Explaining Language Variation

Vera Zu

Language: Week 5
Two radically different positions

- All languages are alike.
- Languages are incomparably different.
Two radically different positions

Are these sets different?
\{2,4,6,8,\ldots\}
\{7,14,21,28,\ldots\}

If you look at the actual numbers, they are different.
If you look at the rules that give you these numbers, they are similar.
Two radically different positions

Are these sets different?
\{2, 4, 6, 8, ...\}
\{7, 14, 21, 28, ...\}

Are these sets similar?
\{x : x = 2y, y is an integer\}
\{x : x = 7y, y is an integer\}

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Two radically different positions

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\{7,14,21,28,...\}

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Are these sets similar?  
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\{x : x = 7y, \ y \text{ is an integer}\}
Two radically different positions

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The answer given by generative grammar: both positions are correct.

Languages are different but commensurable. Their sentences are different. Their underlying grammatical rules are the same, with limited variations.
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- Their sentences are different.
- Their underlying grammatical rules are the same, with limited variations.
Introducing the parametric theory of language

The general architecture of the grammar is a combination of...
Introducing the parametric theory of language

The general architecture of the grammar is a combination of
• some fixed principles (accounting for the sameness), and
Introducing the parametric theory of language

The general architecture of the grammar is a combination of
- some fixed principles (accounting for the sameness), and
- some open-valued parameters (accounting for the differences)
Word order differences between English and Japanese

Examples

Taro-ga ringo-o tabeta.
Taro-SUBJ apple-OBJ ate

Taro ate an apple.
Word order differences between English and Japanese

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[Diagram of sentence structure]
Word order differences between English and Japanese

Examples
Taro-ga ringo-o tabeta.
Taro-SUBJ apple-OBJ ate

Taro ate an apple.
Do objects precede or follow their verbs?
The verb-object parameter

Do objects precede or follow their verbs?

**PRECEDE:** Japanese

```
VP
   /\        /\  
NP V     V NP
  /\   /\  /\   /\  
ringo-o tabeta
```

**FOLLOW:** English

```
VP
   /\        /\  
V NP  V NP
  /\   /\  /\   /\  
ate an apple
```
Word order differences between English and Japanese

Examples

Taro-ga kuruma da Kobe ni itta.
Taro-SUBJ car by Kobe to went

Taro went to Kobe by car.
Word order differences between English and Japanese

Examples

Taro-ga kuruma da Kobe ni itta.
Taro-SUBJ car by Kobe to went

Taro went to Kobe by car.

PP
  P NP
  by car
Examples

Taro-ga kuruma da Kobe ni itta.
Taro-SUBJ car by Kobe to went

Taro went to Kobe by car.
Word order differences between English and Japanese

Examples

Taro-ga kuruma da Kobe ni itta.
Taro-SUBJ car by Kobe to went

Taro went to Kobe by car.

![Dependency Tree Diagram]

PP
  NP
    P
      kuruma
    da
The preposition-complement parameter

Do objects of prepositions precede or follow their prepositions?
The preposition-complement parameter

Do objects of prepositions precede or follow their prepositions?

**PRECEDE:** Japanese

```
PP
   /\  
  NP  P
     /\  
   kuruma  da
```

**FOLLOW:** English

```
PP
  /\  
P  NP
     /\  
   by  car
```
Word order differences between English and Japanese

Examples

Taro-ga Hanako ni yasashii.
Taro-SUBJ Hanako to kind

Taro is kind to Hanako.
Examples

Taro-ga  Hanako ni yasashii.
Taro-SUBJ Hanako to kind

Taro is kind to Hanako.
Word order differences between English and Japanese

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Examples

Taro-ga  Hanako ni yasashii.
Taro-SUBJ Hanako to kind

Taro is kind to Hanako.
The adjective-complement parameter

Do complements of adjectives precede or follow the adjectives?
The adjective-complement parameter

Do complements of adjectives precede or follow the adjectives?

