

Lecture 23: Binding Theory – 2.

Andrei Antonenko

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Outline

- ① Binding: Additional Issues
 - Binding and non-finite complements
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- ② Binding: Crosslinguistic Variation
 - Long-Distance Binding
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Binding: Additional Issues

Binding and ECM

ECM vs. Finite clauses

- (1) a. Sue_i considers [herself_i to be intelligent].
 b. *Sue_i considers [her_i to be intelligent].
- (2) a. *Sue_i thinks [that herself_i is intelligent].
 b. Sue_i thinks [that she_i is intelligent].

- Need a revision of the Principles. Structures are parallel, but the grammaticality differs.
- Need to make the domain in ECM cases larger!
- Domain must also include the **case-assigner**!

Domains

Domain of Y: a minimal XP (=TP or DP) that contains Y, Y's case-assigner, and a subject.

Non-complementarity

- So far we saw cases where pronoun and reflexive are in **complementary distribution**: either one is good or the other.
- However, it is not always the case.

- (3) a. **They_i** like [_{DP} **their_i** books]. *Prediction* ✓
 b. **They_i** like [_{DP} **each other_i's** books]. *Prediction*: ✗
- (4) a. **John_i** thinks that [_{TP} a picture of **him_i** is hanging in the museum]. *Prediction*: ✓
 b. **John_i** thinks that [_{TP} a picture of **himself_i** is hanging in the museum]. *Prediction*: ✗

- Our theory predicts that:
 - (3-a) – ✓; (3-b) – ✗.
 - (4-a) – ✓; (4-b) – ✗.

Different domains

- (5) a. $They_i$ like [_{DP} $their_i$ books].
b. $They_i$ like [_{DP} $each\ other_i$'s books].

- Domains for anaphors and pronouns should be **different!**
- **Pronouns** are ok with small-ish domains, since they want to be **free**.
- **Anaphors** need to have a potential antecedent, so their domain needs to contain at least something that can potentially be an antecedent: **accessible subject**.

Accessible subjects

(6) [_{TP₂} John_i thinks that [_{TP₁} [_{DP} a picture of himself_i] is hanging in the museum]]].

- DP is not a good binding domain as it lacks a **subject**.
- TP₁ would be a good binding domain for **himself**: it has a **subject**, and a case-assigner of **himself**.
- But there is no **accessible subject**: nothing in this domain can serve as an antecedent for **himself**!
- So, the domain in this case is the entire sentence, TP₂!

Accessible subjects

(7) [_{TP₂} John_i thinks that [_{TP₁} [_{DP} his_i picture] is hanging in the museum]].

- DP is a good binding domain for his: it has a subject, and a case-assigner of his.
- There is no need for an accessible subject: his is a pronoun and wants to stay free!
- So, the domain in this case is the DP!

Accessible subjects

(8) * $[_{TP_2}$ John_i thinks that $[_{TP_1}$ $[_{DP}$ Mary's picture of himself_i] is hanging in the museum]].

- DP is a good binding domain for **himself**: it has a **subject** (Mary's), and a case-assigner of **himself**.
- This subject (**Mary**) is also an **accessible subject** and can potentially serve as an antecedent for **himself**!
- So, the domain in this case is the subject DP!

Accessible subjects

What about sentence like (9)?

(9) * $[_{TP_2}$ John_i; think that $[_{TP_1}$ himself_i; is a genius]].

- TP_1 is not a binding domain, because there is **no accessible subject** for the anaphor himself.
- Binding domain is TP_2 , so the sentence should be grammatical.
- **Different solution:** himself is marked accusative, but needs to be nominative to be the subject.
- English does not have nominative anaphors.
- If case is not an issue, this sentence is ok:

(10) $[_{TP_2}$ John_i; arranged for $[_{TP_1}$ himself_i; to win the game]].

Dialectal variation

There is some dialectal variation with respect to availability of a pronoun:

(11) *Dialect 1:*
Sally_i saw drawings of her_i.

(12) *Dialect 2:*
*Sally_i saw drawings of her_i.

- *Dialect 2* is what we expect under theory so far.
- For *Dialect 1*, there are two possible solutions:
 - **Solution 1:** Subjects are not crucial for Principle B: A pronoun must be free within the smallest DP or TP containing it.
 - **Solution 2:** There is an empty AGENT subject indicating who made the drawing:

(13) Sally_i saw [_{DP} PRO_{AGENT} drawings of her_i].

