Binding Theory

Different types of NPs, constraints on their distribution

Ling 322

Read *Syntax*, Ch. 5

(Lecture notes based on Andrew Carnie's notes)

Different Types of NPs

- R-expressions
  - An NP that gets its meaning by referring to an entity in the world.
  - Examples: George Bush, Travis, a teddy bear, purple shoes

    (1) The woman in the blue suit is talking to John.

- Anaphors
  - An NP that obligatorily gets its meaning from another NP in the sentence.
  - Examples: myself, yourself, himself, herself, itself, oneself, ourselves, yourselves, themselves, each other

    (2) a. The boy hurt himself.

    b. The girls talked to each other.

Different Types of NPs (cont.)

- Pronouns
  - An NP that may (but need not) get its meaning from another word in the sentence.

    It can also get its meaning from a noun phrase previously mentioned in the discourse, or by context.

  - Examples: I, me, you, he, him, she, her, it, one, we, us, they, them, his, her, our, my its, your, their

    (3) a. Art said that he played basketball.

    b. She is not in her office.

It turns out that the distribution of different types of NPs are each subject to a certain set of syntactic restrictions. A theory that addresses this issue is called Binding Theory.

Some Terminology

- Antecedent: an NP that gives its meaning to a pronoun or an anaphor.

  (4) a. The boy hurt himself.
  b. The girls talked to each other.

- Indexing: means of representing the meaning of an NP. e.g, *i, j, k, l, ...*

  Each index (plural: indices) represents a different reference.

  If two NPs refer to the same entity, then they get the same index. If not, they get different indices.

  (5) a. [Colin]$_i$ gave [Andrea]$_j$ [a basketball]$_k$.
  b. [The boy]$_i$ hurt [himself]$_i$.
  c. [Art]$_i$ said [he]$_i$ played [basketball]$_j$.
  d. [Art]$_i$ said [he]$_j$ played [basketball]$_k$.

- Co-indexing: Two NPs that have the same index are said to be co-indexed.

- Two NPs that are co-indexed are said to co-refer (i.e., refer to the same entity in the world).

Binding Conditions for Anaphors

- An anaphor requires an antecedent (a co-indexed NP) somewhere in the sentence.

  (6) a. [The boy]$_i$ hurt himself$_i$.
  b. * [The boy]$_i$ hurt herself$_j$.

- What structural relation must be obtained between an anaphor and its antecedent?

  Trial 1: _____

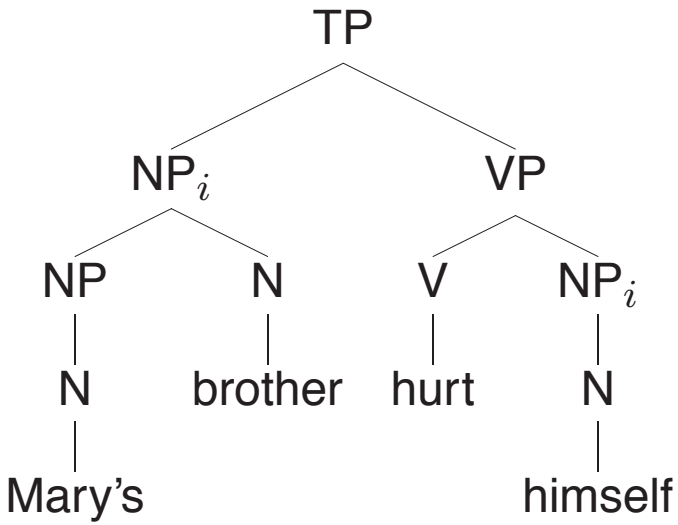
  (7) a. [The boy]$_i$ hurt himself$_i$.
  b. * Himself$_i$ hurt [the boy]$_i$.

