Binding Theory

K. Srikumar
Department of Linguistics
University of Lucknow
(For MA Sem II, Paper II)

What is it about?

- Binding Theory is another sub-theory of Principles and Parameters approach to Grammar

- It regulates the distribution and interpretation of the different types of Noun Phrases(NP) in Language.

- That is, the constraints on the occurrence of the different kinds of NPs and their possible interpretations.

NP Types: 1. Reflexives

- Reflexives or anaphors are the pronominals with **self** in English, such as **Himself**, **Themselves**, **Myself**, **Yourself** etc.

- These pronominals do not have independent reference. They must take their reference from a nominal occurring before them in the sentence.

- Ram blamed himself for his failures

- Lata saw herself in the mirror

Cont…

- The reflexives in English agree with their antecedents (The NPs they refer back to) in person, number and gender (PNG).

- For instance, in the above sentences **himself** and **herself** cannot replace each other, nor can forms like **myself**, **yourself**, or **themselves** take their place because they disagree with them in some PNG features.

- In Hindi, the reflexive **apne-aap** is neutral with respect to PNG features.

2. Pronominals

- Pronominals are expressions like **he**, **she**, **it** , **they**, **I**, **we**, **you** etc.

- These may either refer to someone in the context outside the sentence or may refer to nominals mentioned in the same sentence.

- But they need to be not bound with an NP wherein the anaphors need to be bound.

Cont..

- Ram cursed **him**
- **He** read a play by Mohan Rakesh
- These may be distinguished in terms of Person, Number and Gender in languages.
- So you have the 1st Pers. (The speaker)
- 2nd Pers. (The addressee)
- 3rd Person (The person talked about)

R-Expressions

- Full NPs: Proper Nouns, Common Nouns, Abstract nouns etc.

- Eg.: Ram, Mohan, Boy, book etc.

- These refer to unique entities in the world of discourse.

- Known as Referential Expressions or R-Expressions for short.

Binding Principles

- Binding theory deals with A Binding: i.e. NP types in their argument positions within sentences.
- It provides for Three principles to regulate the three different types of NPs.
- **Principle A**: Tells the domain within a sentence where the anaphor must be bound with an antecedent
- **Principle B**: Tells the domain within a sentence where the pronoun must not be bound with an NP.
- **Principle C**: Tells the domain within sentence where the R-Expression must be independent in its reference.

Domain of Anaphor Binding

- How far can the anaphor look for its antecedent?

- 1. Ram_i adores $himself_i$

- 2. $Lata_i$ thinks that Ram_j praises $himself_j$

- 3. *$Lata_i$ thinks that Ram_j praises $herself_i$

- Indexing NPs hereafter denote their interpretations and co-indexing their coreferentiality.

Clause-mate Antecedent Condition

- An anaphor appears to need an antecedent within its own clause.

- Matrix or Subordinate clause wherever the anaphor is placed.

Antecedent for Anaphors: Their position

- But having a clause-mate NP as antecedent in itself not sufficient for an anaphor; the antecedent must be suitably placed structurally too. Look at the following:
- 4. Ram_i likes $himself_i$
- 5. *Ram expects [IP $himself_i$ to like $Mohan_i$]
- 6. [NP Ram_i's $sister_j$] likes *$himself_i$/$herself_j$

- Suitable placement for the antecedent? Examine the structural representations for the above sentences.

