Ling 165B: Syntax II

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Bounding Nodes I

Let's revise our definition of what counts as a bounding node. Recall, our working hypothesis was that TPs and CPs which are not complements of V count as bounding nodes.

Bounding nodes:

(i) TPs
(ii) CPs that are not complements of V

The subjacency condition can then be formulated as:

Subjacency Condition:
MOVE cannot relate two positions across two bounding nodes.
*...XP$_i$... [$_\alpha$...[$_\beta$...t$_i$..., if α and β are bounding nodes
Bounding node: CPs that are not complements of V and TPs

Bounding Nodes II

If CPs that are not complements of V are also bounding nodes, then the difference between (1-a) and (1-b) can be derived.

(1) a. What$_i$ does Bill think that Sue said that I broke t$_i$?
b.*When$_i$ was that most people didn't vote t$_i$ terrible ?

→ In (1-a), the wh-phrase never moves across two bounding nodes.

- The CP boundaries do not count as bounding nodes because they are complement of V (*say* and *think*).
- TPs count as bounding nodes.
- Since every step only crosses one bounding node (the TP node), subjacency is not violated.
- Therefore, the sentence is correctly predicted to be grammatical.

Bounding Nodes III

→ In (1-b), we get a subjacency condition violation.

- TPs count as bounding nodes as usual.
- The first movement only crosses one bounding node (the TP boundary). Therefore this first step is legit.
- The CP boundary here does count as a bounding node because the CP is NOT complement of V (the CP is in subject/specifier position).
- Since, CP is a bounding node, the second movement crosses two bounding nodes, TP and CP.
- Therefore, the sentence is correctly predicted to be ungrammatical.

(2) *[$_{CP}$ When$_i$ was [$_{TP}$ [$_{CP}$ t$_i$ that [$_{TP}$ most people didn't vote t$_i$]] terrible]]?

Bounding Nodes IV

→ With this additional assumption (that CPs that are not complements of V are also bounding nodes) the other constraints are also derived.

	Wh-Isld	SntSub	AdjIsld	CNPC(r)	CNPC(c)	ComplCP
TP bounding	✓	✓	✓	✓	✓	*
+ Succ Cyclic	✓	*	*	✓	*	✓
CP BN unless comp of V	✓	✓	✓	✓	✓	✓

[In the table, a * indicate a wrong prediction, a ✓ a right prediction]

Practice

Show that now the correct prediction is made for the CNPC (compl) as well.

Bounding Nodes V

Oops! We seem to have a problem with raising verb constructions!

→ Extraction out of raising constructions is well-formed:

(3) a. We seem to have some kind of problems
b. What kind of problems do we seem to have t?

→ Recall, we assumed that verbs like *seem* take TP complements in raising structures.

This means that wh-movement here would happen in a single step (there is no intermediate CP node in the derivation):

(4) [What kind of problems]$_i$ do [$_{\text{TP}}$ we seem [$_{\text{TP}}$ to have t_i]]

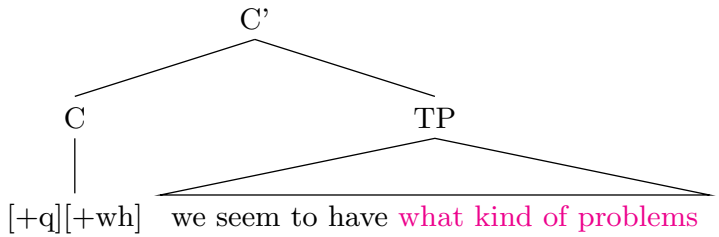
→ This should be a subjacency condition violation. The wh-phrase moves across two TP boundaries.

Bounding Nodes VI

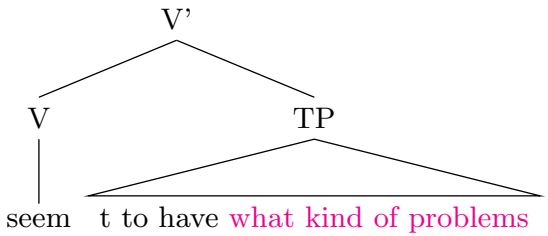
New proposal: Complements of V are not bounding nodes.

Does this solve our problem with raising constructions? YES!