Empty subjects in DPs

- (14) a. **Jacob_i** took [_{DP} a picture of **himself_i**].
 b. ***Jacob_i** took [_{DP} a picture of **him_i**].
- (15) a. **Jacob_i** saw [_{DP} a picture of **himself_i**].
 b. ?**Jacob_i** saw [_{DP} a picture of **him_i**].

- In (14), **Jacob** is a picture-taker, so the structure is as below, and **him_i** is bound by **PRO_i** within the DP, hence a violation:

(16) ***Jacob_i** took [_{DP} **PRO_i** a picture of **him_i**].

- In (15), anybody could have taken a picture, so the structure is as below, and **him_i** is **not** bound by **PRO_j** — they refer to different people — so **him_i** is free within the DP:

(17) ?**Jacob_i** saw [_{DP} **PRO_j** a picture of **him_i**].

Anaphors within DP

Now, why is (18) grammatical?

(18) $Jacob_i$ saw [_{DP} a picture of $himself_i$].

- PRO within DP is optional!
- To make this sentence grammatical, assume that there is no PRO, so the binding domain is the entire TP!
- We have freedom whether we choose to use PRO or not!

Anaphors and Pronouns within DP: Summary

(19) $Jacob_i$ took [_{DP} a picture of $himself_i$].

- **Case 1:** PRO_i (=Jacob) is **present** — binding domain is DP; sentence is ✓grammatical.
- **Case 2:** PRO_i (=Jacob) is **absent** — binding domain is TP; sentence is ✓grammatical.

(20) * $Jacob_i$ took [_{DP} a picture of him_i].

- **Case 1:** PRO_i (=Jacob) is **present** — binding domain is DP; sentence is ✗ungrammatical.
- **Case 2:** PRO_i (=Jacob) is **absent** — binding domain is TP; sentence is ✗ungrammatical.

Anaphors and Pronouns within DP: Summary

(21) $Jacob_i$ saw [_{DP} a picture of $himself_i$].

- **Case 1:** PRO (=anyone) is **present** — binding domain is DP; sentence is **Xungrammatical**.
- **Case 2:** PRO (=anyone) is **absent** — binding domain is TP; sentence is **✓grammatical**.

(22) ? $Jacob_i$ saw [_{DP} a picture of him_i].

- **Case 1:** PRO (=anyone) is **present** — binding domain is DP; sentence is **✓grammatical**.
- **Case 2:** PRO (=anyone) is **absent** — binding domain is TP; sentence is **Xungrammatical**.

Anaphors and Pronouns within DP: Summary

(23) $Jacob_i$ took [DP a picture of $himself_i$].

(24) * $Jacob_i$ took [DP a picture of him_i].

(25) $Jacob_i$ saw [DP a picture of $himself_i$].

(26) ? $Jacob_i$ saw [DP a picture of him_i].

- Out of these four sentences, only (24) [= (20)] **can not be grammatical**, regardless of whether we use PRO or not!

Intermediate Summary - 2

Definitions

X binds Y if

- X and Y are coreferential; and
- X c-commands Y.

X is free if it is not bound.

Domains

Domain for **anaphors**: a minimal XP (=TP or DP) that contains:
(1) an anaphor (2) its case-marker, and (3) an **accessible** subject.

Domain for **pronouns**: a minimal XP (=TP or DP) that contains:
(1) a pronoun (2) its case-marker, and (3) a subject.

Anaphors and Pronouns

Principle A: **Anaphors** must be **bound** in their domain.

Principle B: **Pronouns** must be **free** in their domain.

Binding: Crosslinguistic Variation

Long-distance binding

- In English, anaphor binding is **local**: the domain is usually small — TP or DP.
- In some languages, **long-distance binding** is possible.

(27) **General** poprosil **polkovnika** [PRO narisovat' **sebja**].
general_i.NOM asked **colonel_k.ACC** **PRO_k** to draw **self_{i/k}**
 “The **general_i** asked the **colonel_k** to draw **himself_{i/k}**.” (Rus)

(28) **Sumita Amitabh-ko** [PRO **apne-ko** dekhne] ke-liye
Sumita_i; Amitabh_k-DAT [PRO_k **self_{i/k}** to look] for
 majbuur kartii hai.
 force do-FEM be
 “**Sumita_i** forces **Amitabh_k** to look at **himself_k/her_i**” (Hindi)

Long-distance binding

- In English, anaphor binding is **local**: the domain is usually small — TP or DP.
- In some languages, **long-distance binding** is possible.