Structural trees: 7.a
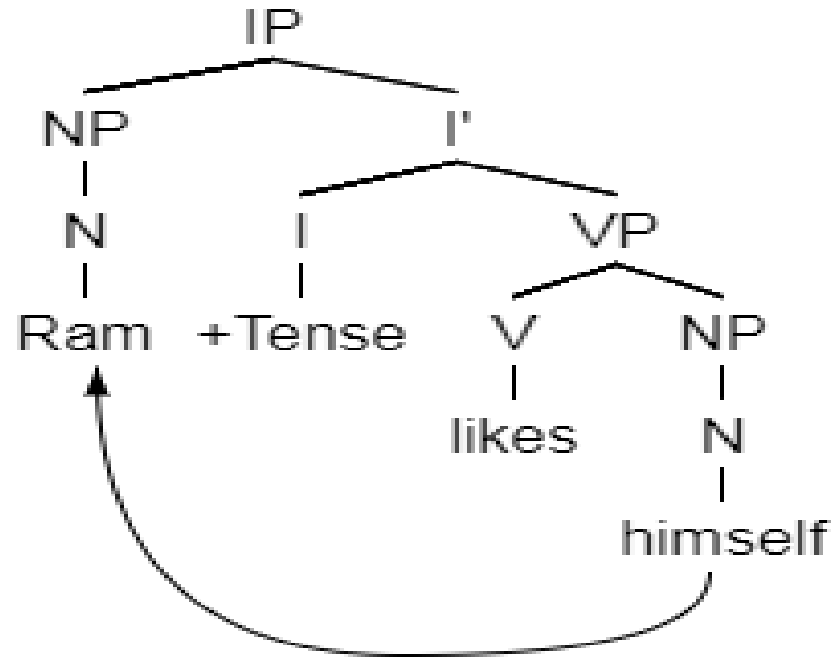
7. b
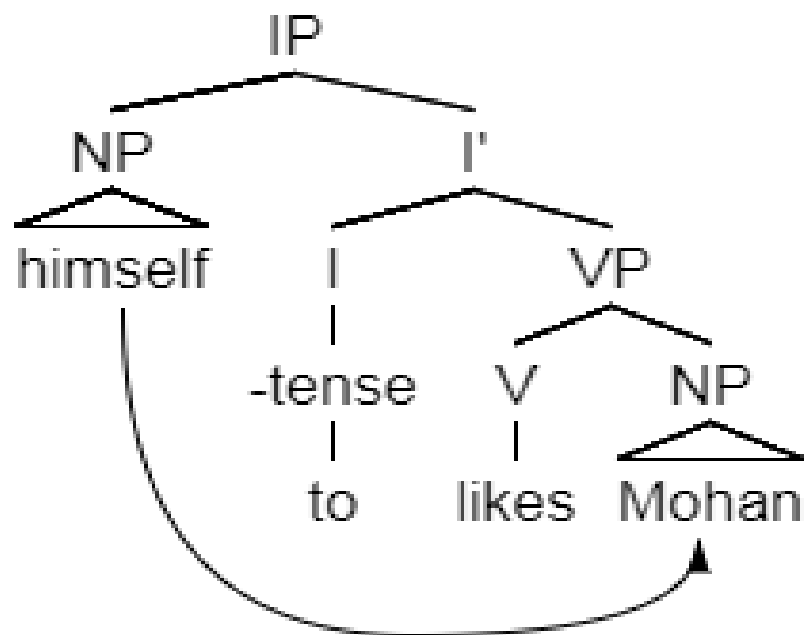
Cont…

- Comparison of the structural representations of (4) and (5) demonstrates that the Antecedent must be placed structurally higher on the Syntactic tree than the Anaphor.
- Then why can't **Ram** be the Antecedent for **himself** in (6), eventhough higher up on the Syntactic tree than the anaphor.
- And Why only **herself** is plausible as an anaphor in (6) correferential with Subject NP?
- Look at the Syntactic trees in (7) for both the anaphors **himself** and **herself** in the sentence (6):