**PRECEDE:** Japanese

```
  AP
   PP     A
     NP    P  yasashii
   Hanako ni
```

**FOLLOW:** English

```
  AP
    A   PP
     kind P   NP
       to  Hanako
```
Examples
Taro-ga Hanako no shashin-o mita.
Taro-SUBJ Hanako of picture-OBJ saw

Taro saw a picture of Hanako.
Word order differences between English and Japanese

Examples

Taro-ga Hanako no shashin-o mita.
Taro-SUBJ Hanako of picture-OBJ saw

Taro saw a picture of Hanako.

Diagram:

```
NP
/   
N    PP
|     |
picture  P
|     |
of Hanako
```
Examples

Taro-ga Hanako no shashin-o mita.
Taro-SUBJ Hanako of picture-OBJ saw

Taro saw a picture of Hanako.

Subj

NP

PP

N

picture

NP

P

Hanako

of
Word order differences between English and Japanese

Examples

Taro-ga Hanako no shashin-o mita.
Taro-SUBJ Hanako of picture-OBJ saw

Taro saw a picture of Hanako.
Word order differences between English and Japanese

Examples

Taro-ga Hanako no shashin-o mita.
Taro-SUBJ Hanako of picture-OBJ saw

Taro saw a picture of Hanako.
The noun-complement parameter

Do complements of nouns precede or follow the nouns?
The noun-complement parameter

Do complements of nouns precede or follow the nouns?

**PRECEDE:** Japanese

```
NP
  PP
  N
  NP P shasin
  Hanako no
```

**FOLLOW:** English

```
NP
  N
  PP
  picture P NP
  of Hanako
```
Example

Hanako-ga hon-o yonde iru.
Hanako-SUBJ book-OBJ reading is

Hanako is reading a book.
Word order differences between English and Japanese

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Hanako-ga hon-o yonde iru.
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Hanako-SUBJ book-OBJ reading is

Hanako is reading a book.

```
TP
  
    T  VP
      is  NP
        a book
        reading
```

Word order differences between English and Japanese

Example

Hanako-ga hon-o yonde iru.
Hanako-SUBJ book-OBJ reading is

Hanako is reading a book.

\[
\text{TP} \rightarrow \text{VP} \rightarrow \text{T} \\
\rightarrow \text{NP} \rightarrow \text{V} \rightarrow \text{is} \\
\rightarrow \text{a book} \rightarrow \text{reading}
\]
Word order differences between English and Japanese

Example

Hanako-ga hon-o yonde iru.
Hanako-SUBJ book-OBJ reading is

Hanako is reading a book.
The Auxiliary-VP parameter

Do verb phrases precede or follow their helping verbs?
The Auxiliary-VP parameter

Do verb phrases precede or follow their helping verbs?

**PRECEDE:** Japanese

```
TP
  VP
    NP V iru
  hon-o yonde
```

**FOLLOW:** English

```
TP
  T
    VP
      V NP
  is reading a book
```
Example

Taro-wa [sushi-ga oishii to] omou.
Taro-TOPIC sushi-SUBJ tasty that think

Taro thinks [that sushi is tasty].
Example

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Taro thinks [that sushi is tasty].
The Complementizer-S parameter

Do complement clauses precede or follow the complementizers?
The Complementizer-S parameter

Do complement clauses precede or follow the complementizers?

**PRECEDE:** Japanese

```
CP
  | S  C
  | sushi-o oishii  to
```

**FOLLOW:** English

```
CP
  | C  S
  | that  sushi is tasty
```
Putting everything together

- The verb-object parameter
- The preposition-complement parameter
- The adjective-complement parameter
- The noun-complement parameter
- The auxiliary-VP parameter
- The complementizer-S parameter
Putting everything together

- The verb-object parameter
- The preposition-complement parameter
- The adjective-complement parameter
- The noun-complement parameter
- The auxiliary-VP parameter
- The complementizer-S parameter

The six parameters together can give you $2^6 = 64$ possible languages.
Putting everything together

- The verb-object parameter
- The preposition-complement parameter
- The adjective-complement parameter
- The noun-complement parameter
- The auxiliary-VP parameter
- The complementizer-S parameter

