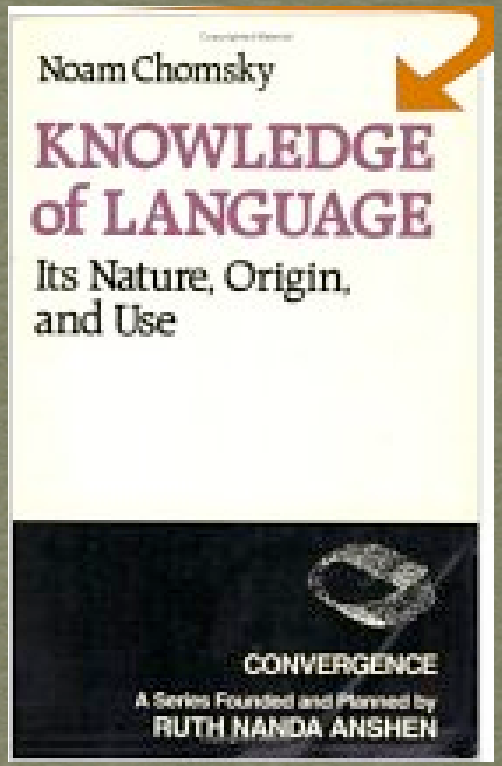
Advanced Topics in Binding Theory

©Andrew Carnie, 2006

Knowledge of Language (1986) Binding Theory informed by more recent research.



©Andrew Carnie, 2006

Review from Unit 5

- Antecedent, Anaphor, index, pronoun, R-expression, co-reference
- **Binds:**
  - A binds B if and only if
  - A c-commands B AND
  - A and B are co-indexed
- **Free:** not bound
- **Binding domain:** The clause containing the anaphor/Pronoun

©Andrew Carnie, 2006

Review from Unit 5

©Andrew Carnie, 2006

Review from Unit 5

- **Binding Principle A:** An anaphor must be bound in its binding domain.

©Andrew Carnie, 2006

Review from Unit 5

- **Binding Principle A**: An anaphor must be bound in its binding domain.
- **Binding Principle B**: Pronouns must be free in their binding domain

©Andrew Carnie, 2006

Review from Unit 5

- **Binding Principle A**: An anaphor must be bound in its binding domain.
- **Binding Principle B**: Pronouns must be free in their binding domain
- **Binding Principle C**: R-expressions must be free

©Andrew Carnie, 2006

Levels of representation

- Do the binding conditions hold at D-structure? PF? or LF?
- Evidence for D-structure. Binding condition A happening BEFORE wh-movement:
  - [Which pictures of himself] did John hate?
- Here himself is only c-commanded by John at D-structure.

©Andrew Carnie, 2006

Levels of representation

- However, there is evidence from Raising that binding conditions might hold AFTER movement:
  - [$_{CP}$ Chris wants himself [$_{CP}$ t to be appealing]

©Andrew Carnie, 2006

Levels of representation

- However, there is evidence from Raising that binding conditions might hold AFTER movement:
  - [$_{CP}$ Chris wants himself [$_{CP}$ t to be appealing]

Binding domain before movement. Anaphor is NOT bound in this domain: condition A violation

©Andrew Carnie, 2006

Levels of representation

- However, there is evidence from Raising that binding conditions might hold AFTER movement:
  - [CP Chris wants himself [CP t to be appealing]

Binding domain before movement. Anaphor is NOT bound in this domain: condition A violation

©Andrew Carnie, 2006

Levels of representation

- However, there is evidence from Raising that binding conditions might hold AFTER movement:
  - [CP Chris wants himself [CP t to be appealing]]

Binding domain after movement. Anaphor is bound in this domain: meets condition A

Binding domain before movement. Anaphor is NOT bound in this domain: condition A violation

©Andrew Carnie, 2006

Levels of representation

©Andrew Carnie, 2006

Levels of representation

- We thus have a contradiction. We have evidence that binding conditions both hold before and after movement.

©Andrew Carnie, 2006

Levels of representation

- We thus have a contradiction. We have evidence that binding conditions both hold before and after movement.
- Notice that ordering isn't the solution because we technically only have one rule (MOVE)

©Andrew Carnie, 2006

Levels of representation

- We thus have a contradiction. We have evidence that binding conditions both hold before and after movement.
- Notice that ordering isn't the solution because we technically only have one rule (MOVE)
- The level that binding should hold at is LF, because that's the level of that interfaces with the semantics and binding is ultimately about meaning.