→ The higher TP is complement of C. Therefore it still counts as a bounding node.



→ The lower TP is complement of the V *seem*. Therefore it does not count as a bounding node.



→ So, wh-movement crosses only one bounding node and subjacency is obeyed!

(5) [What kind of problems]$_i$ do [$_{TP}$ we seem [$_{TP}$ to have t_i]]

Bounding Nodes VII

Oops! We cannot account for the subject condition, though! That is, the subject condition is not subsumed by the Subjacency Condition.

> **The Subject Condition**:
> A DP cannot be extracted from a DP subject of a clause.

→ It is ok to extract a DP out of a DP object of a verb:

(6) a. You saw [$_{DP}$ a picture of [$_{DP}$ some students]]
b. You saw [$_{DP}$ a picture of [$_{DP}$ which students]]
c. [$_{DP}$ Which students]$_i$ did you see [$_{DP}$ a picture of t_i]?

→ It is ungrammatical to extract a DP out of DP that is the subject of a verb:

(7) a. [$_{DP}$ a picture of [$_{DP}$ some students]] appeared in the newspapers
b. [$_{DP}$ a picture of [$_{DP}$ which students]] appeared in the newspapers
c.* [$_{DP}$ Which students]$_i$ did [$_{DP}$ a picture of t_i] appear in the newspapers?

Bounding Nodes VIII

In particular, the right prediction is made for (6-c) but not for (7-c). Both cases are predicted to be grammatical because the wh-phrase never crosses more than one bounding node (the TP).

(8) [$_{DP}$ Which students]$_i$ did [$_{TP}$ you see [$_{DP}$ a picture of t_i]]?

(9) *[$_{DP}$ Which students]$_i$ did [$_{TP}$ [$_{DP}$ a picture of t_i] appear in the newspapers]?

Bounding Nodes IX

	Wh-Isld	Snt Sub	Adj Isld	CNPC (rc)	CNPC (comp)	Cmpl CP	Subj Cond	DP Obj
TP bound-ing	✓	✓	✓	✓	✓	*	*	✓
+ Succ Cyclic	✓	*	*	✓	*	✓	*	✓
CP BN unless V-comp	✓	✓	✓	✓	✓	✓	*	✓

[In the table, a * indicate a wrong prediction, a ✓ a right prediction]

Bounding Nodes X

New proposal: DPs are also bounding nodes (unless they are complements of V).

As a result a subject DP is a bounding node, an object DP is not. Now the right predictions are made for (6-c) and (7-c)

→ Extraction from a DP object only crosses a bounding node. Therefore, subjacency is obeyed.

(10) [$_{DP}$ Which students]$_i$ did [$_{TP}$ you see [$_{DP}$ a picture of t_i]]?

→ Extraction from a DP subject crosses two bounding node. Therefore, it violates the subjacency condition.

(11)*[$_{DP}$ Which students]$_i$ did [$_{TP}$ [$_{DP}$ a picture of t_i] appear in the newspapers]?

Bounding Nodes XI

	Wh-Isld	Snt Sub	Adj Isld	CNPC (rc)	CNPC (comp)	Cmpl CP	Subj Cond	DP Obj
TP bound-ing	✓	✓	✓	✓	✓	*	*	✓
+ Succ Cyclic	✓	*	*	✓	*	✓	*	✓
CP BN unless V-comp	✓	✓	✓	✓	✓	✓	*	✓
CP and DP BN unless V-comp	✓	✓	✓	✓	✓	✓	✓	✓

[In the table, a * indicate a wrong prediction, a ✓ a right prediction]

Summary

Wh-movement is constrained by the subjacency condition.

Subjacency Condition (final version):
MOVE cannot relate two positions across two bounding nodes.
*...XP_i... $[_\alpha$...$[_\beta$...t_i..., if α and β are bounding nodes
Bounding node: A node is bounding if it is a TP, a CP or a DP and it is not a complement of V.

In addition, we have concluded that wh-movement can proceed stepwise through intermediate [Spec,CP] positions. We called this *successive cyclic movement*.

To move or not to move?
Let's go back to wh-scope!

Wh-scope I

Recall: Scope scope of questions $\rightsquigarrow$ which part of the sentence is interrogative

$\rightarrow$ In English, the scope of a wh-question *is marked by the position of the wh-word.*

$\rightarrow$ Not all languages mark the scope of questions in this way.

