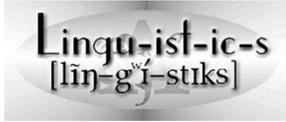


LNGT0101

Introduction to Linguistics



Lecture #14
Oct 31st, 2011

Announcements

- Review session right after this class for the midterm. Feel free to stay and ask as many questions as you want.
- Film screening for “The Linguists.”
- Short presentations from Language Myths starting next week.

2

The return of the D

- Mr. D. Advocate: “Hi. I’m back from Hawaii and I was wondering if ...”
- Sure, sure. Please have a seat!

3

Puzzle of the day

- So, why do syntacticians draw trees for sentences? Just for fun?
- Well, it turns out that syntactic trees resolve mysteries that would otherwise remain unexplained (that said, tree-drawing is also fun).
- Here is one such mystery:
Anne hit the man with an umbrella.
(How many meanings?)
- Let’s ask a question:
What did Anne hit the man with?
(How many meanings?)

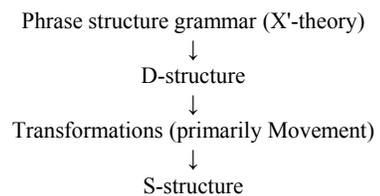
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Transition from last class

- Native speakers of a language know constituency relations in their language.
- Constituency is best understood in terms of X'-Theory: Take a head X, combine it with a complement Y if required, and optionally with a specifier Z, and form a phrase XP.
- Such phrases are what we call NP, VP, AP, etc., and by combining them together we generate D-structures.
- S-structures are then derived from D-structures via transformational rules (e.g., Aux-to-C movement in questions).

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Transition from last class



- But if this language model is universal, why do languages differ then? We talk about this today.

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Universal Grammar: Principles and Parameters

- Languages differ because UG (*Universal Grammar*, remember?) includes two components: **principles** and **parameters**. The principles are invariant; they hold in all languages. For example, structure-dependency, which we talked about two weeks ago, is a universal.
- Parameters are also universal, but unlike principles, they come in the form of **binary** options, and this is where the locus of cross-linguistic variation exists.

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UG: principles and parameters

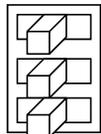
- As Chomsky notes:

“We can think of the initial state of the faculty of language as a fixed network connected to a switch box; the network is constituted of the principles of language, while the switches are the options to be determined by experience. When the switches are set one way, we have Swahili; when they are set another way, we have Japanese. Each possible human language is identified as a particular setting of the switches—a setting of parameters, in technical terminology.”

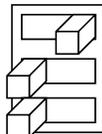
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UG: principles and parameters

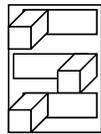
- Or, we can represent this graphically as follows:



UG



Japanese



English

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UG: principles and parameters

- We can think of UG as an initial state S_0 that gets mapped onto a final state S_F , through exposure to *primary linguistic data* (PLD).

$$S_0 + \text{PLD} \rightarrow S_F$$

- S_F is what we refer to as English, Finnish, Tiwa, Khmer, etc.

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UG: principles and parameters

- Under this approach, a child's job is to “set” the value of each parameter on the basis of the PLD in the linguistic environment around her.
- This should explain the role of the environment in language acquisition: If you're born in Beirut, then your PLD are different from the PLD of someone born in Moscow, hence the acquired system will be different.
- Under this approach, language acquisition is thus the result of interaction between *nature* (principles and parameters) and *nurture* (PLD).

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UG: principles and parameters

- Mr. D. Advocate: “Ok. This is getting too abstract for me. Can you give us some examples of principles and parameters?”
- Sure! Let me start with a parameter that should help us explain variation in basic word order across languages.

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Variation in basic word order

- Even though languages may allow several word orders in sentences, each language typically has one order that is used in “neutral” contexts. This is what is called “**basic word order**.”
- Consider English, for example: Which of these do you think represents the basic word order in English?
Seafood I like. (OSV)
Believe you me. (VSO)
John plays the piano. (SVO)

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Basic word order

- If we confine ourselves to transitive clauses with three elements: Subject, Verb and Object (S, V, O), then we should expect **six** possible basic word orders in human language:
SVO, SOV, VSO, VOS, OVS, OSV
- Do we find these attested in natural languages?
- Actually, we do.

