THE COMPLICATED AND MURKY WORLD OF BINDING THEORY

We’re about to get sucked into a black hole ...
OUR ROADMAP

• Overview of Basic Binding Theory
  • Binding and Infinitives

• Some cross-linguistic comparisons: Icelandic, Ewe, and Logophors
  • Picture NPs

• Binding and Movement: The Nixon Sentences
SOME BASIC TERMINOLOGY

• **R-expression**: A DP that gets its meaning by referring to an entity in the world.

• **Anaphor**: A DP that obligatorily gets its meaning from another DP in the sentence.
  1. Heidi bopped **herself** on the head with a zucchini. [Carnie 2007: Ch. 5, EX 3]
    • Reflexives: Myself, Yourself, Herself, Himself, Itself, Ourselves, Yourselves, Themselves
    • Reciprocals: Each Other, One Another

• **Pronoun**: A DP that may get its meaning from another DP in the sentence or contextually, from the discourse.
  2. Art said that **he** played basketball. [EX5]
    • Unlike with (1), we don’t know the referent of “he.”
    • I/Me, You/You, She/Her, He/Him, It/It, We/Us, You/You, They/Them
      • Nominative/Accusative Pronoun Pairs in English

• **Antecedent**: A DP that gives its meaning to another DP.
  • This is familiar from control; PRO needs an antecedent.
Observation 1: No nominative forms of anaphors.

- This makes sense, since anaphors cannot be subjects of finite clauses.
  1. *Sheself\textsubscript{j} / Herself\textsubscript{j} bopped Heidi\textsubscript{i} on the head with a zucchini.
- Anaphors can be the subjects of ECM clauses.
  2. Heidi believes herself to be an excellent cook, even though she always bops herself on the head with zucchini.

Observation 2: Pronouns and anaphors refer to different people (i.e. pronouns and anaphors have different distributions).

3. Claire\textsubscript{i} really respects her\textsubscript{j}.
   - Different people
4. Claire\textsubscript{i} really respects herself\textsubscript{i}.
   - Same person
5. Claire\textsubscript{i} really hopes PRO\textsubscript{i} to restrain her\textsubscript{j}.
   - The silent subject of the embedded clause is Claire, so the regular pronoun has to refer to someone else.
6. Claire\textsubscript{i} really hopes PRO\textsubscript{i} to restrain herself\textsubscript{i}.
   - Again, the silent subject is Claire, so the reflexive pronoun has to be Claire.
Observation 3: A finite embedded clause “resets” the possible antecedents.

1. Claire really hopes that she\textsubscript{i/j} can keep herself\textsubscript{i/j} from buying every cute pair of boots at Macy’s.
   - ‘She’ can refer to Claire or someone else.
   - ‘Herself’ refers to whomever ‘she’ refers to.

2. Claire really hopes that she\textsubscript{i/j} can keep her\textsubscript{i/j/k} from buying every cute pair of boots at Macy’s.
   - ‘Her’ has to refer to someone other than the referent of ‘she.’
   - ‘Her’ can refer to Claire if ‘she’ refers to someone else.

Observation 4: Both pronouns and anaphors are allowed as subjects of ECM infinitives.

3. The judge\textsubscript{i} considers her\textsubscript{j} to be a consistent source of insight into the reliability of character witnesses.
   - Even though ‘her’ is the semantic subject of the embedded clause, ‘her’ behaves like the object of the main clause w.r.t. binding. ‘Her’ cannot refer to ‘the judge’.

4. The judge\textsubscript{i} considers herself\textsubscript{i} to be a consistent source of insight into the reliability of character witnesses.
   - Again, the semantic subject of the embedded clause - ‘herself’ - behaves like the object of the main clause. The reflexive has to refer to the subject of the main clause.
A binds B if and only if A c-commands B and A and B are coindexed.

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

*Binding Domain (for now): The clause containing the DP (anaphor, pronoun, R-expression)*

1. Claire$_i$ really likes that Nancy$_j$ admires herself$_{i/*i}$.
   - Even though Claire c-commands herself, Claire is in the main clause and herself is in the embedded clause. Therefore, the binding relationship cannot be established inside the clause containing herself.

Principle B: A pronoun must be free in its binding domain.

*Free: Not bound*

2. Claire$_i$ really likes that Nancy$_j$ admires her$_{i/*i/k}$.

Principle C: An R-expression must be free.