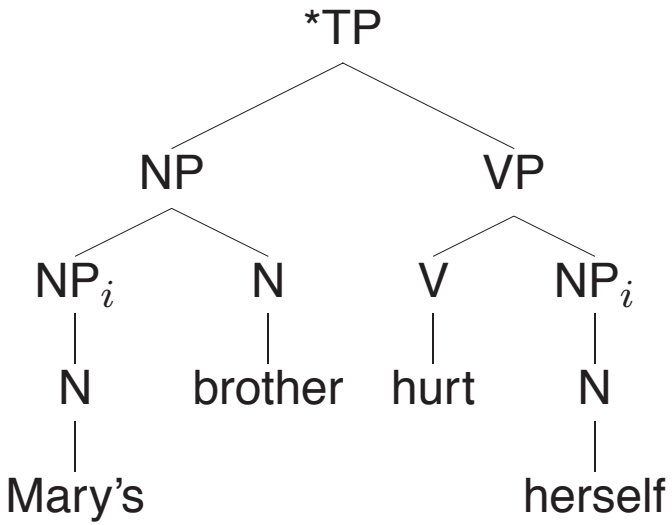
  Trial 2: _____

  (8) a. [Mary's brother]$_i$ hurt himself$_i$.
  b. * [Mary]$_i$'s brother hurt herself$_i$.

Binding Conditions for Anaphors (cont.)

- What structural relation is involved between an anaphor and its antecedent that distinguishes the two below?





Binding Conditions for Anaphors (cont.)

- An anaphor must have a c-commanding antecedent.

- Binding

  A binds B iff (i) A c-commands B, and (ii) A and B are co-indexed.

  Watch out! Binding is not the same as co-indexing.

- Binding Principle A: (to be revised)

  An anaphor must be bound.

  That is, in English, an anaphor must be c-commanded and co-indexed by an antecedent.

QUESTION: How does Principle A rule out the following example?

(9) * Himself$_i$ hurt [the boy]$_i$.

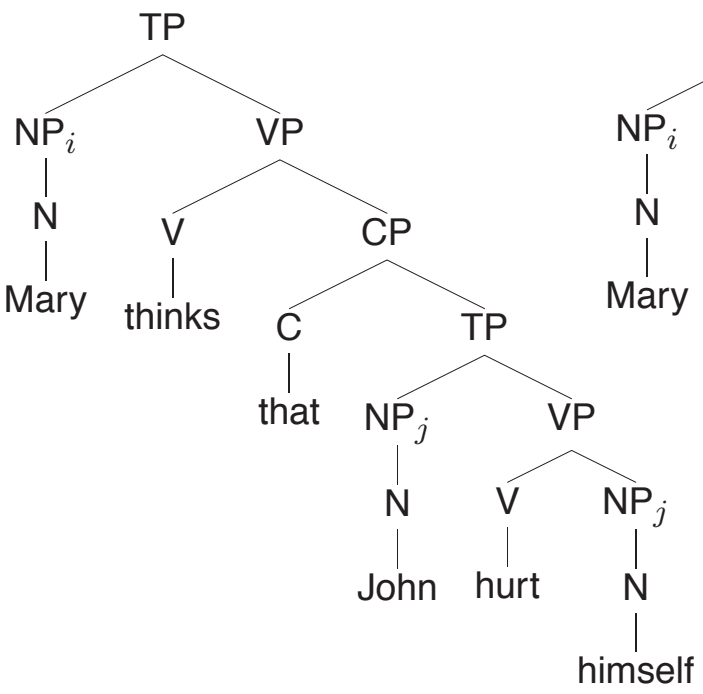
Binding Conditions for Anaphors (cont.)

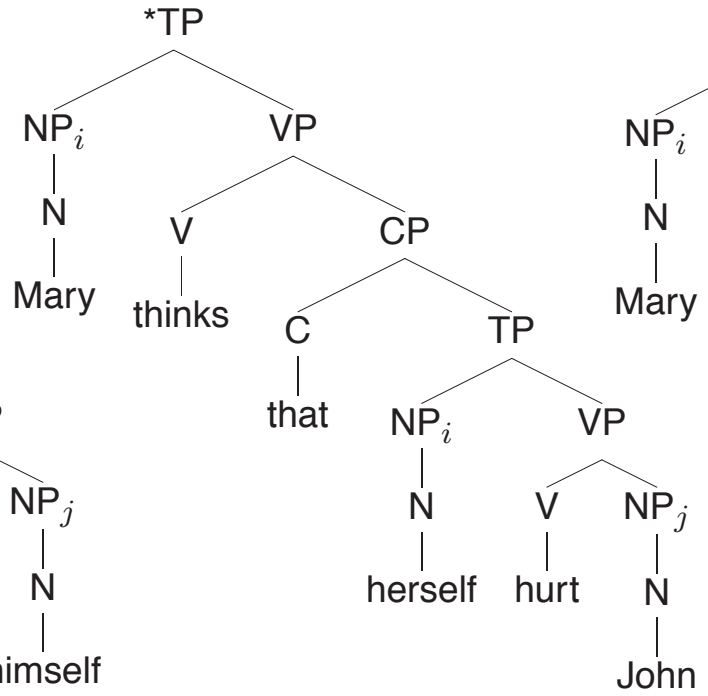
- Locality restrictions on anaphor binding