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Basic word order

- SVO: English
John loves Mary.
- SOV: Japanese
John-ga Mary-o butta
John-SU Mary-OB hit
“John hit Mary.”

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Basic word order

- VSO: Welsh
Darllenais I y llyfr
read I the book
“I read the book.”
- VOS: Malagasy (Austronesian)
manasa ni lamba ny vihavavy
wash the clothes the woman
“The woman is washing the clothes.”

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Basic word order

- OVS: Hixkaryana (Carib)
Kanawa yano toto
canoe took person
“The man took the canoe.”
- OSV: Nadëb (Maku)
samũy yi qa-wùh
howler-monkey people eat
“People eat howler-monkeys.”

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Distribution of basic word order types in the world’s languages

- As it turns out, typological studies reveal preferences for certain word orders than others.
- Consider the frequencies reported in Tomlin’s (1986) language sample, for example:

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Distribution of basic word order types in the world's languages

Word order	# of Languages	%
SOV	180	45
SVO	168	42
VSO	37	9
VOS	12	3
OVS	5	1
OSV	0	0

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Distribution of basic word order types in the world's languages

- With greater than chance frequency, then, SVO and SOV orders indicate a clear preference for word order in natural languages.
- But what's even more interesting is that each of these two common orders has a set of *correlates* that go with it. To see what this means, let's compare English and Japanese.

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English vs. Japanese

- English:
The child might think that she will show Mary's picture of John to Chris.
- Japanese:
Taroo-ga Hiro-ga Hanako-ni zibun-no
Taroo-SU Hiro-SU Hanako-to self-POSS
syasin-o miseta to omette iru
picture-OB showed that thinking be
"Taro thinks (literally, is thinking) that Hiro showed a picture of himself to Hanako."

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Word order correlates

Element A	Element B	English	Japanese
V	NP	A precedes B	A follows B
V	PP	A precedes B	A follows B
V	embedded CP	A precedes B	A follows B
P	NP	A precedes B	A follows B
N	PP	A precedes B	A follows B
C	embedded AuxP	A precedes B	A follows B
Aux	VP	A precedes B	A follows B

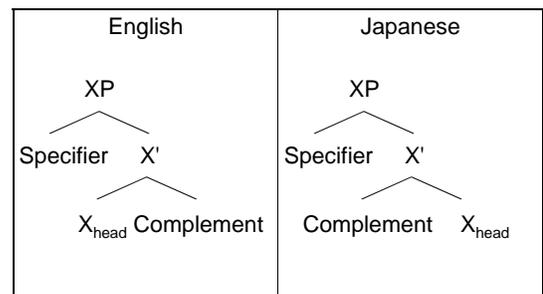
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Phrase structure: English vs. Japanese

- How do we express the difference between English and Japanese in terms of the X'-schema for phrase structure then?
- Obviously, in English, heads precede their complements; in Japanese heads follow their complements.

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The X'-schema in English vs. Japanese



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The head directionality parameter

- The difference between English and Japanese thus comes down to the “directionality” of the head within the phrase: heads are initial in English, but final in Japanese. This is typically referred to as the *head directionality (HD) parameter*:
 Heads occur initially (i.e., before their complements) or finally (i.e., after their complements) within phrase structure.

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The head directionality parameter

- The head-initial setting of the HD parameter holds in English, Edo, Thai, Khmer, Indonesian, Zapotec and Salish, while the head-final setting holds in Japanese, Lakhota, Turkish, Basque, Navajo, the languages of the Eskimos, and Quechua.

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How about subjects?

- Notice that the HD parameter does not say anything about the position of subjects in sentences, since these are not complements (they are specifiers, remember?). Is this good or bad?
- It’s actually good, since English and Japanese are both subject-initial. We don’t want to parameterize that. Rather, in both languages, the subject is the specifier of Aux:
 AuxP → NP Aux'

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So, why do English and Japanese look dramatically different then?