Not all of them are attested, though.
Putting everything together

- The verb-object parameter
- The preposition-complement parameter
- The adjective-complement parameter
- The noun-complement parameter
- The auxiliary-VP parameter
- The complementizer-S parameter

In fact, only a small portion of the 64 possible combinations have been attested.
Putting everything together

- The verb-object parameter
- The preposition-complement parameter
- The adjective-complement parameter
- The noun-complement parameter
- The auxiliary-VP parameter
- The complementizer-S parameter

What do these parameters have in common?
Principles and parameters

The UG principle: every phrase must have a head!
The Head/Complement parameter
For all heads H, does the structural complement of a head H precede or follow H?
Principles and parameters

The UG principle: every phrase must have a head!

**The Head/Complement parameter**
For all heads H, does the structural complement of a head H precede or follow H?

**PRECEDE:** Japanese

```
XP
  /\    /
 YP X
```

complement   head

**FOLLOW:** English

```
XP
  /\    /
   X YP
```

head         complement
Word order in Edo

Edo, a Nigerian language

Example

Ọzó má tá wéẹ írén ghá rhiè efóto Úyì yè néné ékpétìn. Ozo did not say that he will put photo Uyi in the box

Ozo did not say that he will put a photo of Uyi in the box.
Word order in Edo

Edo, a Nigerian language

Example

Òzó má tá wéé írěn ghá rhiè éfótò Úyì yè néné ékpétìn.
Ozo did not say that he will put a photo Uyi in the box

Ozo did not say that he will put a photo of Uyi in the box.

The Head-Complement Parameter: do complements precede or follow their heads?

PRECEDE: Japanese

follow: English, Edo
Word order in Lahkota

Lahkota, the language of the Sioux Indians

Example

John wowapi k’uhe oyuku ki ohlate iyeye.
John letter that bed the under found

‘John found that letter under the bed.’
Word order in Lahkota

Lahkota, the language of the Sioux Indians

Example

John wowapi k’u’he oyąke ki ohlate iyeye.
John letter that bed the under found

‘John found that letter under the bed.’

**The Head-Complement Parameter**: do complements precede or follow their heads?

**PRECEDE**: Japanese, Lahkota

**follow**: English, Edo
What elements of the syntactic structure must be pronounced?

Examples
He speaks English.
What elements of the syntactic structure must be pronounced?

Examples

He speaks English.
*Speaks English.
What elements of the syntactic structure must be pronounced?

Examples
He speaks English.
*Speaks English.
*Parle français.
What elements of the syntactic structure must be pronounced?

Examples
He speaks English.
*Speaks English.
*Parle français.
Parla italiano.
What elements of the syntactic structure must be pronounced?

Examples
He speaks English.
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Parla italiano.
Habla español.
What elements of the syntactic structure must be pronounced?

Examples
He speaks English.
*Speaks English.
*Parle français.
Parla italiano.
Habla español.
Mila ellinika.
Examples

It is raining.
Examples

It is raining.
*is raining.
Dummy subjects in English

Examples
It is raining.
*is raining.
It is clear that John will go home.
Dummy subjects in English

Examples
It is raining.
*is raining.
It is clear that John will go home.
*is clear that John will go home.
No dummy subjects in Italian

Examples

Piove.
rains

è chiaro che Gianni tornerà a casa.
is clear that John will.return to home
Does every tensed clause require a subject?

**YES**: English, French

**NO**: Italian, Spanish, Greek
Potential counterexamples?

How to make a Spanish Omelet?

Place potato in microwave oven and heat on High for 2 minutes. Remove from oven and let cool for 2 minutes. Slice potato. Slice red onion, red and green bell peppers, chile pepper and garlic. In a large skillet, heat oil over medium heat. Add onion, bell peppers, chile pepper and garlic and cook, stirring, until softened, about 5 minutes. Add potato and cook, stirring, until tender, about 8 minutes. Shred cheese. Preheat broiler. In a bowl, beat eggs with salt and pepper to taste. Pour over onion mixture and sprinkle cheese evenly over top. Reduce heat to low, loosely cover and cook until eggs are set, about 6 minutes. Place under preheated boiler until top is nicely browned. To serve, cut into wedges.
How to make a Spanish Omelet?