©Andrew Carnie, 2006

The copy theory of movement

©Andrew Carnie, 2006

The copy theory of movement

- Chomsky (1993)'s solution: movement isn't really movement, but a copying operation, where the original copy simply isn't pronounced (cf. the the Haitian and resumptive pronoun problems where the trace is "pronounced")

©Andrew Carnie, 2006

The copy theory of movement

- Chomsky (1993)'s solution: movement isn't really movement, but a copying operation, where the original copy simply isn't pronounced (cf. the the Haitian and resumptive pronoun problems where the trace is "pronounced")
- [which pics of himself] did Chris like ~~[which pictures of himself]~~

©Andrew Carnie, 2006

The copy theory of movement

- Chomsky (1993)'s solution: movement isn't really movement, but a copying operation, where the original copy simply isn't pronounced (cf. the the Haitian and resumptive pronoun problems where the trace is "pronounced")
- [which pics of himself] did Chris like ~~[which pictures of himself]~~
  - The link between the two copies is called a chain

©Andrew Carnie, 2006

Solving the Paradox

©Andrew Carnie, 2006

Solving the Paradox

- **Binding Principle A**: One copy of an anaphor in a chain must be bound in its binding domain at LF.

©Andrew Carnie, 2006

Solving the Paradox

- **Binding Principle A:** One copy of an anaphor in a chain must be bound in its binding domain at LF.
- **Is this true of Binding Condition B?** Try Challenge Problem set 1

©Andrew Carnie, 2006

The problem of Binding Domain

©Andrew Carnie, 2006

Binding domain = Clause????

©Andrew Carnie, 2006

Binding domain = Clause????

- Heidi$_i$ believes any description of herself$_i$

©Andrew Carnie, 2006

Binding domain = Clause????

- Heidi$_i$ believes any description of herself$_i$
- *Heidi$_i$ believes Martha$_k$'s description of herself$_i$

©Andrew Carnie, 2006

Binding domain = Clause????

- Heidi$_i$ believes any description of herself$_i$
- *Heidi$_i$ believes Martha$_k$'s description of herself$_i$

- The second sentence SHOULD be ok in parallel to the first one. The problem seems to be the intervening DP Martha. Yet it appears to be a condition A violation

©Andrew Carnie, 2006

Binding domain = Clause????

- Heidi$_i$ believes any description of herself$_i$
- *Heidi$_i$ believes Martha$_k$'s description of herself$_i$

- The second sentence SHOULD be ok in parallel to the first one. The problem seems to be the intervening DP Martha. Yet it appears to be a condition A violation

If you come from Arizona or California you might find this sentence acceptable. There seem to be two dialects about this kind of sentence. We'll be concerned here with the "East Coast" dialect.

©Andrew Carnie, 2006

Binding Domain = Clause???

©Andrew Carnie, 2006

Binding Domain = Clause???

- A related problem:

©Andrew Carnie, 2006

Binding Domain = Clause???

- A related problem:
  - Heidi likes her violin

©Andrew Carnie, 2006

Binding Domain = Clause???

- A related problem:
  - Heidi likes her violin
  - Heidi likes her violin

©Andrew Carnie, 2006

Binding Domain = Clause???

- A related problem:
  - Heidi likes her violin
  - Heidi likes her violin
- Assume *her* is a pronoun. The co-referent version should be ungrammatical since the pronoun is bound in its clause. (Condition B violation)

©Andrew Carnie, 2006

Even worse...

©Andrew Carnie, 2006

Even worse...

John$_i$ said [$_{CP}$ that pictures of himself$_i$ were appealing]

©Andrew Carnie, 2006

Even worse...

John$_i$ said [$_{CP}$ that pictures of himself$_i$ were appealing]

ARGHGHGHGH!

©Andrew Carnie, 2006

Even worse...

John$_i$ said [$_{CP}$ that pictures of himself$_i$ were appealing]

ARGHGHGHGH!

But there is a way out...

©Andrew Carnie, 2006

Maybe the binding Domain for Pronouns and Anaphors are Different?

©Andrew Carnie, 2006

Maybe the binding Domain for Pronouns and Anaphors are Different?

- Anaphors seem to want to FIND an antecedent within some small local space. If their antecedent is too far away, then a condition A violation.

©Andrew Carnie, 2006

Maybe the binding Domain for Pronouns and Anaphors are Different?

- Anaphors seem to want to FIND an antecedent within some small local space. If their antecedent is too far away, then a condition A violation.

- Pronouns seem to want to AVOID a local antecedent within some small local space.

©Andrew Carnie, 2006

Maybe the binding Domain for Pronouns and Anaphors are Different?

- Anaphors seem to want to FIND an antecedent within some small local space. If their antecedent is too far away, then a condition A violation.
- Pronouns seem to want to AVOID a local antecedent within some small local space.
- But those small spaces seem to be different.

©Andrew Carnie, 2006

Different binding domains

©Andrew Carnie, 2006

Different binding domains

- [John$_i$ saw [<u>his</u>$_i$ book]] (binding domain must = inner DP)
- [<u>John</u> saw [the book about himself]] (Binding domain must = CP)

©Andrew Carnie, 2006

Different binding domains

- [John$_i$ saw [his$_i$ book]] (binding domain must = inner DP)
- [John saw [the book about himself]] (Binding domain must = CP)

- For the purposes of pronouns we want the smaller structure to be the BD, for the purposes of the anaphor we want the larger structure to be the BD

©Andrew Carnie, 2006

Different binding domains

- [John$_i$ saw [his$_i$ book]] (binding domain must = inner DP)
- [John saw [the book about himself]] (Binding domain must = CP)

- For the purposes of pronouns we want the smaller structure to be the BD, for the purposes of the anaphor we want the larger structure to be the BD
- Solution: Chomsky 1986 (KOL). **Pronouns and Anaphors have different binding domains!**

©Andrew Carnie, 2006

KOL+ binding Theory

©Andrew Carnie, 2006

KOL+ binding Theory

- Principle A. One copy of an anaphor in a chain must be bound within the smallest CP or DP containing it and a *potential* antecedent.