- Now, let’s try to make things more interesting and see how and why English and Japanese do really look dramatically different on the surface.
- That’s where trees can help for sure. Here are some PSRs for both languages:

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English vs. Japanese

English	Japanese
CP → C AuxP	CP → AuxP C
AuxP → NP Aux'	AuxP → NP Aux'
Aux' → Aux VP	Aux' → VP Aux
VP → V (NP)	VP → (NP) V
VP → V (PP)	VP → (PP) V
VP → V (CP)	VP → (CP) V
PP → P NP	PP → NP P
NP → N (PP)	NP → PP N

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So, why do English and Japanese look dramatically different then?

- Compare English and Japanese again:
 John said that Mary read the book.

 John-ga Mary-ga hon-o yon-da-tu it-ta
 John-SU Mary-SU book-OB read-past-comp say-past
- Given the PSRs for both English and Japanese, the structural trees will look as follows:

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John said that Mary read the book.

CP → C AuxP
 AuxP → NP Aux'
 Aux' → Aux VP
 VP → V (NP)
 VP → V (PP)
 VP → V (CP)
 PP → P NP
 NP → N (PP)

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John-ga Mary-ga hon-o yon-da-tu it-ta
John-SU Mary-SU book-OB read-past-comp say-past

CP → AuxP C
 AuxP → NP Aux'
 Aux' → VP Aux
 VP → (NP) V
 VP → (PP) V
 VP → (CP) V
 PP → NP P
 NP → PP N

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So, ...

- The principles and parameters approach accounts for word order correlates in SVO and SOV languages in a straightforward manner.
- Notice also how a simple difference in head directionality leads to a dramatic variation on the surface, due to its cumulative effect on all heads and complements in a language.

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And ...

- In addition, since the HD parameter does not apply to specifiers, it follows that both English and Japanese will behave the same with regard to the position of subjects in sentences.
- Finally, since the HD parameter has two settings only, it predicts two types of languages, SOV and SVO, which is exactly what we find in language samples: these two orders represent about 90% of human languages.

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Japanenglish!

- But equally important, the HD parameter also predicts the non-existence or at least the rarity of Japanenglish-type languages, i.e., languages in which the verb precedes the object but that are also postpositional, or languages in which the verb follows the object but that are also prepositional.

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Japanenglish!

- In Japanenglish-type languages we expect to find structures like this:
 - Chris put the book the table on.
 - Chris the book on the table put.
- But Japanenglish-type languages are rather rare (we'll see one such language later today). This is good news for the parametric approach since Japanenglish is predicted to be unattested under this approach (though we obviously still need to explain their existence, even if rare).

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How about VSO languages?

- Remember that 9% of the languages in Tomlin's sample are VSO. Why do these languages exist? Do they follow from the head directionality parameter?
- Well, the first thing to notice is that in these languages the verb comes before the object. So, they must be ...
- Right, *head-initial*.

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Deriving VSO basic word order

- But then the main difference in their word order as opposed to SVO and SOV languages is that the subject follows, rather than precedes, the verb.
- So, how can our theory of grammar "derive" VSO orders then?
- Head directionality can't do it. So, there must be another parameter involved. What could that be?

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The subject placement parameter

- Let's follow Mark Baker, the author of *The Atoms of Language*, and call it the *Subject Placement parameter* :
 "The subject of a clause is in the specifier of VP (as in Welsh), or in the specifier of AuxP (as in English)."

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The subject placement parameter

- The subject placement parameter then has to do with the phrase structure rule that introduces subjects :

English:

AuxP → NP Aux'

Aux' → Aux VP

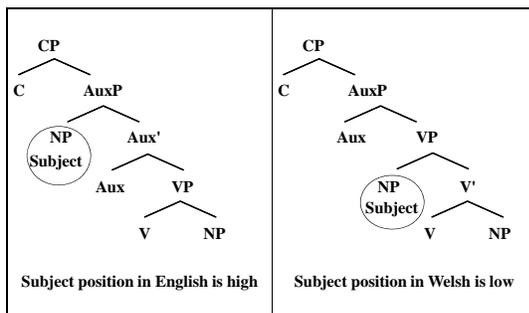
Welsh:

AuxP → Aux VP

VP → NP V'

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The English-Welsh contrast



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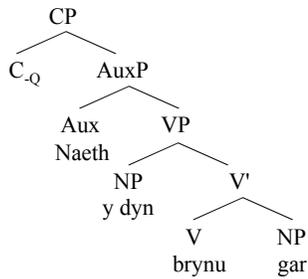
Welsh

- Given the subject placement parameter, the structure of Welsh sentences with auxiliaries becomes straightforward. Here's an example, followed by a tree:

(1) Naeth y dyn brynu gar
 did the man buy car
 "The man did buy a car."