There’s no mention of a domain because the reference for R-expressions doesn’t change. They simply refer to entities out in the world.
THE RELATIONSHIP BETWEEN BINDING THEORY AND THE THEORY OF INFINITIVES
PRO AS A “PRONOMINAL ANAPHOR”

PRO is standardly characterized as a pronominal anaphor.
- PRO needs a binder (a coreferential c-commanding DP), but that binder is outside of the clause containing PRO.

Conditions A and B deliver the below contrasts.

1. Peter$_i$ watches himself$_i$ /him$_{i/j}$ in the mirror.

2. Peter’s$_i$ dog$_j$ watches himself$_{i/j}$/him$_{i/j/k}$ in the mirror.

3. Peter’s$_i$ dog$_j$ thinks that John$_k$ watches himself$_{i/j/k}$/him$_{i/j/k/l}$ in the mirror.

4. Peter’s$_i$ dog$_j$ prefers [to watch himself$_{i/j}$/him$_{i/j/k}$ in the mirror].
   - There needs to be a binder for himself in the lower clause.
   - The binder is PRO.
RAISING

1. Peter’s dog seems to watch himself in the mirror.
   - This pattern suggests that the binding relation is established before movement.
   - Seems [Peter’s dog to watch himself in the mirror].

ECM

2. The judge considers herself to be a consistent source of insight into the reliability of character witnesses.

3. The judge believes the defendant to have conducted herself appropriately.
   - (2) suggests that the subject of the main clause and the subject of the embedded clause are in the same binding domain in ECM.
   - (3) suggests that the subject of the embedded clause is in the same binding domain as the object.
   - An ECM subject seems to “straddle” domains.

Ling 340 ~ Fall 2015 ~ Cherlon Ussery
INTERIM SUMMARY

- Control clauses behave like finite clauses w.r.t. binding theory.
- In raising, binding relationships are established before movement.
- The subject of an ECM clause acts like it is part of the higher clause when it’s a pronoun/anaphor but acts like it is part of the lower clause when it’s an R-expression.
AND, OF COURSE, THERE’S ICELANDIC
IN ICELANDIC, A REFLEXIVE ALSO CANNOT BE SUBJECT OF THE FINITE CLAUSE

Henni/*ser finnst hún veik.  
her.dat/*refl finds she.nom sick

‘She considers herself sick’  
(Maling 1984, EX 7b)
...BUT THEY’RE NOT!
LONG-DISTANCE REFLEXIVES...

1. *Jón veit að María elskar sig.
   John knows that Maria loves(ind) refl
   ‘John knows that Maria loves himself.’
   ■This is what we expect. (EX 2a)

2. Jón segir að María elski sig.
   John says that Maria loves(subj) refl
   ‘John says that Maria loves himself.’
   ■This is not what we expect. (EX 2b)

   John revealed who had(subj)/*(ind) hit refl
   ‘John revealed who had hit himself.’ (EX 2c)

4. Haraldur veit að Sigga elskar hann/*sig.
   Harald knows(ind) that Sigga loves(ind) him/*refl
   ‘Harold knows that Sigga loves him.’ (EX 23a)

In order for the reflexive to refer to the main clause subject, the verb in the embedded clause has to be subjunctive mood.
• The subjunctive expresses perception, possibility, opinion, desire from the perspective of the speaker.
The subject of an embedded subjunctive clause can be a reflexive.

1. Hún sagði að sig vantaði peninga.
   sheNom said that reflAcc lacked(subj) money
   ‘She said that herself lacked money.’ (EX 8a)

2. Hún sagði að sér þætti vænt um mig.
   sheNom said that reflDat was(subj) fond of me
   ‘She said that herself was fond of me.’ (EX 8b)

And the antecedent can be really far away.

   Johni says(ind) that Haraldj knows(subj) that Sigga loves(subj) refli/j
   ‘John says that Harold knows that Sigga loves him.’ (EX 23b)

   Johni says(ind) that Maria believes(subj) that Haroldj wants(subj) that Billyk visit(subj) refli/j/k
   ‘John says that Maria believes that Harold wants Billy to visit him.’ (EX 42)

The domain for binding is “projected” upward through a string of subjunctive clauses. (Maling 1984:214. Paraphrase from Kayne 1981)
The long-distance reflexives are c-commanded by their antecedent, but here, the reflexive is not c-commanded by its antecedent.

- Sigga doesn’t c-command sig

Maybe the reflexive here is a logophor.

- “Logophoric pronouns are an indirect speech phenomenon associated with verbs reflecting an individual’s point of view, thoughts or feelings. They are used in reportative contexts to refer back to the individual whose speech, thought or feelings are reported in the embedded clause in which the logophoric pronoun occurs.” (Maling, p 231)

Logophors require a “source.”