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To serve, cut into wedges.
Is English a null-subject language then?

Examples

Place under preheated boiler until top is nicely browned.
Is English a null-subject language then?

Examples

Place under preheated boiler until top is nicely browned.
*Place under preheated boiler until is nicely browned.
Is English a null-subject language then?

Examples
Place under preheated boiler until top is nicely browned.
*Place under preheated boiler until is nicely browned.

Only subjects of the main clauses are omissible.
Is English a null-subject language then?

Examples
Do it yourself/yourselves.
Is English a null-subject language then?

Examples

Do it yourself/yourselves.
*Do it himself/herself.
Is English a null-subject language then?

Examples

Do it yourself/yourselves.
*Do it himself/herself.

The subject of imperative sentences is the understood second person.
Potential counterexamples, again?

In colloquial English, sometimes you can omit the subject.

Example
Won’t be in the office tomorrow.
Potential counterexamples, again?

In colloquial English, sometimes you can omit the subject.

Example

Q: Am I invited to the party?
A: Must be, surely.
In colloquial English, sometimes you can omit the subject.

Example

Q: Why didn’t he/she/they come to the party?
A: Didn’t fancy it, I suppose.
Potential counterexamples, again?

In colloquial English, sometimes you can omit the subject.

**Example**
Seems to be quite noisy over there.
Potential counterexamples, again?

In colloquial English, sometimes you can omit the subject.

Example
Always rains on Mondays.
Is English a null-subject language then?

Examples

*Are going to the office tomorrow?
*How can not fancy it?
*Why does seem to be quite noisy over there?
*I know must be invited to the party.
*I don’t think always rains on Mondays.
Is English a null-subject language then?

Examples

*Are $\emptyset$ going to the office tomorrow?
*How can $\emptyset$ not fancy it?
*Why does $\emptyset$ seem to be quite noisy over there?
*I know $\emptyset$ must be invited to the party.
*I don’t think $\emptyset$ always rains on Mondays.
Is English a null-subject language then?

Null subjects are only possible in very limited environments, i.e., declarative main clauses.

- They don’t occur in questions.
Is English a null-subject language then?

Null subjects are only possible in very limited environments, i.e., declarative main clauses.

- They don’t occur in questions.
- Nor do they occur in complement clauses.
Is English a null-subject language then?

Null subjects are only possible in very limited environments, i.e., declarative main clauses.

- They don’t occur in questions.
- Nor do they occur in complement clauses.
- In other words, they have to be in the sentence-initial position.
Example

Credo che sia già partita.

believe that be already left

‘I believe that she is already gone.’
English is not Italian!

Example

Sei contento?
are happy

‘Are you happy?’
English is not Italian!

Example

Che vuoi?
what want

‘what do you want?’
How do English speakers ask questions?

Example
I bought some apples.

Example
What did you buy?
How do English speakers ask questions?

Example

I bought **some apples**.

Example

What did you buy?

S

NP

I

V

bought

VP

some apples

NP

C

V

buy

NP

you

C'

S

VP

what

V

did you

NP

I

bought

some apples

Vera Zu

Explaining Language Variation

Language: Week 5
How do English speakers ask questions?

Example

I bought some apples.

Example

What did you buy?

\[
\begin{align*}
S & \rightarrow NP \quad VP \\
NP & \rightarrow I \quad VP \\
VP & \rightarrow V \quad NP \\

CP & \rightarrow NP \quad C' \\
NP & \rightarrow C \quad VP \\
C & \rightarrow did \quad NP \\
VP & \rightarrow V \quad NP \\

I & \text{ bought} \\
V & \text{ some apples} \\
what & \text{ did you buy?} \\
did & \text{ you} \\
buy & \text{ what}
\end{align*}
\]
How do Chinese speakers ask questions?

Example

我买 了 苹果.
I bought apple

‘I bought apples.’

Example

你 买 了 什么?
you bought what

‘What did you buy?’
How do Chinese speakers ask questions?

Example

wǒ mǎile píngguǒ.
I bought apple

‘I bought apples.’