(12) John told Bill who ___ would be coming
   a. SCOPE of question [$_{TP}$ ___ would be coming]
   b. John told Bill for which x: *it is the case that x would be coming*
   c. It does not require response form the hearer.

(13) Who did John tell Bill ___ would be coming
   a. SCOPE of question [$_{TP}$ John told Bill ___ would be coming]
   b. for which x: *John told Bill that x would be coming*
   c. It does require response form the hearer.

It is useful to think of the wh-phrases in these cases as marking their scope ($\approx$ they move from inside their scope to the edge of it).

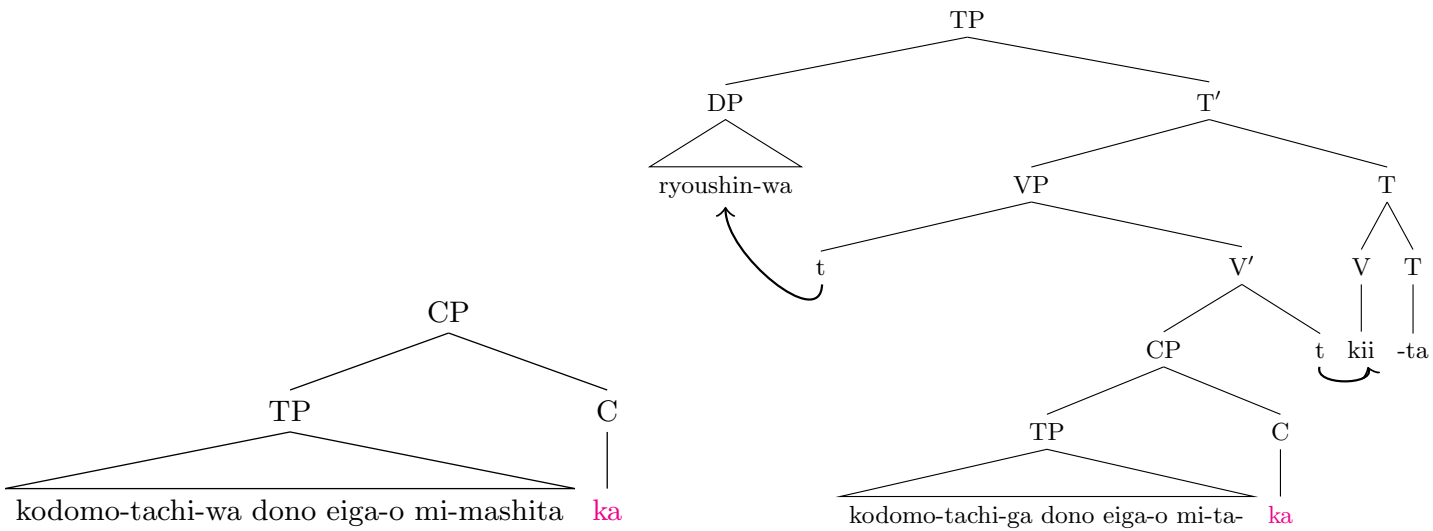
- In structural terms, a wh-phrase moves to the specifier of the lowest projection that dominates its scope.
- We will refer to this position as the wh-phrase's scope position.

Wh-scope II

→ In Japanese, we find the wh-word in the same position as its non-questioned correlate. *ka* or *no* occurs as a scope marker.

(14) [kodomo-tachi-wa dono eiga-o mi-mashita-] ka?
child-pl-TOP which movie-ACC see-past KA
'Which movie did the children watch?'

(15) ryoushin-wa [kodomo-tachi-ga dono eiga-o mi-ta-] ka kii-ta
parents-TOP child-pl-NOM which movie-ACC see-past KA ask-past
'The parents asked which movie did the children watched'



Wh-scope III

→ Some languages do not seem to mark the scope in questions at all.

(16) Botong zhidao Huangrong xihuan shei
Botong know Huangrong like who
'Botong knows who Huangrong likes' or
'Who does Botong know (that) Huangrong likes?' (Mandarin, Cheng 2003)

Here is a tip. If you are confused by these Mandarin data, it can be helpful to draw the deep structure of the following English examples. Do they have something in common?