Crucially, logophors don’t need to be c-commanded by their antecedent.
“...logophoric pronouns appear predominantly within sentential arguments of predicates of communication and mental experience.” (Sells 1987, p.445)

- The subject of say is logocentric. He refers back to Kofi in (11a).

(11) a. kofi be yè-dzo
   Kofi say Log-leave
   ‘Kofi, said that he, left.’

b. kofi be e-dzo
   Kofi say Pro-leave
   ‘Kofi, said that he left.’

- A logophor can also appear with psychological predicates. Anna is happy that she(herself) bore a child.

(12) ana kpo dyidzo be yè-dyi vi
    Ana see happiness Comp Log-bear child
    ‘Ana, was happy that she bore a child.’

(13) a. kofi nya be me-kpo yè
    Kofi know Comp Pro-see Log
    ‘Kofi knew that I had seen him,’

b. kofi me-nya be me-kpo yè o
    Kofi not-know Comp Pro-see Log
    ‘Kofi didn’t know that I had seen him.’
The antecedent must be included in the set of individuals picked out by the logophor, but need not be the only member of the set.

NOTE: We see the same situation with “partial” control in English.

John \(i\) planned \([\text{PRO}_{i+1}]\) to meet at noon.

A logophor can’t appear inside of a relative clause or in the complement of a perception verb (this isn’t necessarily the case for logophors in other languages)...

...except if the relative clause or complement of a perception verb is embedded under say.

The point here is that the source of the propositional content of the embedded clause can be the antecedent for the logophor.
Maybe the source condition can explain the contrast below.

And, it seems that the source needs to have an “intention to communicate” (or intention to not communicate, as in (21)).

The source condition might help explain the non c-command example.

Here, Sigga is the source of the opinion and the content of the opinion is the content of the embedded clause.

Skoðun Siggu er að sig vanti hæfileika. 
Skoðun Siggu's opinion is that herself lacks talent.

EX 20b
There are many counter-examples to standard Binding Theory

1. Max criticized himself/*him.
2. Max speaks with himself/*him.
3. Lucie’s joke about herself/*her
4. Max saw a gun near himself/him.
5. Lucie counted five tourists in the room apart from herself/her.
6. Lucie saw a picture of herself/her.
7. Max likes jokes about himself/him. (Reinhart&Reuland 1993, EX 6-8)

And, in some languages, the use of an anaphor is connected to particular verbs.

- SE-anaphors in Dutch:

8. Max$^m$ wast sich$^m$.
   Max$^m$ washes Se$^m$
   “Max washes himself.”

9. *Max$^m$ haat sich$^m$.
   Max$^m$ hates SE$^m$
   “Max hates himself.”

(1)/(2) are what we expect.
Why can “herself” refer to Lucie in (3)?
• Remember: the possessor DP doesn't c-command the reflexive.
• *Peter’s dog adores himself.
• (4)-(7) are a huge mystery! Both the anaphor and the pronoun can refer back to the subject.

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Klug 2011 findings:

“In 2011, I collected grammaticality judgments from nine native English speakers participating in a linguistics class... participants evaluated the grammaticality of the pronominals and the anaphors with the given indices. If only the anaphor was grammatical, the response was 1; if only the pronominal, the response was 3; if both were grammatical, the response was 2.”

(a) John\textsubscript{j} saw a picture of himself\textsubscript{j}/him\textsubscript{j}. 1.33 – preference for anaphor

(b) John\textsubscript{j} saw Mary\textsubscript{m}’s picture of herself\textsubscript{m}/her\textsubscript{m}. 1.44 – preference for anaphor

(c) John\textsubscript{j} believes that pictures of himself\textsubscript{j}/him\textsubscript{j} are on sale. 1.89 – really close to both being OK

(d) John\textsubscript{j} wondered which pictures of himself\textsubscript{j}/Billy\textsubscript{b} saw. 1.89 – really close to both being OK

(e) John\textsubscript{j} saw Mary\textsubscript{2}’s picture of himself\textsubscript{j}/him\textsubscript{j}. 2.56 – preference for pronoun

Klug also notes that point of view can be a factor.

(f) John\textsubscript{i} likes [PRO\textsubscript{i}] to hear stories about him\textsubscript{i}/j.

(g) *John\textsubscript{i} likes [PRO\textsubscript{i}] to tell stories about him\textsubscript{i}.

(h) John\textsubscript{i} likes for Kyle\textsubscript{j} to tell stories about him\textsubscript{i}/k.

(i) John\textsubscript{i} likes [PRO\textsubscript{i}] to tell stories about himself\textsubscript{i}.

