the child language component of the [TalkBank](#) system. TalkBank is a system for sharing and studying conversational interactions.'

The main content area is organized into several columns and sections:

- System:** Contains links for [**Ground Rules**](#), [Contributing New Data](#), [IRB Principles](#), and [Overviews and Introductions](#).
- Database:** Contains links for [**Index to Corpora**](#), [Browsable Database](#), and [Hints on Downloading](#).
- Manuals:** Contains links for [CHAT Transcription Manual](#), [CLAN Program Manual](#), [SLP's Guide to CLAN and 中文](#), and [EVAL manual](#).
- Links:** Contains links for [Other TalkBank databases](#), [Other Child Language sites](#), and [Research based on CHILDES](#).
- Phonology and Fonts:** Contains links for [Phon and PhonBank](#) and [IPA for Mac](#).
- Programs:** This section is circled in red and contains links for [CLAN : Program - Manual - Tutorial](#), [XML creator and XML Schema](#), and [Related Software](#).
- Contact:** Contains links for [Brian MacWhinney : homepage](#), [Joining Membership Lists](#), and [How to subscribe to Mailing Lists](#).
- Morphology and Lexicon:** Contains links for [Part of Speech Analysis by MOR](#) and [MRC lexical dictionary](#).

The Windows taskbar at the bottom shows the time as 08:55 on 25/11/2016.

Resources: CHILDES

```
Clan - [anne19a.cha]
File Edit View Tiers Mode Window Help
@Begin
@Languages: eng
@Participants: INV Caroline Investigator , CHI Anne Target_Child , MOT Mother
@ID: eng|Manchester|CHI|2;4.12|female|typical|MC|Target_Child||
@ID: eng|Manchester|INV||||Investigator||
@ID: eng|Manchester|MOT||||Mother||
@Location: WestBridgford , Nott , UK
@Comment: corresponding wug anne10.wug
@Time Duration: 14:35-15:05
@Time Start: 14:35
@Situation: Free Play
*MOT: xxx .
*CHI: oh .
%mor: co|oh .
%gra: 1|0|INCROOT 2|1|PUNCT
*CHI: slippy .
%mor: adj|slip&dv-Y .
%gra: 1|0|INCROOT 2|1|PUNCT
*MOT: okay .
%mor: co|okay .
%gra: 1|0|INCROOT 2|1|PUNCT
*CHI: that go [* 0es] there .
%mor: re||that v|go adv|there .
%gra: 1|2|LINK 2|0|ROOT 3|2|JCT 4|2|PUNCT
*MOT: yeah .
%mor: co|yeah .
%gra: 1|0|INCROOT 2|1|PUNCT
*MOT: that can go there .
%mor: re||that mod|can v|go adv|there .
%gra: 1|3|LINK 2|3|AUX 3|0|ROOT 4|3|JCT 5|3|PUNCT
*CHI: come and play .
%mor: v|come coord|and n|play .
%gra: 1|0|ROOT 2|1|CONJ 3|2|COORD 4|1|PUNCT
22sep15[E|CHAT] 1
Ready NUM
```

Resources: CHILDES

<http://childes.psy.cmu.edu/>

Language acquisition in the media

- Ibbotson and Tomasello: a usage-based perspective
<https://www.theguardian.com/science/head-quarters/2015/nov/05/roots-language-what-makes-us-different-animals>
- Another usage-based perspective with many studies cited:
<http://www.scientificamerican.com/article/advantages-of-helpless/>
- A generativist rebuttal of the Scientific American piece above, with lots of data:
<https://blogs.scientificamerican.com/guest-blog/chomsky-s-theory-of-language-learning-dead-not-so-fast/>
- Adger and Culbertson: a generativist perspective
<https://www.newscientist.com/article/dn25334-born-to-chat-humans-may-have-innate-language-instinct/>

Linguists online

Acquisition, Language Evolution, Syntax

- <http://www.languagesoftheworld.info/> - Asya Pereltsvaig

Sociolinguistics

- <http://separatedbyacommonlanguage.blogspot.co.uk/> - Lynne Murphy

A wide range of interests!

- <http://languagelog.ldc.upenn.edu/nll/> - Mark Liberman etc.
- <http://linguistlaura.blogspot.co.uk/> - Laura Bailey

Books for your interest

- Ben Ambridge and Elena Lieven (2011). *Child Language Acquisition: Contrasting Theoretical Approaches*. Cambridge University Press.
- William O'Grady (2005). *How Children Learn Language*. Cambridge University Press.
- Tom Roeper (2007). *The Prism of Grammar: How Child Language Illuminates Humanism*. MIT Press.

References

- Borer, H. and K. Wexler (1987). The maturation of syntax. In: T. Roeper and E. Williams, eds. *Parameter Setting* (pp.123-172). Dordrecht: Riedel
- Clahsen, H. (1992). Learnability theory and the problem of development in language acquisition. In: J. Weissenborn, H. Goodluck and T. Roeper, eds. *Theoretical issues in language acquisition* (pp.53-76). Hillsdale, NJ: Erlbaum
- Chomsky, N. (1965) *Aspects of a theory of syntax*. Cambridge, MA.: MIT Press
- Diessel, H. and M. Tomasello (2001). The acquisition of finite complement clauses in English: a usage based approach to the development of grammatical constructions. *Cognitive Linguistics*, 12, 97-141
- Harrigan, K. (2015). Syntactic bootstrapping in the acquisition of attitude verbs. PhD dissertation, University of Maryland
- Hyams, N. (1986). *Language acquisition and the theory of parameters*. Dordrecht: Riedel.
- Hyams, N. (1996). The underspecification of functional categories in early grammar. In: H. Clahsen, ed. *Generative perspectives on language acquisition* (pp.91-128). Amsterdam: Benjamins
- Lenneberg, E. (1967). *Biological Foundations of Language*. Wiley
- Radford, A. (1990). *Syntactic theory and the acquisition of English syntax*. Oxford: Blackwell