Example

nǐ mǎile shénme?
you bought what

‘What did you buy?’

S
  / 
NP VP
  / \ 
wǒ V NP
  \ I mǎile píngguǒ bought apples
How do Chinese speakers ask questions?

Example

*wǒ mǎile píngguǒ.*
I bought apple

‘I bought apples.’

Example

*nǐ mǎile shénme?*
you bought what

‘What did you buy?’

S

VP

NP

wǒ
I

mǎile bought

píngguǒ apples

S

VP

NP

nǐ
you

mǎile bought

shénme what
The *wh*-movement parameter

Does a *wh*-phrase move to the front of a question?

**YES:** English

**NO:** Chinese
Differences between *wh*-movement languages

Some languages move one:

**Examples**

Mary gave some apples to John.
Who gave what to whom?
Differences between *wh*-movement languages

Some languages move one:

**Examples**

Mary gave some apples to John.
Who gave what to whom?

Some languages move all:

**Examples**

Maja je Goranu dala nekoliko jabuka. [Serbo-Croatian]
Maja PRT Goran gave several apples

Ko je kome sta dao? [Serbo-Croatian]
who PRT whom what gave
Similarities shared by all \textit{wh}-movement languages

In languages that have \textit{wh}-movement
Similarities shared by all \textit{wh}-movement languages

In languages that have \textit{wh}-movement

\begin{itemize}
  \item \textit{wh}-phrases always move to the beginning of a sentence.
\end{itemize}
In languages that have wh-movement
  - wh-phrases always move to the beginning of a sentence.
  - No rightward wh-movement has been attested.
Similarities shared by all *wh*-movement languages

In languages that have *wh*-movement

- *wh*-phrases always move to the beginning of a sentence.
- No rightward *wh*-movement has been attested.
- No languages move *wh*-phrases to the middle of a sentence.
Why parameter?

- The principle-and-parameter design allows speakers to get a lot of information from very limited input.
Why parameter?

- The principle-and-parameter design allows speakers to get a lot of information from very limited input.
- Language acquisition is essentially parameter setting and lexical learning.
Why parameter?

- The principle-and-parameter design allows speakers to get a lot of information from very limited input.
- Language acquisition is essentially parameter setting and lexical learning.
- Language change is parameter change plus lexical change.
Old English

Bede, the Venerable, Saint, 673-735

Example

... þæt he his stefne up ahof
    that he his voice up raised

‘...that he raised up his voice’
Old English

Bede, the Venerable, Saint, 673-735

Example

... þæt he his stefne up ahof
    that he his voice up raised

‘...that he raised up his voice’

The head-complement parameter: do objects precede or follow their verbs?
Old English

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Example

... þæt he his stefne up ahof
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‘...that he raised up his voice’

The head-complement parameter: do objects precede or follow their verbs?
PRECEDE: Old English
Old English

Bede, the Venerable, Saint, 673-735

Example

... þæt he his stefne up ahof
    that he his voice up raised

‘...that he raised up his voice’

The head-complement parameter: do objects precede or follow their verbs?
PRECEDE: Old English
FOLLOW: Modern English
Old French

The Song of Roland, a heroic poem based on the Battle of Roncesvalles in 778, usually dated to the middle of the twelfth century

Example

Tresqu’en la mer cunquist la tere alraigne.
until the sea conquered the land high

‘He conquered the high land all the way to the sea.’
The Song of Roland, a heroic poem based on the Battle of Roncesvalles in 778, usually dated to the middle of the twelfth century

Example

Tresqu’en la mer cunquist la tere alraigne. until the sea conquered the land high

‘He conquered the high land all the way to the sea.’

The Null-Subject Parameter: does every tensed clause require a subject?
Old French

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The Null-Subject Parameter: does every tensed clause require a subject?
YES: Modern French
Old French

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Tresqu’en la mer cunquist la tere alraigne.
until the sea conquered the land high

‘He conquered the high land all the way to the sea.’

The Null-Subject Parameter: does every tensed clause require a subject?
YES: Modern French
NO: Old French
More parameters to be discovered!