

Syntactic Theory 2

Week 10: Bošković (2010) on Greed

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1 Motivating Movement

- A driving idea in Minimalism is that all operations happen because some formal feature drives it, i.e., operations are not “free” as in GB
 - (1) a. Mary is certain ~~Mary~~ to leave
b. *Mary is certain ~~Mary~~ will leave
- Three options have been pursued:
 - a. **Greed:** Movement occurs to satisfy a feature of the moved constituent
 - b. **Attract** (and Agree): Movement occurs to satisfy a feature of the targeted constituent
 - c. **Enlightened Self-Interest:** Movement occurs to satisfy features of both
- It’s difficult to distinguish these hypotheses, because traditionally, movement often checks a feature of both the raising phrase and the target head. For instance, raising-to-subject satisfies two requirements: Case on the subject, and EPP, which is (thought to be) independently motivated:
 - (2) *the belief to be likely Mary will fail the exam
 - (3) John_i is believed John_i to seem to himself_i to be nice
- If DPs move for the EPP, then why should freezing of (case-checked) DPs occur? If DPs move for Case, then why should non-finite TPs be bad without a subject? Superficially, it seems that we need (1) a “target-driven” theory of movement, (2) the Case Filter, (3) the EPP, and (4) some way to derive freezing effects. However, this is a very redundant theory.
- Bošković will try to derive all movement to Spec,TP as following Greed on the the DP that moves
- A lot of this will turn on the proper interpretation of freezing effects:
 - (4) a. Mary is certain ~~Mary~~ to leave

b. *Mary is certain ~~Mary~~ will leave

- On an Agree/Attract theory, we need to say something like *Mary* in (4-b) cannot move because its Case feature is already checked, and thus when T^0 probes *Mary*, it cannot move it up because it is no longer “active” (Chomsky 2000).

(5) **Activation Condition.** An XP can only move if it has an uninterpretable feature.

- However, on a Greed theory, *Mary* moves to check Case, then there is no reason for movement to occur and (4-b) is out by Economy considerations.
- Bošković (2007) argues that introducing the Activation Condition essentially restipulates Greed. Instead, we ought to think of overt movement as following from an EPP (his *uK*) feature on the XP that’s moving
- Let’s examine successive cyclic movement:

(6) What do you think [_{CP} ~~what~~ that Mary bought ~~what~~]

- For Chomsky, *what* moves to the intermediate Spec,CP because *that* must have a *wh*feature with an EPP feature. If so, why is this out?:

(7) *Who thinks [_{CP} what that Mary bought ~~what~~]?

- Additionally, if there is a *wh*-feature on the intermediate C^0 , then why doesn’t *what* freeze? Chomsky has to postulate that there are “defective probes”, which serve to probe and move a phrase up, but do not eliminate the feature on the moving XP.
- However, if we say that *that* never has a *wh*-feature, but instead *what* successive cyclically (phase-by-phase) moves to find a [+WH] feature, then this follows.
- For Bošković, an uninterpretable feature on the “goal” (moving phrase) is sufficient for movement; there is no need for the probe itself to have an unvalued feature
- We can find evidence for this in multiple *wh*-movement:

(8) a. *Koj vižda kogo?
Who watches who?

b. Koj kogo vižda?
Who who watches?
‘Who watches who?’

(Bulgarian)

- In an Agree/Attract system, we need some diacritic on C^0 that forces it to probe for *all wh*-phrases, whereas in English it only probes for one; for Bošković, each *wh*-phrase has a feature that must be checked against C^0
- Let’s examine multiple partial *wh*-movement:

- (9) (Mondd el) mikor ki tévesztett össze kit kivel
 tell.IMP PRT when who.NOM confused-3SG PRT who.Acc who-with
 'Tell me who confused who with who when' (Hungarian)

- How would we deal with this in Agree/Attract? How about in a pure Greed system?