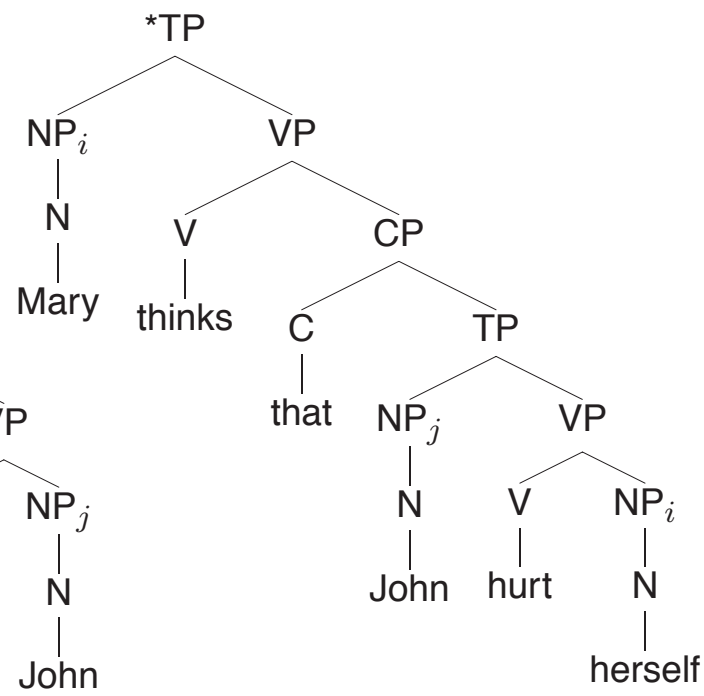
(10) a. Mary$_i$ thinks that John$_j$ hurt himself$_j$.

b. * Mary$_i$ thinks that herself$_i$ hurt John.

c. * Mary$_i$ thinks that John$_j$ hurt herself$_i$.







Binding Conditions for Anaphors (cont.)

- An anaphor must be bound in its own clause.

- Binding domain

  The lowest clause containing the anaphor.

- Binding Principle A

  – Structural restriction:

    The anaphor must be c-commanded by a co-indexed NP.

  – Locality restriction:

    The anaphor must be c-commanded by a co-indexed NP within its own clause.

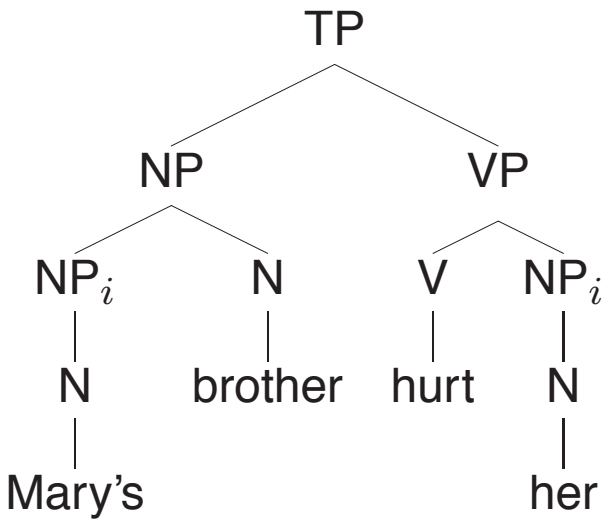
  $\Longrightarrow$ An anaphor must be bound in its binding domain.