©Andrew Carnie, 2006

KOL+ binding Theory

- Principle A. One copy of an anaphor in a chain must be bound within the smallest CP or DP containing it and a *potential* antecedent.
- Principle B. A pronoun must be free within the smallest DP or CP containing it but <u>not</u> containing a *potential* antecedent. If there is no such domain, then the root CP is the binding domain.

©Andrew Carnie, 2006

Binding Domain for Anaphors

©Andrew Carnie, 2006

Binding Domain for Anaphors

- Smallest DP or DP containing a **Potential Antecedent NP**.

©Andrew Carnie, 2006

Binding Domain for Anaphors

- Smallest DP or DP containing a **Potential Antecedent NP.**
  1. [$_{CP}$ **John** loves any [$_{DP}$ any pic of himself]]
     (pic doesn't count because it heads the DP dominating himself).

©Andrew Carnie, 2006

Binding Domain for Anaphors

- Smallest DP or DP containing a **Potential Antecedent NP.**
  1. [$_{CP}$ **John** loves any [$_{DP}$ any pic of himself]]
     (pic doesn't count because it heads the DP dominating himself).
  2. *John loves [$_{DP}$ **Mary's** pictures of himself]

©Andrew Carnie, 2006

Binding Domain for Pronouns

©Andrew Carnie, 2006

Binding Domain for Pronouns

- Smallest DP or CP **NOT** containing a Potential Antecedent. If there is no such node, then the root is the BD.

©Andrew Carnie, 2006

Binding Domain for Pronouns

- Smallest DP or CP **NOT** containing a Potential Antecedent. If there is no such node, then the root is the BD.
    1. John loves [$_{DP}$ his puppy]

©Andrew Carnie, 2006

Binding Domain for Pronouns

- Smallest DP or CP **NOT** containing a Potential Antecedent. If there is no such node, then the root is the BD.
  1. John loves [$_{DP}$ his puppy]

     His can't be an antecedent for itself.

©Andrew Carnie, 2006

Binding Domain for Pronouns

- Smallest DP or CP **NOT** containing a Potential Antecedent. If there is no such node, then the root is the BD.
  1. John loves [$_{DP}$ his puppy]

     His can't be an antecedent for itself.

©Andrew Carnie, 2006

Binding Domain for Pronouns

- Smallest DP or CP **NOT** containing a Potential Antecedent. If there is no such node, then the root is the BD.
  1. John loves [$_{DP}$ his puppy]

     His can't be an antecedent for itself.

     Pronoun is free in its binding domain

©Andrew Carnie, 2006

An interesting prediction.

1. [$_{CP}$ John$_i$ thinks that pictures of himself$_i$ are amusing.]
   - Himself is bound within the smallest CP containing a potential antecedent. Meets condition A.

2. John$_i$ thinks that [$_{DP}$ pictures of him$_i$] are amusing
   - Him is free within the smallest DP NOT containing a potential antecedent. Meets condition B.

Correctly predicts that pronouns and anaphors can alternate freely in this position.

©Andrew Carnie, 2006

An interesting prediction.

1. [$_{CP}$ John$_i$ thinks that pictures of himself$_i$ are amusing.]
   - Himself is bound within the smallest CP containing a potential antecedent. Meets condition A.

2. John$_i$ thinks that [$_{DP}$ pictures of him$_i$] are amusing
   - Him is free within the smallest DP NOT containing a potential antecedent. Meets condition B.

Correctly predicts that pronouns and anaphors can alternate freely in this position.

©Andrew Carnie, 2006

An interesting prediction.

1. [$_{CP}$ John$_i$ thinks that pictures of himself$_i$ are amusing.]
   - Himself is bound within the smallest CP containing a potential antecedent. Meets condition A.
2. John$_i$ thinks that [$_{DP}$ pictures of him$_i$] are amusing
   - Him is free within the smallest DP NOT containing a potential antecedent. Meets condition B.

Correctly predicts that pronouns and anaphors can alternate freely in this position.

©Andrew Carnie, 2006

One more loose End

©Andrew Carnie, 2006

One more loose End

- Why isn't:
  *John$_i$ said that himself$_i$ was appealing

  acceptable?

©Andrew Carnie, 2006

One more loose End

- Why isn't:
  *John$_i$ said that himself$_i$ was appealing

  acceptable?

- Solution: English has no nominative anaphors (**heself*). So this sentence is really a morphology problem.

©Andrew Carnie, 2006