- **UG in language acquisition**
- **L2 acquisition**

Background reading:

- *CL* Ch 9, §6.4–6.5 — UG and critical period
- *CL* Ch 10, §1–2 (especially §1)

1. Review and context

- First-language (L1) acquisition is a process in which a child **develops a mental grammar**

- Today, we will look at:

  - Does L1 acquisition provide **evidence** for **innate UG**?

  - What is the role of mental grammar, and UG, in **second-language (L2) acquisition**?

1. Review and context

- In the last two classes, we saw that these factors do not explain all aspects of L1 acquisition:

  - The **raw frequencies** of adult language forms in the environment

  - Adults **directly correcting** children's language

  - Other kinds of adult feedback, such as **recasts** (repetition with expansion)

- Can you remember some of the evidence that these factors cannot possibly be the whole story?

1. Review and context

- **Universal Grammar (UG)**: "The set of inborn categories, operations, and principles common to all human languages" (*CL*, p 381)

- Does L1 acquisition provide **evidence** for **innate UG**? Two important arguments (controversial):

    - The "**poverty of the stimulus**" argument
    - Evidence for a **critical period**

- The **poverty of the stimulus** argument

  - The argument: Human language grammars are **too complex and abstract** to be learned only on the basis of ambient language data

    → Some parts of mental grammar *must* be innate

- The extent to which this is true is an area of hot debate among linguists and psychologists

  - The human brain certainly must have innate ways of organizing information

  - But — which are specific to language?

2. Poverty of the stimulus

- Example: Interpretation of words such as *him* and *himself* (see §6.4 in *CL* for more details FYI)

  We saw these examples on the first day of class:

  (a)   **Oscar** admires **himself**.

  (b)   Oscar thinks that **Grover** admires **himself**.
        ***Oscar** thinks that Grover admires **himself**.*

  (c)   Oscar told **Grover** stories about **himself**.
        Oscar told Grover stories about **himself**.

  What can *himself* refer to?

2. Poverty of the stimulus

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  (a) [TP ***Oscar*** *admires* ***himself*.]**

  (b) *Oscar thinks that* [TP ***Grover*** *admires* ***himself*.]**
       Oscar *thinks that* [TP *Grover admires* ***himself*.]**

  (c) [TP *Oscar told* ***Grover*** *stories about* ***himself*.]**
       [TP ***Oscar*** *told Grover stories about* ***himself*.]**

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   Oscar *thinks that* [TP *Grover admires* ***himself****.*]

   (c) [TP *Oscar told* ***Grover*** *stories about* ***himself****.*]
   [TP ***Oscar*** *told Grover stories about* ***himself****.*]

- *himself* is restricted to referring to an NP...

   - that is in the **same minimal TP**

   - that **c-commands** (~is higher in the tree than) it

- Example: Interpretation of words such as *him* and *himself* (see §6.4 in *CL* for more details FYI)

    - Requires understanding of "(same minimal) TP"

    - Requires understanding of "c-command"

    - **Could these concepts be acquired from observed language data only?**

    - These concepts appear to be relevant to pronoun interpretation in all languages

    - The *him/himself* (etc.) distinction is acquired early

3. Critical period

- Some linguists argue that there is evidence for innate UG as a "language instinct" because language acquisition has a **critical period**

- A **critical period** is a time period during which exposure to stimuli is particularly important (or even crucially necessary) for complete development
  - some types of bird song
  - barn owls coordinating vision and hearing
  - celestial navigation by indigo buntings
  - ...human language?

3. Critical period

- Humans who are **deprived of language input** seem to show that the ability to acquire a native language...
  - begins to decline around age 6
  - is severely impaired after puberty

3. Critical period

- "Genie": essentially no language input or human interaction until 13

- After therapy:

  (a) Lexical abilities "good"

  (b) Syntax — Examples:

  > *Applesauce buy store.*
  >
  > *Man motorcycle have.*
  >
  > *Genie have full stomach.*

  - Can we identify similarities and differences with stages of typically developing syntax?

3. Critical period

- "Chelsea": deaf, but mistakenly thought to be mentally impaired; no language input until age 31

- After therapy:

  (a) Vocabulary size: 2000 words

  (b) Syntax — Examples:

  > *The woman is bus the going.*

  > *The girl is gone the ice cream buying shopping the man.*

  - Can we identify similarities and differences with stages of typically developing syntax?

3. Critical period

- Language data from "Genie," "Chelsea"

    - Question: What would happen if a child had no language input but completely normal social interaction? (obviously not ethical to carry out an experiment...)

- The evidence seems to show that there is a critical period for fully acquiring a native language

3. Critical period

- Question: Is there a critical period for <u>second</u> (and later) language learning, for people who did acquire a first language normally?