7.c and 7.*d
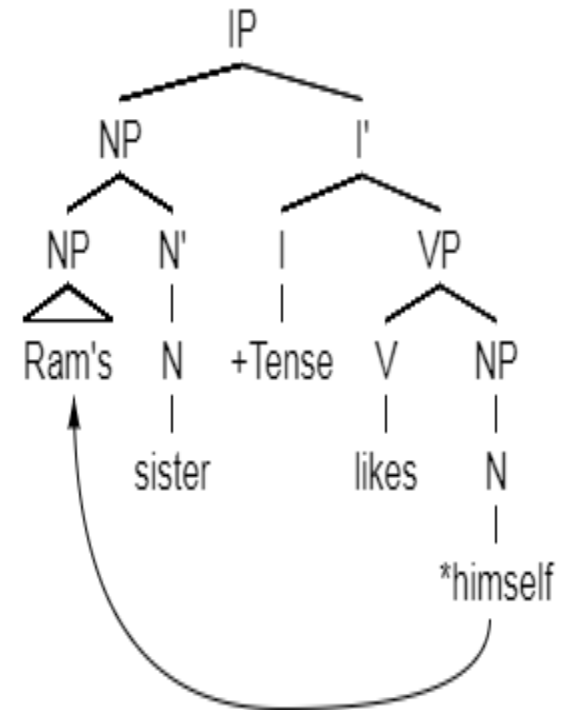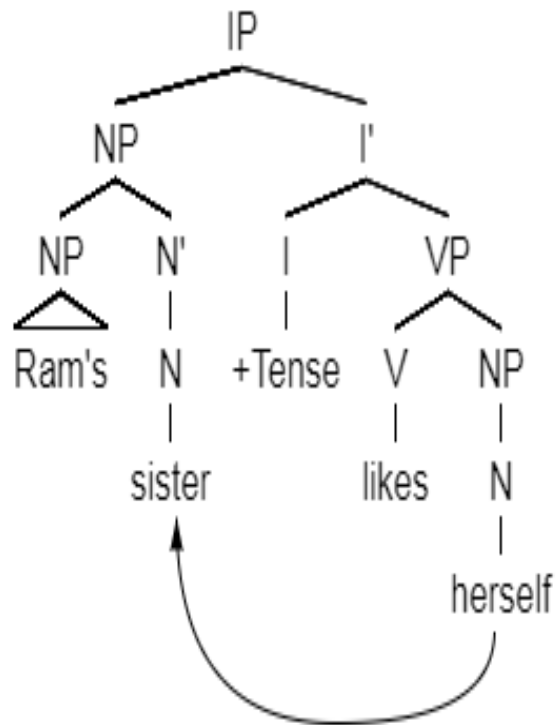
Structural condition for binding

- To draw out the difference between (7.c) and (7.d), accounting for the ungrammaticality of the latter, the structural notion of C-command appears to play a part.

- **C-Command**
- A node A C-commands a node B if and only if
- i. A does not dominate B; and
- ii. B does not dominate A; and
- iii. The first branching node dominating A also dominates B.

Contd..

- Given C-Command, the first branching node dominating the Subject NP headed by the Noun **sister**, in (7.c), is the IP node which also dominates the NP with the anaphor **herself** within the VP.

- Therefore the Subject NP c-commands the NP containing the anaphor **herself** and therefore qualifies as its antecedent.

Cont…

- The NP **Ram** however does not qualify to be the antecedent of **himself** in (7.d) here for the following reason:

- The First branching node dominating the NP **Ram** is the Subject NP itself which however does not dominate the NP with the anaphor.

- Hence, the NP **Ram** is ruled out as the Antecedent for the anaphor **himself** as it fails to C-command it

Binding

- Binding is defined thus:
- **Binding**
- A binds B iff
- i. A C-Commands B; and
- ii. A and B are co-indexed.
- **Reflexive Interpretation(First approximation)**
- A Reflexive must be bound by a clause mate Antecedent.

An ECM counter-example

- Insistence on Clause mate antecedent for anaphors is however too powerful a requirement, for it rules out certain grammatical cases like (8) too.

- 8. Ram$_i$ believes [himself$_i$ to be clever]

- Hence the need for extending the domain required for Binding.