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Welsh



43

Welsh

- Ok, but how about this other Welsh example, then?
(2) bryn-odd y dyn gar
buy-Past the man car
“The man bought a car.”
- There’s no overt auxiliary here, so how does the verb come to precede the subject?
- I guess it’s time for me to come clean on how Aux and V eventually get together. It turns out there are two options, thereby formulating another parameter.

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The verb movement parameter

- “V moves up to Aux (Welsh), or Aux moves down to V (English).”

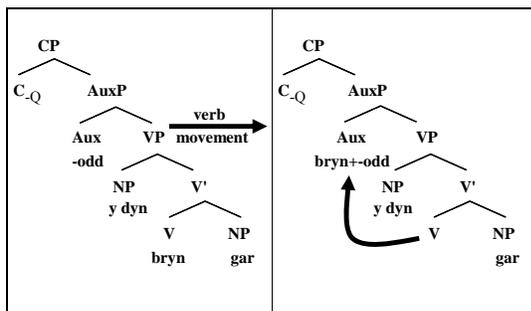
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The verb movement parameter

- So, the reason why Welsh is always verb-initial is because the Aux head has to host a verb (either an auxiliary verb, or a main verb, if an auxiliary head is absent).
- The tree structures for the Welsh example in (2) before and after movement takes place would be as follows:

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Welsh



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Welsh

- VSO languages like Welsh and Irish are thus possible because of the interaction between two parameters: the **subject placement** parameter and the **verb movement** parameter.
- Mr D. Advocate interrupts: I guess I may understand these syntactic gymnastics, but how do we prove this? Is there any evidence for the assumption that in English Aux moves down to V?
- Luckily, there is. Let’s contrast English and French.

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Parlez vous français?

- Compare the position of adverbs in English and French:

John often kisses Mary.

*John kisses often Mary.

*Jean souvent embarrasse Marie.

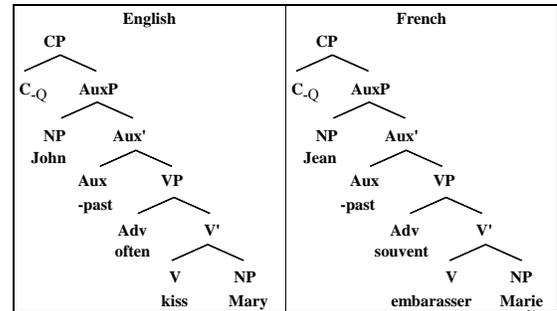
Jean often kisses Marie.

Jean embarrasse souvent Marie.

Jean kisses often Marie.

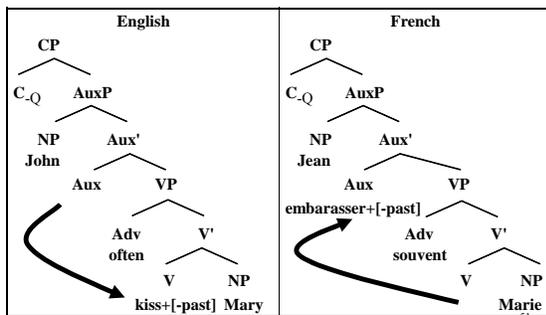
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Verb position in English vs. French



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Verb position in English vs. French



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Interim summary

- So, here's the story:
- English, French, and Welsh, all share the same head-initial setting for the HD parameter, as opposed to Japanese/Turkish/Navajo, which are head-final.
- But:

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Interim summary

- Welsh differs from both English and French in having the subject placed in the specifier of VP. English and French subjects are in the specifier of AuxP.
- English differs from both French and Welsh in having Aux move down to V. In French and Welsh, V moves up to Aux.
- The interaction of these parameters gives us English, Japanese, Welsh, and French.
- If I haven't confused you by now, then why not look at German/Scandinavian?