→ We will first look at L2 acquisition in general, and then return to this question

- Research in second-language acquisition
  (SLA, L2 acquisition): (*CL*, p 389)

  - "investigates how people attain proficiency in a language that is not their mother tongue"

- *CL* classifies **all** non-native languages as '**second**'

  - But: Some researchers further distinguish L2 from L3 and additional languages

- SLA can lead to **(sequential) bilingualism**

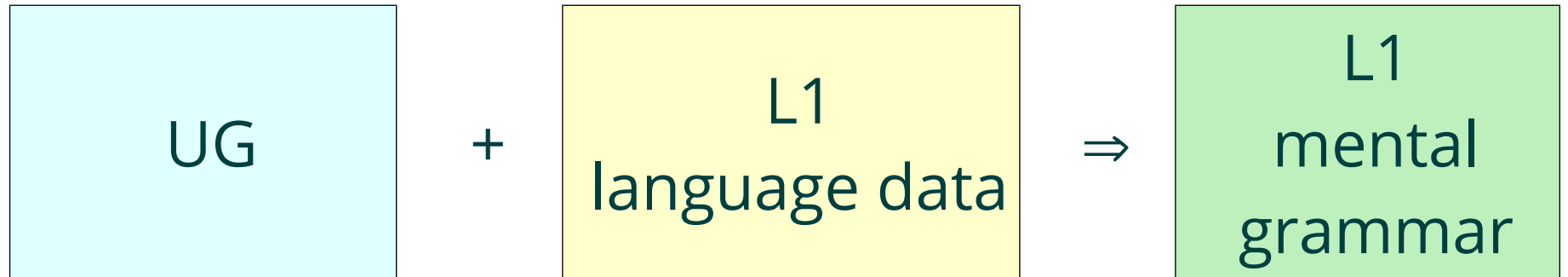 - Potentially distinct from *simultaneous* bilingualism (two native languages)

- Why research L2 acquisition?

  - Better **methods** for teaching/learning L2

  - Insight into (guess what…) human **mental grammar**

- If we look at the 'errors' that L2 learners make, we can potentially learn about…

  - the mental grammar of the relevant L1

  - the mental grammar of the relevant L2

  - Universal Grammar

5. L1, L2, and interlanguage

- As in L1 acquisition, speakers in L2 acquisition go through **stages** of development

  - At each stage, they have a different mental grammar

- Stages distinct from the target L2 grammar are called **interlanguage (IL)**

  - What is IL influenced by?

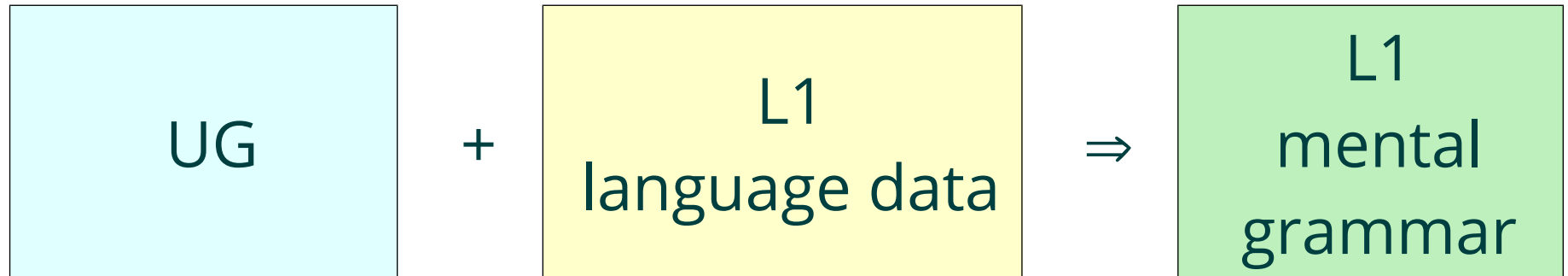 - How is this different from child-specific grammars in L1 acquisition?

- L1 acquisition:

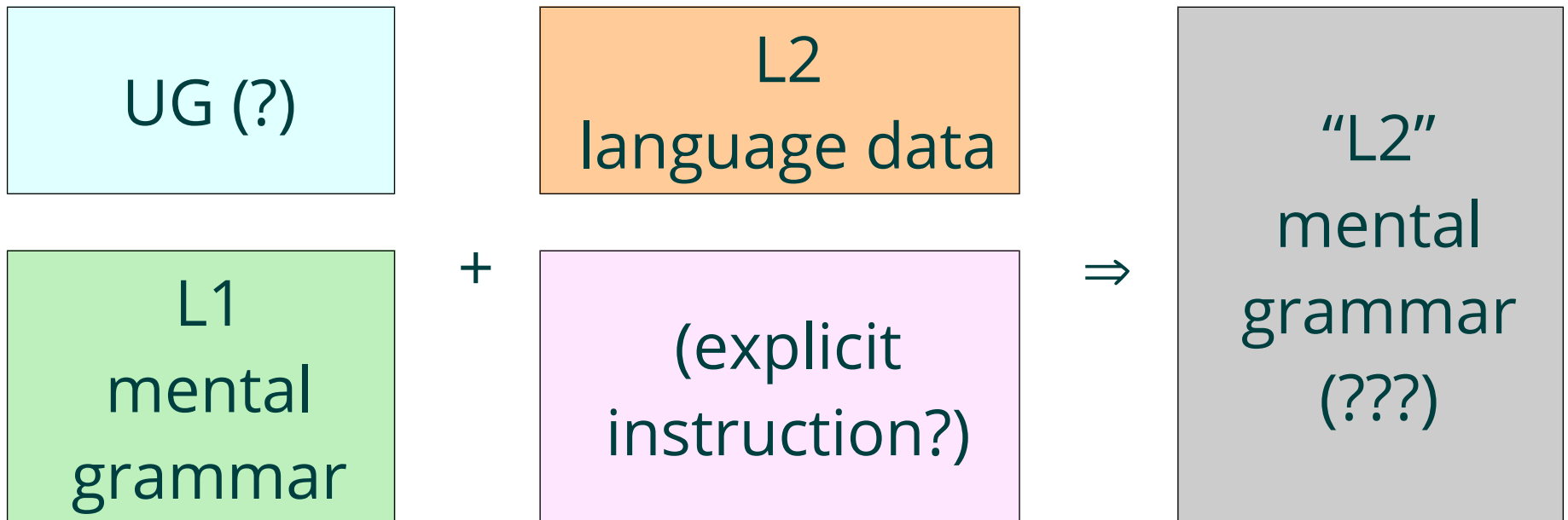$$\boxed{\text{UG}} \ + \ \boxed{\begin{array}{c}\text{L1}\\\text{language data}\end{array}} \ \Rightarrow \ \boxed{\begin{array}{c}\text{L1}\\\text{mental}\\\text{grammar}\end{array}}$$

5. L1, L2, and interlanguage

- L1 acquisition:

UG	+	L1 language data	⇒	L1 mental grammar

- L2 acquisition:

UG (?)		L2 language data		"L2" mental grammar (???)
L1 mental grammar	+	(explicit instruction?)	⇒	

5. L1, L2, and interlanguage

- Interlanguage grammar is influenced by:

    - **exposure to L2 data**

    AND ALSO

    - the **existing L1 grammar**

- May also be influenced by UG directly
  (rather than just via UG⇒L1)

    - Research question: Is there evidence for 'default settings' in interlanguage grammars?

    - This would be: non-L2 characteristics that are *not* caused by the L1 grammar

6. Transfer in interlanguage

- **Transfer**: "the process whereby a feature or a rule from a learner's first language is carried over to the IL grammar" (*CL*, p 391)

  - Transfer = evidence for mental grammar

  - Includes phonology, morphology, syntax, etc.

- Example: English L1 speakers usually add **aspiration** to voiceless stops in L2 Spanish

  - Why would they do this? Voiceless stops [p t k] are not aspirated in Spanish!

6. Transfer in interlanguage

- Example: English L1 speakers usually add **aspiration** to voiceless stops in L2 Spanish

    - Why would they do this? Voiceless stops [p t k] are not aspirated in Spanish!

    - Caused by the aspiration rule—a phonological rule *of English*—being applied in L2 Spanish

- Many recordings of L2 English available from the <u>Speech Accent Archive</u> (George Mason University)

    - Further examples of transfer of L1 phonology to interlanguage English

6. Transfer in interlanguage

- Here are some examples of IL in L2 English **beyond phonology** (*CL*, Table 10.4, p 392)

Table 10.4 Types of errors found in the acquisition of English

L1	Example	Error type	Comment
Spanish	My wife is <u>embarrassed</u>. (meaning 'pregnant')		Spanish *embarazada* = 'pregnant'
Various	I live in a two bedroom <u>department</u>.		Sometimes the wrong word can be chosen.
Various	I <u>didn't took</u> the car.		English doesn't mark the past tense on both auxiliary and main verbs.
Various	She <u>get ups</u> late.		The speaker adds the agreement marker to the particle, not the verb.
French	He <u>drinks frequently</u> beer.		French places the main verb before the adverb.
Various	There's the man that I saw <u>him</u>.		Some languages (e.g., Arabic, Turkish) allow pronouns in this position in a relative clause.

- What types of errors are these?