2 Freezing

- Lobeck (1990) and Saito & Murasagi (1990) point out that ellipsis is only possible in cases where there's Spec,Head agreement:

- (10) a. John left and Peter did ~~leave~~ too
 b. John's talk was interesting and Bill's ~~talk~~ was boring
 c. *A single student came but the ~~student~~ thought it was important
 d. John met someone but I don't know who ~~John met who~~
 e. *John believes that Peter met someone but I don't think that ~~Peter met someone~~

- Importantly, intermediate CPs cannot license ellipsis:

- (11) John met someone but I don't know who Peter said [_{CP} ~~who~~ that John met ~~who~~]

- Thus, the intermediate CP is not agreeing with *who*; *who* stops in the Spec,CP position on its way to the matrix clause, not to check a feature with *that*

- There are languages with *wh*-agreement on the complementizer:

- (12) a. lyondl y0/ ABahl Bo Kambale alanglra
 who.1 that.1 who.2 that.2 Kambale saw
 'Who did Kambale see?'
 b. Eklhl ky0/ EBhl By0 Kambale alanglra
 what.7 that.7 what.8 that.8 Kambale saw
 'What did Kambale see?'

- It appears that we have successive cyclic *wh*-movement with each intermediate CP agreeing with the *wh*-phrase (Schneider-Zioga 2005):

- (13) ekihi kyo Kambale a.si [nga.kyo Yosefu a.kalengekanaya [nga.kyo Mary
 what wh-agr Kambale agr.know C.wh-agr Joseph agr.thinks C.wh-agr Mary
 a.kahuka]]]
 agr-cooks
 'What did Kambale know that Joseph thinks that Mary is cooking?'

- Boeckx (2008) and Schneider-Zioga (2005) argue that there is no evidence of long-distance A'-movement in Kinande. First, we see that topicalization triggers *wh*-agreement, which can reconstruct:

- (14) ekitabu kiwe_{j/k} ky' obuli mukolo_j a.kasoma ekitabu-kiwe_j kangikangi
 book his wh-agr each student agr.reads regularly
 'It is his_{j/k} book that every student_j reads ~~his book~~'

- However, we find no evidence of the topicalized element reconstructing across a clausal boundary:

- (15) a. ekitabu kiwe_{*j/k} kyo ngalengekanaya [nga.kyo obuli mukolo_j akasoma ___
 book his wh.agr I.think wh.agr I.think C.wh-agr every student
 kangikangi
 read regularly
 'It his_{k/*j} book that I think every student_j reads regularly'
 b. ekitabu kiwe_{*j/k} kyo obuli mukolo_j alengekanaya [nga.kyo nganasoma ___ kangikangi
 book his wh.agr I.think wh.agr every student agr.think C.wh-agr I.read regularly
 'It his_{k/*j} book that every student_j thinks that I read regularly'

- Additionally, we find that extraction from an adjunct yields an island violation, unless we embed another clause that can host the *wh*-agreement:

- (16) a. *omukali ndi yo wasiga [embere ___ wabuga]
 woman who wh.agr you.left before spoke
 '*Which woman did you leave before ___ spoke?'
 b. omukali ndi yo wasiga [embere Kambale anasi [koyo ___ wabuga]]
 woman who wh.agr you.left before Kambale knew C.wh-agr spoke

- Boeckx (2008) and Schneider-Zioga (2005) propose that *wh*-agreement actually is the tail of a short OP-movement, which then is bound by a higher *wh*-phrase or another OP:

(17) [CP OP_i [TP [VP t_i ... [CP OP_i [TP [VP t_i ...]]]]]]

- Thus, we don't need to say that these "intermediate" CPs are agreeing with a *wh*-phrase passing through it – they are the tail end of the OP movement! Conversely, true cases of successive *wh*-movement do not involve feature checking between the moving phrase and the intermediate CP positioning
- In order to capture successive cyclicity, Chomsky (2000) needs to introduce the notion of "defective head", i.e., when a head probes and raises an XP to its specifier, it's not sufficient for checking the uninterpretable feature on the moved XP

- (18) a. I wonder [CP what_[+WH] C_[+WH] Mary bought what]
 b. What_[+WH] C_[+WH] do you think [CP what_[+WH] that_[+WH] Mary bought what]

- The defective/non-defective contrast is to ensure that the *wh*-phrase freezes semantically +wh CPs but not in intermediate CPs

- So, long-distance *wh*-movement may either be a chain of short OP dependencies, each resulting in feature checking with a C^0 ; OR successive cyclic movement through Spec,CP positions with no agreement.
- Although we typically use A-movement examples of freezing, it's also observed in A'-movement – e.g., topicalization cannot feed QR, or *wh*-movement cannot feed topicalization:

- (19) a. Someone thinks that Mary solved every problem $\forall < \exists; \exists < \forall$
 b. Someone thinks that every problem, Mary solved $*\forall < \exists; \exists < \forall$

(20) *Who, ~~who~~ does Mary detest?