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Sprechen Zie Deutsch?

- Ich **las** letztes jahr diesen Roman
I read last year this book
 - Diesen Roman **las** ich letztes jahr
this book read I last year
 - Letztes jahr **las** ich diesen Roman
last year read I this book
- So, what do you notice here about the position of the verb in German?

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German: The V2 effect

- The verb is always the **second constituent** in German sentences, following the subject, or a fronted object, or an adverbial.
- If that is the case, then it must be that German, like French, has V-to-Aux movement.
- Unlike French, though, German can even have the verb before the subject.
- Hmmm ... what's going on here?

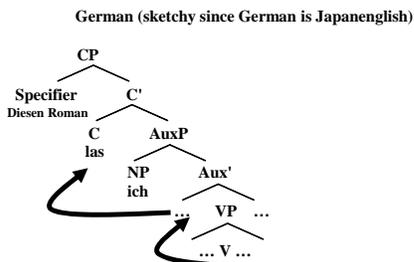
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German: The V2 effect

- If V can move up to Aux in declarative clauses (as in French and Welsh), one can imagine a language where V can keep moving all the way up to C, right? At least, the system of sentence structure we're using here does not prevent that from happening.
- And that seems to be what is happening in German main clauses. Let's call this the **V2 parameter**. The parameter also holds in Scandinavian languages.

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German: The V2 effect



57

German: The V2 effect

- Mr. D. Advocate: Well, Mr. Linguist, this is pretty clever, but again how do we prove this? What evidence from German tells us that its V moves to C? With all due respect, in absence of real empirical evidence, I remain skeptical.
- Excellent point, D. (if I may). I would be skeptical as well. But consider:

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German: The V2 effect

- Hans schlug den Ball
Hans hit the ball
'Hans hit the ball.'
- Ich denke daß Hans den Ball geschlagen hat
I think that Hans the ball hit has
'I think that Hans hit the ball.'

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Parameters and languages so far

Parameter	English	Japanese	French	German	Welsh
HD parameter	Head-initial	Head-final	Head-initial	?	Head-initial
Subject placement parameter	Specifier of AuxP	Specifier of AuxP	Specifier of AuxP	Specifier of AuxP	Specifier of VP
Verb movement parameter	Aux down to V	?	V up to Aux	V up to Aux	V up to Aux
V2 parameter	No	?	No	Yes	?

"?" indicates issues that we simply did not address in this class; it does not mean that linguists don't know the settings of these parameters in such languages.

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VOS/OVS/OSV languages

- VOS languages should be derivable by a parameter for subject position. Can you see how?
- OVS/OSV languages are not that well understood, but there are definitely ways to derive their word order. In the interest of time, we won't be discussing them here. If your LAP language ends up being of either type, then let the class know what you find out.

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Another parameter: Do you need to 'verbalize' your subject?

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The null subject parameter

- Consider these data from English, French, and Italian, all of which allow SV (=Subject-Verb) orders:
 - (1) John will leave.
 - (2) Jean arrivera. French
 Jean will-arrive
 - (3) Gianni verrà. Italian
 Gianni will-come.

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The null subject parameter

- Italian, however, allows the subject of a tensed sentence to be omitted, an option that is not available in English or French:
 - (5) *Will leave.
 - (6) *Arrivera. French
 will-arrive
 - (7) Verrá. Italian
 will-come.

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The null subject parameter

- This case of cross-linguistic variation is typically referred to as the *null subject parameter*.

“In some languages (e.g., French, English, Edo) every tensed clause must have an overt subject. In other languages (e.g., Italian, Spanish, Romanian, Navajo, Arabic) tensed clauses need not have an overt subject.”

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Summary

- These are examples of parameters. I hope the notion is clear by now.
- It remains to talk about examples of universal principles of grammar. We do that on Wednesday.

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Next class agenda

- Examples from UG principles: Islands and Binding.
- Read the section on wh-movement in Chapter 4 if you have not done that already.
- Read the short section on pronouns in Chapter 5.

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