(17) a. You know who I should date. embedded Q
b. Who do you know that I should date? matrix Q

In (a) *know* is taking an interrogative complement, in (b) it is not.

Wh-scope IV

→ Given the aim of generative syntax of minimizing the differences among languages, it has been proposed to derive wh-in situ questions by wh-movement-contrary to superficial appearances. This becomes possible by slightly revising our ideas about movement. Instead of saying that movement leaves a trace, let us say that it leaves a copy and that Universal Grammar allows parametric variation concerning which copy is pronounced ~~which copy~~. (Santorini textbook)

→ In English, it is the highest copy of wh- movement that is pronounced;

(18) who did John tell Bill ~~who~~ would be coming

→ In wh-in situ languages like Japanese, the lowest copy.

(19) ~~dono eiga-o~~ kodomo-tachi-wa dono eiga-o mi-mashita-ka?

Wh-scope V

→ Independent evidence in favor of the copy theory of movement comes from the judgments of speakers of certain languages (German here) who pronounce more than one copy.
Nota Bene (20-a) is ungrammatical in the grammar of this subset of speakers, it is ok in stardard German, as we will see.

(20) a.*wen denken die Besucher, dass sie gesehen haben?
who-ACC think the visitors that they seen have
b. wen denken die Besucher, wen sie gesehen haben?
who-ACC think the visitors who-ACC they seen have
'Who do the visitors think that they saw?'

→ The overt repetition of the wh-phrase in (20-b) lends strong support to the idea that wh-phrases move through Spec(CP) in long-distance movement. In addition, it supports the idea that grammars can differ as to which copies of movement are pronounced.

(21) a. wen denken die Besucher, ~~wen~~ dass sie ~~wen~~ gesehen haben?
b. wen denken die Besucher, wen ∅ sie ~~wen~~ gesehen haben?

Partial wh-movement I

→ Certain languages exhibit a further variant of wh-movement

- the wh- phrase undergoes wh- movement, but to a position lower than its scope position;
- the scope position itself is occupied by a distinct wh-phrase (generally the language's counterpart of *what*). This scope marker is mandatory.

(22) Was denken die Besucher, wen sie ~~wen~~ gesehen haben?
what think the visitors who-ACC they who-ACC seen have
'Who do the visitors think that they saw?'

(23)*Denken die Besucher, wen sie ~~wen~~ gesehen haben?
think the visitors who-ACC they who-ACC seen have

In German, we saw three different ways of asking the same question:

a. wen denken die Besucher ~~wen~~ dass sie ~~wen~~ gesehen haben?
b. wen denken die Besucher, wen ∅ sie ~~wen~~ gesehen haben?
c. was denken die Besucher, wen ∅ sie ~~wen~~ gesehen haben?

Partial wh-movement II

→ The scope-marking wh-phrase in (22) is often called a wh-expletive. The idea is that the relationship between it and the true wh-phrase is comparable to the relationship between the expletive subject and the logical subject in the expletive construction.

a. wen denken die Besucher, ~~wen~~ dass sie ~~wen~~ gesehen haben?
b. was denken die Besucher, wen ∅ sie ~~wen~~ gesehen haben?
c. * denken die Besucher, wen ∅ sie ~~wen~~ gesehen haben?

a. Several vexing problems remain ~~several vexing problems~~.
b. There remain several vexing problems.
c. * Remain several vexing problems.

Child English

Although adult English does not exhibit wh-copy questions or partial wh-movement, both types of questions have been reported for child English (data from Thornton 1995).

(24) a. Who do think who Grover wants to hug?
b. What do you think what Cookie Monster eats?
c. What do you think what the baby drinks?

(25) What do you think who's in that can?

Practice

Draw a tree structure for (25)

Multiple wh-questions and Superiority I

(26) Who bought what?
   a. SCOPE of question [$_{TP}$ ___ bought ___]
   b. for which x and for which y: *x bought y*
   c. Mary bought a pin, Lucy bought earrings, Daniela bought a necklace...

(27) Who did you convince to read what?
   a.
   b.
   c.

→ Only one wh-phrase moves to its scope position in English!

(28)*Who what bought?

(29)*Who what did you convince to read?

Multiple wh-questions and Superiority II

→ There seems to be no freedom with respect to which wh-phrase undergo movement.