- If all A'-movement is understood as movement to check an [uOP] feature on the moving XP, then this follows
- Bošković goes an extra step. Traditionally, we take A-movement to be able to feed A'-movement:

(21) Who did John say [_{CP} ~~who~~ [_{TP} ~~who~~ was arrested ~~who~~]]?

- Bošković proposes that subject *wh*-phrases directly move to Spec,CP (McCloskey 2000):

- (22) a. ~~Who~~ was arrested ~~who~~ all in Duke street?
 b. *They were arrested ~~they~~ all last night

- Non-*wh*-subjects move to Spec,TP after C passes its Case features to T^0 because this minimizes the distance that the DP must move; however, the C^0 will probe once for the nominative and the *wh*-phrase with a *wh*-subject, directly moving the subject *wh*-phrase to the Spec,CP
- Bošković proposes that all movement ends in a position where all features are checked, i.e., there's no such thing as an XP moving to check its features, and then moving again to check additional features

3 Last Resort and Agree

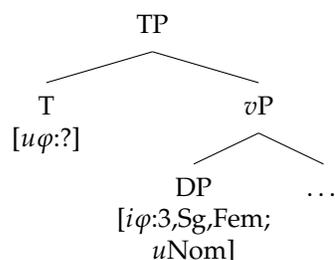
- Chomsky (2001) proposes that we not only need the interpretable/uninterpretable distinction, but also the valued/unvalued distinction, because some features are lexically valued whereas others are valued throughout the course of the derivation:

- (23) a. Zelena kola su kupljena
 green.FEM car.FEM are bought.FEM
 'The green car was bought'
 b. Zeleno auto je kupljeno
 green.NEUT car.NEUT is bought.NEUT
 c. Zeleni automobil je kupljeni
 green.MASC car.MASC is bought.MASC

- What kind of features trigger operations? For Chomsky (1995), Attract was triggered to eliminate an uninterpretable feature. For Chomsky (2000), Agree was triggered to value an unvalued feature (which eliminated uninterpretable features along the way), but a valued, uninterpretable feature could not probe.
- However, valued uninterpretable features do not need to undergo checking:

(24) Uništena su sva sela i sve varošice
 destroyed.neut are all villages.neut and all towns.fem
 'All villages and towns were destroyed'

- Here, the participle agrees with the *first* conjunct¹. Bošković claims that the each noun's gender is valued, but uninterpretable. Thus, even if the participle eliminates the gender of the first conjunct through Agree, then the second noun's gender (presumably uninterpretable) is not probed. Bošković suggests that this means that valued, uninterpretable features may be able to delete without any Agree/movement at all.
- How does this compare to Chomsky's system? For him, Case is probed by the T⁰'s probe for φ features:



- T⁰ will probe DP to value its unvalued φ -features, and then also check off the DP's nominative feature
- Bošković instead claims that T has a [*uCase:Nom*] and DP has a [*uCase:?*]. For Chomsky, nothing would motivate T⁰ probing for DP. However, in a Greed-based system, the DP would move up.
- This seems intuitive, but crucially it relies on the Case feature of T⁰ being uninterpretable and valued, i.e., freely deleted. Otherwise, we run into reviving the "Inverse Case Filter":

(25) a. **Case Filter:** All DPs must have their Case feature checked
 b. **Inverse Case Filter:** All Case-checkers (*v*, T, D, P) must check their Case

- The Inverse Case Filter (ICF) is empirically inadequate, since CPs resist Case, yet can appear in configurations in which Case is typically assigned (Stowell 1981):

(26) a. John is proud (*of) [_{CP} that he accomplished so much]
 b. John is proud *(of) [_{DP} the fact [_{CP} that he accomplished so much]]

¹Similar facts are observed in varieties of Arabic, Hindi/Urdu, and Tsez – see Benmamoun, Bhatia, and Polinsky 2009

- (27) a. [_{CP} That John is nice] surprised Mary.
 b. It surprised Mary [_{CP} that John is nice].

- Additionally, there are many cases where a Case can be assigned “optionally”, these kinds of facts are unpredicted on the ICF:

- (28) a. John laughed (himself silly)
 b. Mary is dressing (herself)

- (29) a. On kupuje kola
 He buys car.acc
 ‘He’s buying a car’
 b. On kupuje pet kola
 He buys five car.gen
 ‘He’s buying five cars’

(Serbo-Croatian)

- Thus, a theory that permits uninterpretable, valued features might be preferable

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