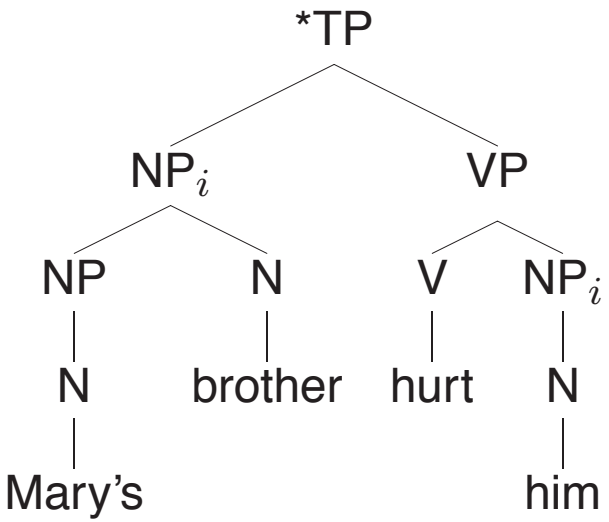
Binding Conditions for Pronouns

- Trial 1:

(11) a. [Mary]$_i$'s brother hurt her$_i$.

b. * [Mary's brother]$_i$ hurt him$_i$.



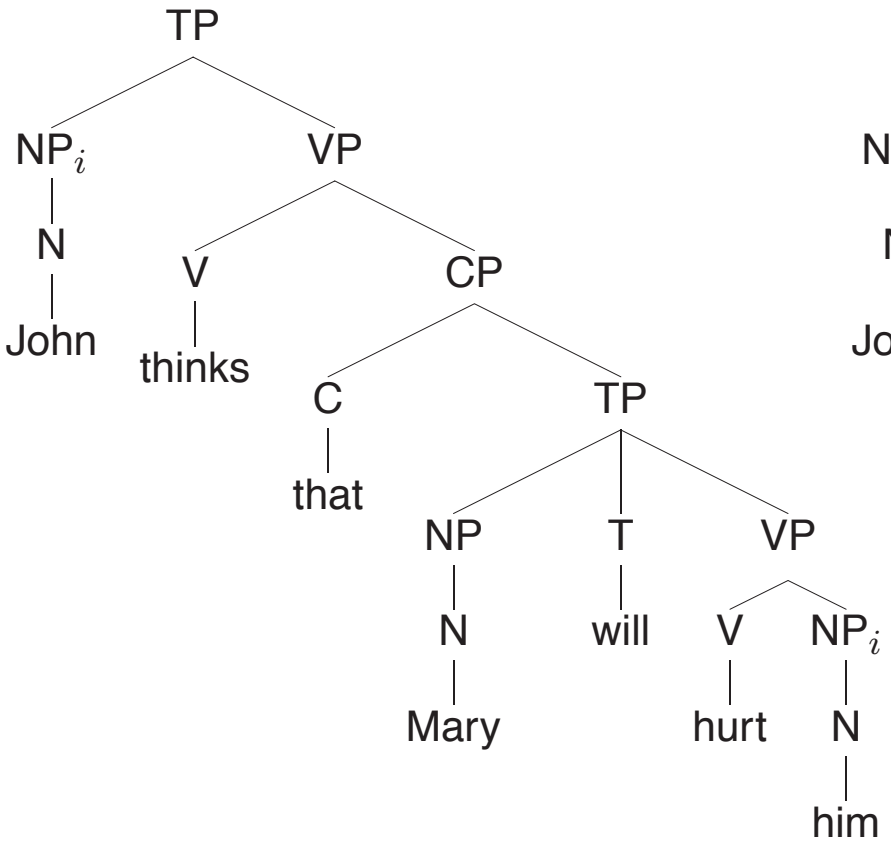


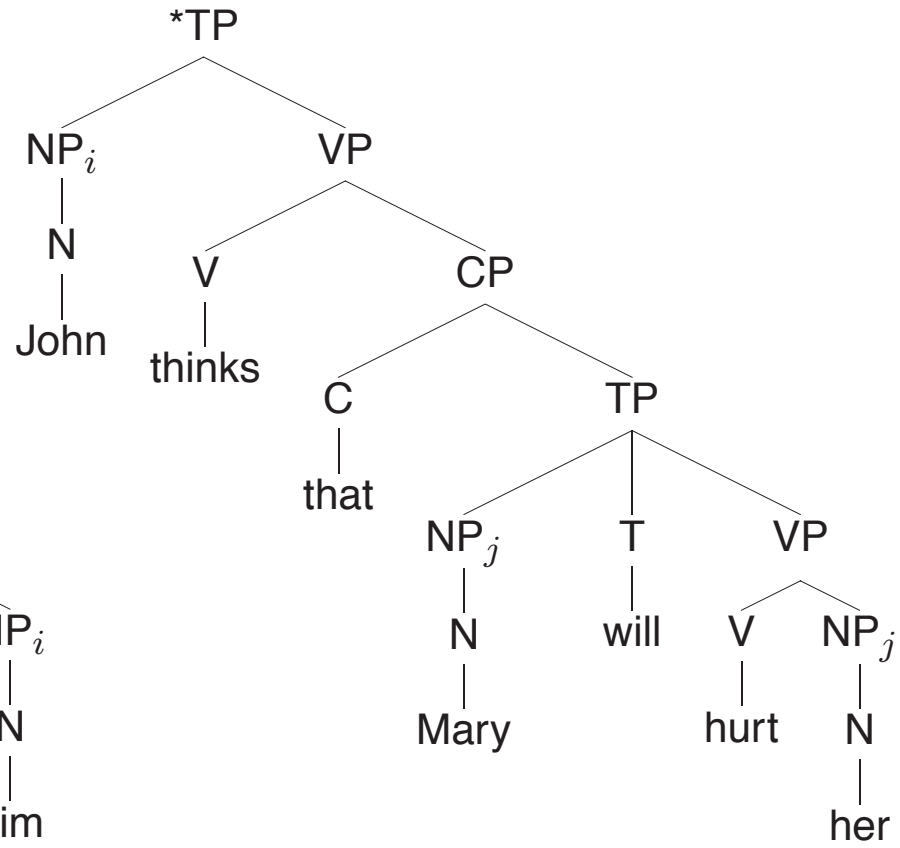
Binding Conditions for Pronouns (cont.)

- Trial 2:

(12) a. John$_i$ thinks that Mary$_j$ will hurt him$_i$.

b. * John$_i$ thinks that Mary$_j$ will hurt her$_j$.





Binding Conditions for Pronouns (cont.)

- A pronoun must not be c-commanded by a co-indexed NP within its own clause.

- Free

  Not bound.

- Binding Principle B

  A pronoun must be free in its binding domain.