(30)*What did who buy?

(31)*What did you convince who to read?

(32) The "Superiority Effect"
When TP contains two wh-words, the one that undergoes wh-movement is the one closest to the interrogative C.

(33) Attract Closest When a head attracts a phrase with a particular property to its specifier, it picks the closest phrase with that property.

Multiple wh-questions and Superiority III

→ In some languages more than one wh-phrase can move to its scope position overtly.

(34) Koj$_1$ kogo$_2$ t$_1$ vižda t$_2$?
who whom sees
'who sees whom? Bulgarian

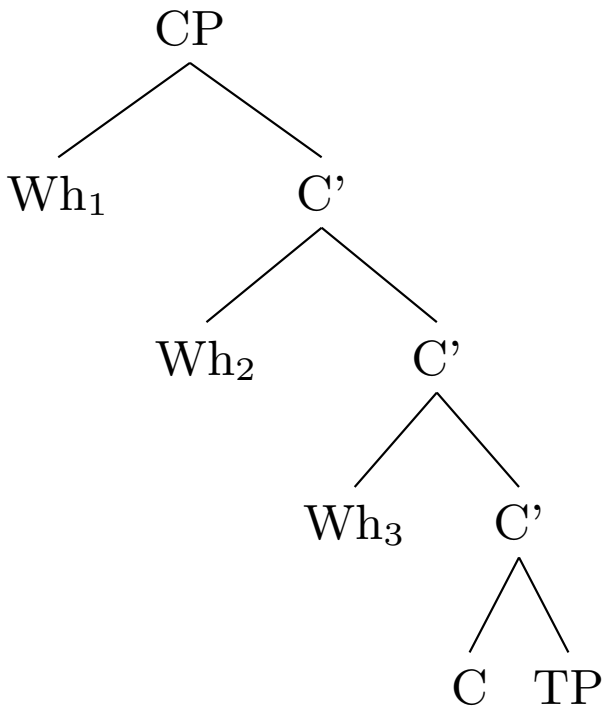
(35) *kogo$_2$ koj$_1$ t$_1$ vižda t$_2$?
whom who sees

Pesetsky 2000 analyzed this in the following problematic way:

- The first wh-attracted is the highest of the wh-phrases (*koj*).
- The next-closest "tucks in" under it.
- Multiple movement = multiple specifiers (specifier = sister of X' ~~and daughter of XP~~).

Multiple wh-questions and Superiority IV

(36) Koj$_1$ kakvo$_2$ na kogo$_3$ t$_1$ kaza t$_2$ t$_3$?
who what to who said
'who said what to whom? Bulgarian



Verb Second (V2) Phenomena

V2 in German I

You may have noticed that it looks like VPs in German are head-final, but CPs and DPs are head-initial.

(37) a. ob mein Freund dem Mann gestern das Buch gegeben hat
whether my friend the.DAT man yesterday the.ACC book given has
'whether my friend gave the man the book yesterday'
b.*ob mein Freund hat dem Mann gestern das Buch gegeben
c.*ob mein Freund hat gegeben dem Mann gestern das Buch

Let's now look at the position of finite verbs in the matrix clause:

(38) Die Kinder spielten vor der Schule im Park Fuβball.
the kids played before school in the park football
'The kids played football in the park before school'

What do you notice? What position does the finite verb seem to occupy?

V2 in German II

Now, let's consider some additional data:

(39) a. Die Kinder **spielten** vor der Schule im Park Fuβball.
the kids played before school in the park football

b. Fuβball **spielten** die Kinder vor der Schule im Park.
football played the kids before school in the park

c. Vor der Schule **spielten** die Kinder im Park Fuβball.
before school played the kids in the park football

d. Im Park **spielten** die Kinder vor der Schule Fuβball.
in the park played the kids before school football

e.*Vor der Schule Fuβball **spielten** die Kinder im Park.
before school football played the kids in the park

f. *Fuβball die Kinder **spielten** vor der Schule im Park.
football the kids played before school in the park

What structural position does the verb 'spielten' occupy?

V2 in German III

There is strong evidence to suggest that the position of the verb is C.

