

# Psych156A/Ling150: Psychology of Language Learning

## Lecture 18 Language Structure II

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### Announcements

HW6 due today

Quiz 6 results: Average 17.5 out of 21 (yay!)

Reminder: Email me ([lpearl@uci.edu](mailto:lpearl@uci.edu)) by the end of today if you will be writing a paper for your final assignment.

Note: No late papers will be accepted - so make sure you get it in on time.

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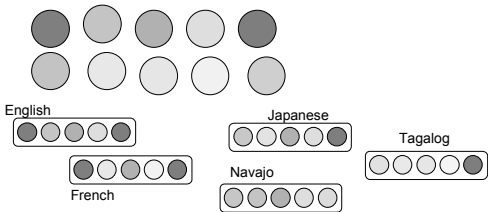
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### Similarities & Differences: Parameters

Big Idea: A relatively small number of syntax parameters yields a large number of different languages' syntactic systems.



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Generalizations About Language Structure

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Greenberg's Word Order Generalizations

Navajo                      Japanese

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Greenberg's Word Order Generalizations

Navajo	Japanese
Basic word order: Subject Object Verb	Basic word order: Subject Object Verb
Ashkii at'éeéd yiyiiltsá Boy girl saw	Jareth-ga Hoggle-o butta Jareth Hoggle hit
The boy saw the girl	Jareth hit Hoggle

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### Greenberg's Word Order Generalizations

Navajo	Japanese
Postpositions: Noun Phrase Postposition	Postpositions: Noun Phrase Postposition
'ée'    biih    náásdzá clothing into I-got-back I got back into (my) clothes.	Jareth-ga Sarah to kuruma Jareth Sarah with car
	da London ni itta by London to went
	Jareth went to London with Sarah by car.

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### Greenberg's Word Order Generalizations

Navajo	Japanese
Possessor before Possessed	Possessor before Possessed
Possessor Possession	Possessor Possession
Chidí bi-jáád Car its-leg	Toby-no imooto-ga Toby's sister
the wheel of a car	Toby's sister

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### Greenberg's Word Order Generalizations

Navajo	Japanese
Basic word order: Subject Object Verb	Basic word order: Subject Object Verb
Postpositions: Noun Phrase Postposition	Postpositions: Noun Phrase Postposition
Possessor before Possessed	Possessor before Possessed
Possessor Possession	Possessor Possession

Despite the differences in the languages, both Japanese and Navajo are very similar when viewed through these three structural descriptions.

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Greenberg's Word Order Generalizations

English

Edo (Nigeria)

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Greenberg's Word Order Generalizations

English

Edo (Nigeria)

Basic word order:  
Subject Verb Object

Basic word order:  
Subject Verb Object

Sarah found Toby.

Òzó mién Adésuwá  
Ozo found Adesuwa.

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Greenberg's Word Order Generalizations

English

Edo (Nigeria)

Prepositions:  
Preposition Noun Phrase

Prepositions:  
Preposition Noun Phrase

Jareth gave the crystal to Sarah.

Òzó rhié néné ebé né Adésuwá  
Ozo gave the book to Adesuwa.

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### Greenberg's Word Order Generalizations

English	Edo (Nigeria)
Possessed before Possessor	Possessed before Possessor
Possession Possessor	Possession Possessor
quest of Sarah (alternative: Sarah's quest)	Omo Ozó child Ozo Ozo's child

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### Greenberg's Word Order Generalizations

English	Edo (Nigeria)
Basic word order: Subject Verb Object	Basic word order: Subject Verb Object
Prepositions: Preposition Noun Phrase	Prepositions: Preposition Noun Phrase
Possessed before Possessor Possession Possessor	Possessed before Possessor Possession Possessor

Again, despite the differences in the languages, both English and Edo are very similar when viewed through these three structural descriptions.

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### Greenberg's Word Order Generalizations

Greenberg found forty-five "universals" of languages - patterns overwhelmingly followed by languages with unshared history (Navajo & Japanese, English & Edo)

Not all combinations are possible - some patterns rarely appear  
Ex: Subject Verb Object language (English/Edo-like) + postpositions (Navajo/Japanese-like)

Moral: Languages may be more similar than they first appear "on the surface", especially if we consider their structural properties.

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More Language Comparisons

French	Italian
Subject Verb	Subject Verb
Jareth arrivera.	Jareth verra.
Jareth will-come.	Jareth will-come.

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More Language Comparisons

French	Italian
*Verb Subject	Verb Subject
*Arrivera Jareth.	Verra Jareth.
*Will-arrive Jareth.	Will-arrive Jareth.

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More Language Comparisons

French	Italian
*Verb	Verb
*Arrivera	Verra
He-will-come	He-will-come

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### More Language Comparisons

French	Italian
Subject Verb	Subject Verb
*Verb Subject	Verb Subject
*Verb	Verb

These word order patterns might be fairly easy to notice. They involve which combinations of Subject and Verb are allowed to exist in the language. A child might be able to notice the prevalence of some patterns and the absence of others.

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### More Language Comparisons

French	Italian
Embedded Subject-question formation (easy to miss)	

Tu veux que Marie épouse J.  
You want that Marie marries J.  
"You want Marie to marry J."