- (29) Jón segir að María elski sig.
 John_i says that Mary_k loves.SUBJ self_{i/k}
 “John_i says that Mary_k loves him_i/herself_k” (Icelandic)
- (30) Zhangsan renwei Lisi zhidao Wangwu xihuan ziji.
 Zhangsan_i think Lisi_j know Wangwu_k like self_{i/j/k}
 “Zhangsan_i thinks Lisi_j knows Wangwu_k likes
 him/himself_{i/j/k}.” (Chinese)

Domain size

- Size of the binding domain can differ among languages.
- Binding domains:
 - ① **Any CP/TP**: English
 - Antecedent must be in the same clause.
 - ② **Finite CP/TP**: Russian
 - binding into control clauses is ✓, (27)
 - ③ **Non-subjunctive CP^a**: Icelandic
 - binding into subjunctive clauses is ✓, (29)
 - ④ **Entire sentence**: Chinese
 - (almost) any long-distance binding is ✓, (30)

^a**Subjunctive** is a special type of clause, which usually occurs with verbs of volition, doubt, etc. English barely has any subjunctives, but Romance languages, some Germanic languages, and many Slavic languages have them.

Morphological form of reflexives

- In English, reflexives are **complex**: they consist of two parts: **him+self**.
- Many languages have **simple (monomorphemic)** reflexives
 - Dutch *zich*, Icelandic *seg*, Japanese *zibun*, Chinese *ziji*:

(31) Quand on parle de *soi*. (French)

When one speaks of (one)self

(32) Jan waste *zich*. (Dutch)

John washed self

(33) Lisi hai-le *ziji*. (Chinese)

Lisi hurt-ASP self

Morphological form of reflexives

- Same of these languages might also have a **complex** reflexives as well.

(34) Jan zag **zichzelf** (Dutch)
John saw **himself**

(35) Lisi hai-le **ta-ziji** (Chinese)
Lisi hurt **himself**

Morphological form and long-distance binding

- Only simple monomorphemic anaphors like *ziji* (or *zibun* in Japanese) can take an antecedent outside the TP that contains it (long-distance binding).

- (36)
- a. Zhangsan_i renwei [*Lisi*_k hai-le *ziji*_{i/k}].
 Zhangsan_i think *Lisi*_k hurt *self*_{i/k}
 'Zhangsan_i thought that *Lisi*_k hurt *himself*_k/*him*_i.'
- b. Zhangsan_i renwei [*Lisi*_k hai-le *ta-ziji*_{*i/k}].
 Zhangsan_i think *Lisi*_k hurt *self*_i
 'Zhangsan_i thought that *Lisi*_k hurt *himself*_i.'

Subject condition

- In some languages (Russian), antecedent of the anaphor must be the **subject**:

- (37) a. John_i asked Bill_k about himself_{i/k}.
 b. Ivan_i sprosil Boris_k o sebe_{i/*k}. (Russian)
 Ivan_i asked Boris_k about self_{i/*k}
 'Ivan_i asked Boris_k about himself (Ivan).'

- Only **monomorphemic** anaphors are **subject-oriented**.

Anaphors crosslinguistically: summary

There is a three-way correlation:

- ① Monomorphemic anaphors
- ② Long-distance binding
- ③ Subject condition

Principle C crosslinguistically

- **Principle C** says that R-expressions should be free:

- (38) a. *He_i likes John_i.
 b. *John_i likes John_i.

- Some languages, like **Thai**, allow R-expressions to be bound by R-expressions, but not by pronouns.

- (39) a. cɔ̀ɔ̀n_i chɔaâɔp cɔ̀ɔ̀n_i .
 John_i likes John_i
 'John likes himself.'
 b. * khǎw_i chɔaâɔp cɔ̀ɔ̀n_i .
 he_i likes John_i
 'John likes himself.'

Fourth type of referential elements

Dogrib, an Athapaskan language of Northern Canada, has a pronominal form **ye** that is referred to as the **fourth person**.

- This pronoun needs a **c-commanding antecedent**, and thus may not occur in the environment below; (this is what it has in common with an **anaphor**):

(40) ***ye**-zha shèeti
YE-son 3.ate
 'His son ate'

- But when it has an antecedent, it must be **disjoint** from it (this is what it has in common with a **pronoun**):

(41) **John_i**; **ye***_{i/k}-zha eʔi
John **YE**-mother 3.saw
 'John_i saw his_k mother'

Final word...

Binding Theory (as it stands now) is too good to abandon, but too weak for explaining the full distribution of anaphors and pronouns crosslinguistically.

A lot of work remains to be done...