→ German of two types of conditional clauses. In addition to conditional clauses introduced by the overt complementizer *wenn* 'if', German also allows **asyndetic conditional clauses**. These are marked not by the presence of an overt complementizer, but by the position of the finite verb.

(40) a. wenn mein Freund dem Mann gestern das Buch gegeben hätte
if my friend the man yesterday the book given had.COND
'if my friend had given the man the book yesterday'
b. hätte mein Freund dem Mann gestern das Buch gegeben
had.COND my friend the man yesterday the book given
'had my friend had given the man the book yesterday'

The finite verb in (40-b) occupies exactly the same clause-initial position as the complementizer in (40-a), suggesting that the verb has moved to C. The complementizer and the finite verb in (3) can be seen, then, as competing for the same syntactic slot.

(41)*{ hätte wenn, wenn hätte } mein Freund dem Mann gestern das Buch gegeben

V2 in German IV

→ The second piece of evidence for verb movement to C comes from the position of object pronouns. In addition to the variability that German exhibits in the position of finite verbs, it allows a fair bit of word order freedom, and object pronouns regularly occur between complementizers and the subject.

(42) wenn ihm mein Freund gestern das Buch gegeben hätte
if him.DAT my friend yesterday the.acc book given had
'if my friend had given him the book yesterday'

As expected if asyndetic conditional clauses like (40-b) involve verb movement to C, object pronouns can immediately follow the finite verb, just as they immediately follow the complementizer in (42):

(43) hätte ihm mein Freund gestern das Buch gegeben
had him.DAT my friend yesterday the.acc book given
'if my friend had given him the book yesterday'

V2 in German V

→ Declarative sentences are full CPs in German.

→ Declarative C heads trigger T to C in German.

→ German allows ordinary (= non-wh) phrases to move to Spec(CP). This movement - known as topicalization to distinguish it from the movement of wh-phrases - is always accompanied by verb movement to C. As a result, declarative clauses are structurally parallel to their wh-question counterparts.

(44) a. Was$_i$ hat$_j$ mein Freund dem Mann gestern t$_i$ gegeben t$_j$?
what.ACC has my friend the.dat man yesterday given
'What did my friend give the man yesterday?'

b. Das Buch$_i$ hat$_j$ mein Freund dem Mann gestern t$_j$ gegeben t$_j$.
the.acc book has my friend the.dat man yesterday given
'My friend gave the man the book yesterday.'

This means that ordinary declarative clauses differ structurally from wh-questions in English, but not in German.

→ In English, ordinary declarative clauses are TPs and wh-questions are CPs.

→ In German, both clause types are CPs.

V2 in German VI

→ In addition to T heads, declarative C heads always comes with a EPP features in German. It's sometimes referred to as a **Topic Requirement**. If this requirement is not satisfied by a semantically meaningful element, it must be satisfied by an expletive element (very much like English in the case of Spec,TP!)

(45) Es hat$_i$ mein Freund dem Mann gestern das Buch gegeben t$_i$.
it has my friend the.DAT man yesterday the.ACC book given
'My friend gave the man the book yesterday.'

→ A consequence of the analysis is that the finite verb in a German main clause is always its second constituent. It cannot appear in third position because there is no structural slot to the left of Spec(CP) for a constituent to occupy!

(46) [CP 1 [C 2] [TP 3 ...]]]

V2 in Germanic languages

What we described is the so-called **verb-second (V2) phenomenon** and German is referred to as a **V2 language**.

→ Ordinary declarative clauses are V2 in almost all the Germanic languages, which include the North Germanic (= Scandinavian) languages and the West Germanic languages (Dutch, English, Frisian, German, and Yiddish).

→ The sole exception to this generalization is modern English, which shows only residual traces of this, in matrix Wh-questions and Negative Inversion:

(47) a. Never have I seen such a thing.
b. Under no circumstances would I consider that offer.
c. Seldom have I felt so alone.

Earlier stages of English were different!

(48) Wel koude he rede a lessoun or a storie.
well could he read a lesson or a story
'He could read a lesson or a story well.'
G. Chaucer, *Canterbury Tales* (ca. 1340-1400)

Please read **V2 in the history of English** available here.

Practice

Draw a tree structure for the following German sentence:

(49) Heute hat eine Maus den Käse gefressen.
today has a mouse the cheese eaten
'A mouse has eaten the cheese today.'