• When John is the source of the story, Conditions A/B apply.
• When John is the recipient of the story, Condition B can be violated. = (f)
• This is kind of a “reverse source condition.”
MORE ON “PICTURE NPs”

1. Heidi believes Martha’s description of herself.
   - Since Martha doesn’t c-command herself, how can Martha be the antecedent?

2. Heidi thinks that pictures of herself should be hung in the Louvre.
   - Heidi c-commands herself…but they’re in different clauses. Clause boundaries are supposed to reset binding domains.

3. Heidi said that Martha’s drawings of herself were embarrassing.

4. Heidi said that Martha’s book about herself was not factual.
   - We get the same effect as in (1). Martha is the antecedent for herself.

The Solution:
- Possessor DPs are like subjects of the DPs that they are contained within.
- The possessor sits in the specifier of a DP and subjects sit in the specifier of vP.
  - The army destroyed the palace.
  - The army’s destruction of the palace.
- The DP in this “subject” spot may contain a POTENTIAL antecedent for the reflexive (but it need not be the actual antecedent).

From Carnie, Andrew. 2007. Syntax: A
The binding domain is the entire clause, *not* the embedded clause.

NOTE: This is from the Carnie textbook, and it seems to be an error. By the definition given, the domain should be the DP.

But what about “Chris said that himself was appealing.”???
• Why isn’t the entire clause the domain like it is in (19)?
• Maybe it has nothing to do with binding. Maybe it’s “simply” because a nominative DP needs to occupy the subject of a finite clause and himself is accusative.
• Hmmm...
WHAT HAVE WE LEARNED?
PRONOUN AND ANAPHOR COREFERENCE IS A *LOT* MORE COMPLICATED THAN THE SIMPLE VERSIONS OF CONDITIONS A, B, AND C.
There’s an asymmetry in the semantic consequences of WH movement versus other DP movement.

1. *Whom did his uncle phone?  
2. Lucie seems to herself to be beyond suspicion. \( (\text{Büring EX 12.1}) \)

- In (1), his cannot bind whom pre or post movement.
  - If this were good, it would be akin to quantifier binding. There would be many uncles and each uncle would map to a person who was called.
- In (2), Lucie cannot bind herself pre movement but it does post-movement.
  - seems to herself [Lucy to be beyond suspicious]

- In (3)-(5), the WH phrase binds the reflexive pre-movement and the binding relationship remains the same after movement.

3. Which guy do you think [which guy] would contradict himself/*him in such a blatant way? \( (\text{EX 12.10}) \)

4. Wieviele Gedichte über sich/*ihn wird Schütze noch schreiben?  
   how many poems about self/*him will Schütze still write  
   ‘How many more poems about himself is Schütze going to write?’ \( (\text{EX 12.13}) \)

5. How many poems about himself will John write?
DOES WH MOVEMENT ACTUALLY PRESERVE BINDING? THE NIXON SENTENCES.

1. *How many claims that Nixon is a crook is he going to tolerate?  
   he is going [PRO to tolerate how many claims that Nixon is a crook]

2. *Which investigation of Nixon did he resent?  
   he resented which investigation of Nixon  
   Condition C violation!

3. But(3)/(4) are good. NOOOOOOOO! WHY?!?!?!?!?!?!?!

4. Which investigation near Nixon’s house did he resent?

   I know, the judgments are all over the place. But, in some possible world, they’re not (there must be some speakers who get this contrast).
A CLEVER SOLUTION: “LATE” ADDITION OF ADJUNCTS/INVISIBLE ADJUNCTS

There’s a contrast between a CP/PP that’s an argument and one that’s an adjunct.

- In (1), that Nixon is a crook is an argument of claims because Nixon is a crook is the content of the claim.
- Likewise in 2, of Nixon is an argument of investigation because Nixon is the content of the investigation.
- So, we have these underlying structures:
  5. he is going to tolerate how many claims that Nixon is a crook
  6. he resented which investigation of Nixon
- If we replace the WH with a determiner, we get clear Condition C violations
  7. *He is going to tolerate those claims that Nixon is a crook.
  8. *He resented that investigation of Nixon.
- BUT… in (3)/(4) that offended Nixon and near Nixon’s house are adjuncts. That offended Nixon does not refer to the content of the claim and near Nixon’s house does not refer to the content of the investigation.
- These adjuncts are somehow “invisible” to the binding relationship, or they are added after the binding relationship has been established.
- The relevant structure for binding is, therefore:
  9. he repeated which claim
  10. he resented which investigation

The R-expression isn’t there, so no Condition C violation! Ummmmm.
REFERENCES