\*Qui veux-tu que \_\_\_ épouse J?  
Que veux-tu qui \_\_\_ épouse J?  
Who want-you that marries J?  
"Who do you want to marry J?"

Requires a special "that" form: qui.

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### More Language Comparisons

French	Italian
Embedded Subject-question formation (easy to miss)	

Credi che Jareth verrà.  
You think that Jareth will-come.  
"You think that Jareth will come."

Che credi che \_\_\_ verrà?  
Who think-you that will-come?  
"Who do you think will come?"

Does not require a special "that" form.

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### More Language Comparisons

<p>French</p> <p>Expletive subjects: words without content</p> <p>*Pleut Il-rains.</p> <p>Il pleut. It rains. "It's raining."</p> <p>Not okay to leave out expletive subject "it".</p>	<p>Italian</p> <p>Expletive subjects: words without content</p> <p>Piove. It-rains. "It's raining."</p> <p>Okay to leave out expletive subject "it".</p>
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### More Language Comparisons

<p style="text-align: center;">French</p> <p style="text-align: center;">Subject Verb</p> <p>*Verb Subject</p> <p>*Verb</p> <p>Requires special action for embedded subject questions.</p> <p>Not okay to leave out expletive subject "it".</p>	<p style="text-align: center;">Italian</p> <p style="text-align: center;">Subject Verb</p> <p>Verb Subject</p> <p>Verb</p> <p>Does not require special action for embedded subject questions.</p> <p>Okay to leave out expletive subject "it".</p>
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All these involve the subject in some way - coincidence?  
Idea: No! There's a language parameter involving the subject.

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### The Value of Parameters: Learning the Hard Stuff by Noticing the Easy Patterns

French vs. Italian: Subject Parameter

<p style="text-align: center;">French</p> <p style="text-align: center;">Subject Verb</p> <p>*Verb Subject</p> <p>*Verb</p>	<p style="text-align: center;">Italian</p> <p style="text-align: center;">Subject Verb</p> <p>Verb Subject</p> <p>Verb</p>
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Embedded Subject-question formation (easy to miss)

<p>*Qui veux-tu que ___ épouse Jean? Who want-you that marries Jean? Que veux-tu qui ___ épouse Jean?</p>	<p>Che credi che ___ verrà? Who think-you that will-come?</p>
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<p>*Pleut Il-rains. Il pleut.</p>	<p>Expletives</p>	<p>Piove. It-rains.</p>
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## The Value of Parameters: Learning the Hard Stuff by Noticing the Easy Patterns

French vs. Italian: Subject Parameter

Big idea: If all these structural patterns are generated from the same linguistic parameter (e.g. a "subject" parameter), then children can learn the hard-to-notice patterns (like the patterns of embedded subject questions) by being exposed to the easy-to-notice patterns (like the optional use of subjects with verbs). The hard-to-notice patterns are generated by one setting of the parameter, which children can learn from the easy-to-notice patterns.

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## Universal Grammar: Principles & Parameters

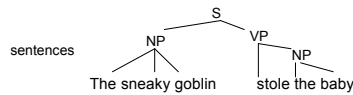
Principles: Apply to all human languages.  
 Ex: Language has hierarchical structure.  
 Smaller units are chunked into larger units.

sounds     g a b l i n

syllables     g a b l i n

words     goblin

phrases     Noun Phrase (NP)     Verb Phrase (VP)  
               The sneaky goblin     stole the baby




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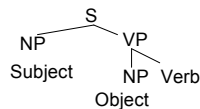
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## Universal Grammar: Principles & Parameters

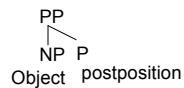
Parameters: Constrained variation across languages. Child must learn which option native language uses.

Japanese/Navajo

Basic word order:  
 Subject Object Verb



Postpositions:  
 Noun Phrase Postposition



Possessor before Possessed  
 Possessor Possession

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## Universal Grammar: Principles & Parameters

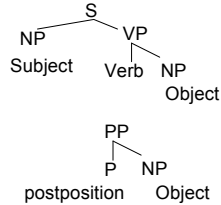
Parameters: Constrained variation across languages. Child must learn which option native language uses.

Edo/English

Basic word order:  
Subject Verb Object

Prepositions:  
Preposition Noun Phrase

Possessed before Possessor  
Possession Possessor



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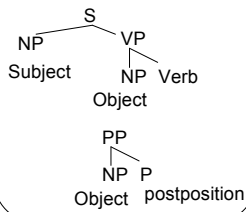
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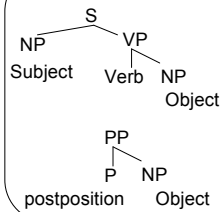
## Universal Grammar: Principles & Parameters

Parameters: Constrained variation across languages. Child must learn which option native language uses.

Japanese/Navajo



Edo/English



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## Language Variation: Summary

While languages may differ on many levels, they have many similarities at the level of language structure (syntax). Even languages with no shared history seem to share similar structural patterns.

One way for children to learn the complex structures of their language is to have them already be aware of the ways in which human languages can vary. Then, they listen to their native language data to decide which patterns their native language follows.

Languages can be thought to vary structurally on a number of linguistic parameters. One purpose of parameters is to explain how children learn some hard-to-notice structural properties.

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Questions?

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