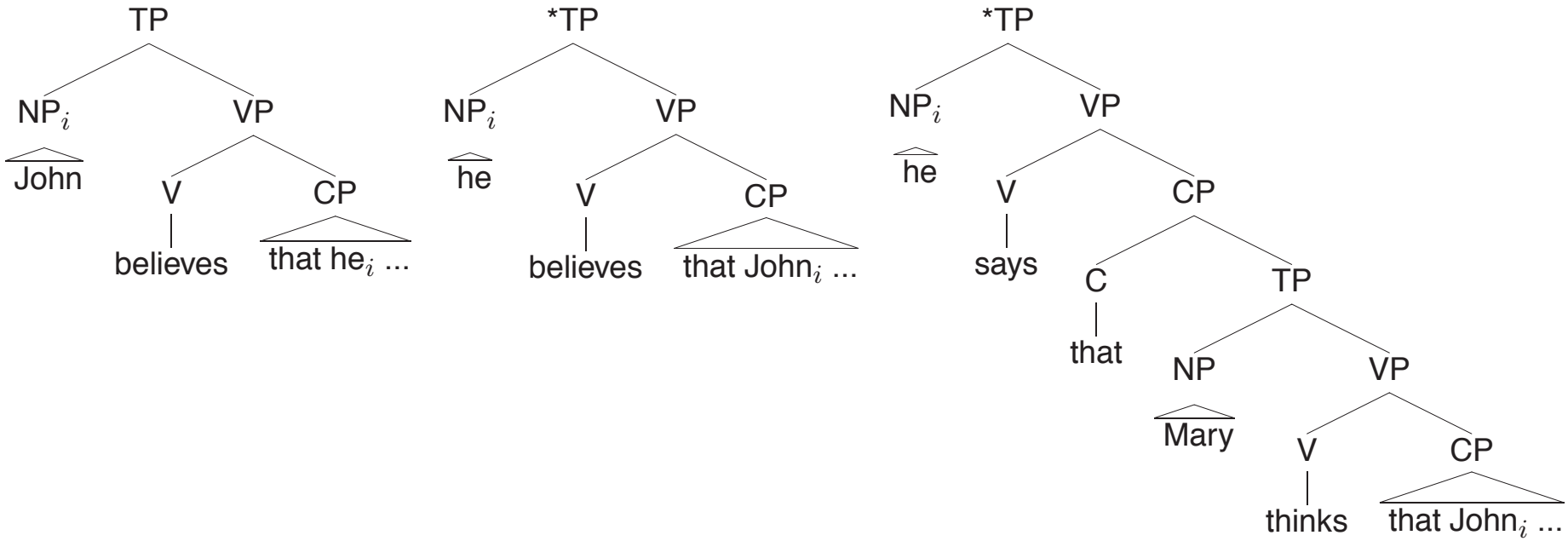
Binding Conditions for R-expressions

- Trial 1: _____

(13) a. John$_i$ believes that he$_i$ is the happiest.

b. * He$_i$ believes that John$_i$ is the happiest.

c. * He$_i$ says that Mary thinks that John$_i$ is the happiest.

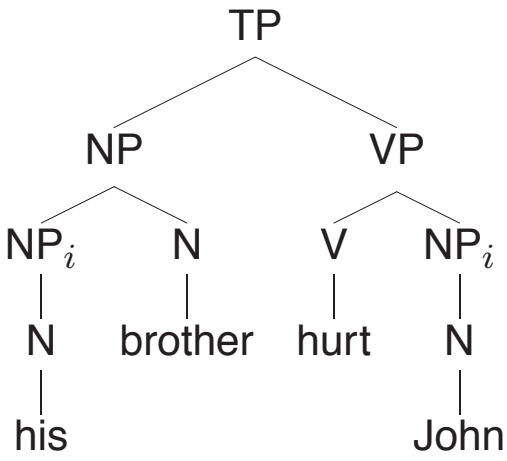


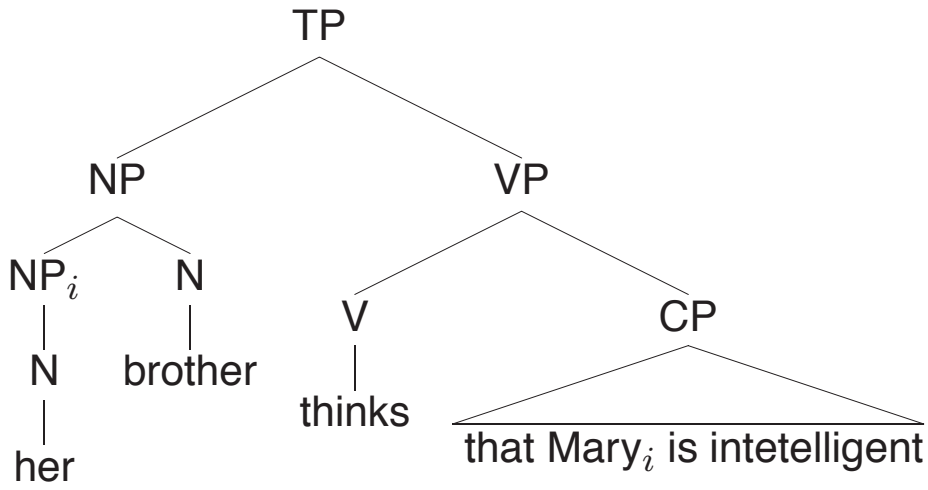
Binding Conditions for R-expressions (cont.)

- Trial 2:

(14) a. His$_i$ brother hurt John$_i$.

b. Her$_i$ brother thinks that Mary$_i$ is intelligent.





Binding Conditions for R-expressions (cont.)

- An R-expression can have an antecedent as long as it is not c-commanded by it.

- Binding Principle C

  An R-expression must be free.

The Binding Principles:

Principle A: An anaphor must be bound in its binding domain.
Principle B: A pronoun must be free in its binding domain.
Principle C: An R-expressions must be free.

Exercise in Binding Principles

Explain why the following sentences are ungrammatical: (from Carnie 2007, p. 147)

1. * Michael$_i$ loves him$_i$.

2. * He$_i$ loves Michael$_i$.

3. * Michael$_i$'s father$_j$ loves himself$_i$.

4. * Michael$_i$'s father$_j$ loves him$_j$.

5. * Susan$_i$ thinks that John should marry herself$_i$.

6. * John thinks that Susan$_i$ should kiss her$_i$.