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L1	Example	Error type	Comment
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Various	I <u>didn't took</u> the car.	morphological	English doesn't mark the past tense on both auxiliary and main verbs.
Various	She <u>get ups</u> late.	morphological	The speaker adds the agreement marker to the particle, not the verb.
French	He <u>drinks frequently</u> beer.	syntactic	French places the main verb before the adverb.
Various	There's the man that I saw <u>him</u>.	syntactic	Some languages (e.g., Arabic, Turkish) allow pronouns in this position in a relative clause.

- One view of UG is that it contains **parameters** (like switches, or menu options)

  - The parameters are set one way or another during L1 acquisition — some examples:

UG stipulates:	Parameters to set:
X' contains X and complement phrase	Is head initial or final in X'?
Speech sounds form syllables	Can a syllable start with multiple consonants?

7. Universal Grammar in interlanguage

- Another parameter proposed for UG:

  Null Subject Parameter (*CL*, p 401)
  The subject of a clause with a verb marked for tense may be null: **{ *no* | *yes* }**

- How is the Null Subject Parameter set for…

  - L1 English?
  - L1 Spanish?

- Another parameter proposed for UG:

  Null Subject Parameter (*CL*, p 401)
  The subject of a clause with a verb marked for tense may be null: **{ *no* | *yes* }**

- How is the Null Subject Parameter set for…

  - L1 English? | no
  - L1 Spanish? | yes

7. Universal Grammar in interlanguage

- A *no* setting for the Null Subject Parameter (as in English) produces a grammar that is a **subset** of the *yes* setting (as in Spanish)

TP with overt subject

TP with null subject
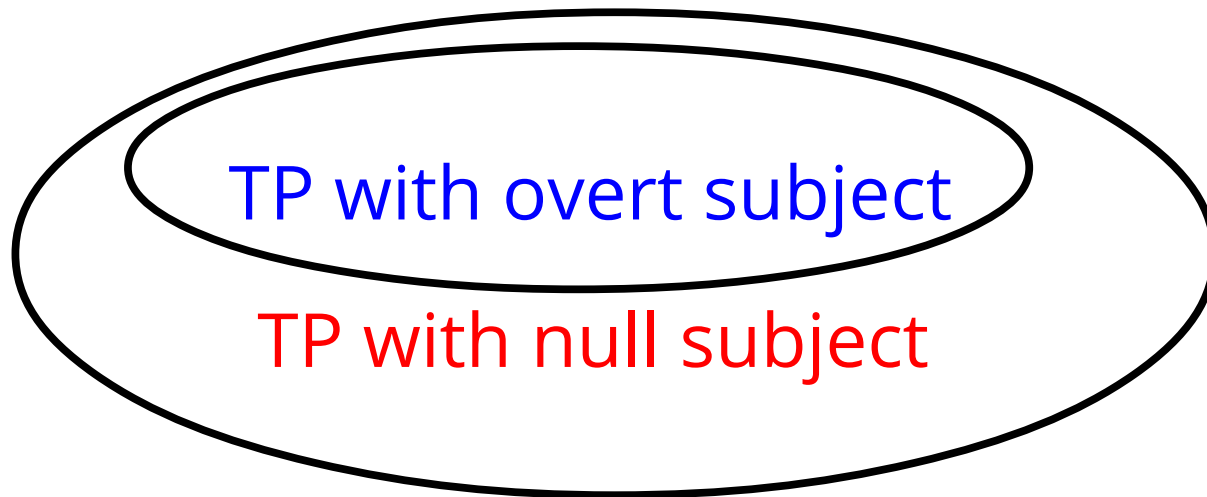
- - L1 English: (tensed) TP with overt subject
- - L1 Spanish: (tensed) TP with overt subject

  (tensed) TP with null subject

- Claim about L1 acquisition:

  - Default setting for Null Subj Parameter is *no*

  - If L1 is actually *yes*, child sees sentences with null subjects and changes the parameter setting

- Consequences for L2 acquisition:

  - Changing from *no* to *yes* is likewise a matter of observing L2 sentences with null subjects

  - Changing from *yes* to *no* is **harder** — needs **negative evidence**: absence of null subjects

- This prediction is supported by L2 data!

8. How 'native' can an L2 become?

- An interlanguage grammar that has stopped changing (before it gets to the target L2 grammar) is said to have **fossilized**

  - Some fossilized interlanguages can be quite different from the target L2 grammar

- There is evidence that L2 learners can never *completely* attain the target L2 grammar

  - Experiments show that even L2 speakers who appear indistinguishable from native speakers don't have exactly the same mental grammar

8. How 'native' can an L2 become?

- Why don't L2 speakers become fully 'native'?
    - Effect of a **critical period** for L2 acquisition?
    - Gradual effect of **age of acquisition**?
    - Effect of already having an **L1 grammar**?
    - **Social/cultural** factors?

- Probably all of these factors are involved
    - Related point: It's hard to *prove* there is a critical period for L2, because of these other factors

- It is nevertheless possible to become a **'near-native'** L2 speaker!