Cont…

- Contrast (8) with (9).
- 9. *Ram$_i$ believes [that himself$_i$ is clever]
- The unacceptability of (9) is predicted, because the anaphor as the embedded subject lacks a clause mate antecedent NP C-commanding it.
- The acceptability of an anaphor as infinitival subject in (8) being bound with the matrix Subject could be attributed to the Exceptional Case Marking environment it is in with respect to the matrix verb **believe**.

Extension of Domain 1

- Hence the domain for anaphor binding must perhaps include its Governor.

- Such a domain here would be the matrix clausal IP whose subject may bind it as it C-commands it.

- **Reflexive Interpretation rule** (Revised)

- A Reflexive must be bound inside a clause containing the reflexive and its governor.

Anaphor inside NPs..

- But the revised principle is too weak as it fails to rule out the unacceptable interpretation of (10) where the anaphor **himself** is bound with the Subject of the clause as its clause mate antecedent.

- 10. Ram_i believes [$_{NP}$ $Lata's_j$ descriptions of *$himself_i$/$herself_j$]

Cont..

- To account for (10), examine the structure of the NP containing the anaphor in (10), given in (11), and contrast it with a similar but grammatical sentence (12):

- 11. Ram$_i$ believes [$_{NP}$ Lata's$_j$ [$_{N'}$ descriptions of *himself$_i$/herself$_j$]]

- 12. Ram$_i$ believes [$_{NP}$ any [$_{N'}$ descriptions of himself$_i$]]

Cont...

- The NP containing the anaphor in (11) has an NP Subject in its Spec, just as its sentential counterpart (10) has in its [Spec, IP], receiving its theta role from the noun **description**.

- 13. [$_{IP}$ [$_{NP}$ Lata$_i$] [$_{I'}$ [$_I$ + Tense] [$_{VP}$ [$_{V'}$ describes herself$_i$]]]]

- (12) on the contrary has the particle **any** rather than an NP.

Domain Extension 2

- So the conclusion, that intervention of a Subject within the NP delimits the domain for an anaphor contained in it.

- **Reflexive Interpretation rule** (Yet Another Revision)

- An Anaphor X must be bound in a domain containing X, X's governor and a subject.

Governing Category

- Let the domain for reflexive binding, consisting of its governor and subject be termed as **Governing category**.

- Then:

- **Anaphor interpretation rule**

- An anaphor must be bound in its governing category

Pronouns

- Contrasting with Anaphors, Pronouns must be free in their **Governing Categories**, as shown by the following:
- 12. He$_i$ likes him$_j$
- 13. Ram$_i$ believes [him$_j$ to be clever]
- 14. Ram$_i$ believes [any descriptions of him$_j$]
- 15. Ram$_i$ believes [Mohan$_j$'s descriptions of him$_{i/l/*j}$]
-

Cont…

- **Interpretation of pronouns**
- A pronoun must be free in its governing category
- Where free is to be interpreted as not bound

R-Expressions

- An **R-expression**, being referentially independent, does not permit to be bound.
- 17. Ram_i thinks [that he_i is clever]
- 18. He_i thinks [that $Ram_{*i/j}$ is clever]
- 19. Ram_i's sister likes $him_{i/j}$
- So an R-Expression must be free everywhere, i.e. it must not be bound by an argument in an A position (see (18) & (19)).

Binding Principles

- **Binding Principles**

- **Principle A**

- Anaphor must be bound in its Governing Category

- **Principle B**
A pronoun must be free in its Governing Category

- **Principle C**

- A R-Expression must be Free everywhere

References

Carnie, A. 2006. *Syntax: A Generative Introduction* (2nd Ed.). Oxford: Blackwell.

Haegeman, L. 1994. *Introduction to Government and Binding theory*(2nd Ed.). Oxford: Blackwell.

Ouhalla, J. 1999. *Introducing Transformational Grammar: from Principles and Parameters to Minimalist theory.* London: Edward Arnold.