THE COMPLICATED AND MURKY WORLD OF BINDING THEORY
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
• **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 2013: 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.
• This makes sense, since anaphors cannot be subjects of finite clauses.
  1. * She{self}_{i} / Herself_{i} bopped Heidi_{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 HAVE DIFFERENT DISTRIBUTIONS

3. Claire$_i$ really respects her$_j$.
   - Different people

4. Claire$_i$ really respects herself$_i$.
   - Same person

5. Claire$_i$ really hopes PRO$_i$ to restrain her$_j$.
   - The silent subject of the embedded clause is Claire, so the regular pronoun has to refer to someone else.

6. Claire$_i$ really hopes PRO$_i$ to restrain herself$_i$.
   - 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\textsubscript{i} 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\textsubscript{i} 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 considers her 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’ and ‘the judge’ have disjoint reference.

4. The judge considers herself 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 judge’ and ‘herself’ are coreferential.
MORE TECHNICALLY…

A \textit{binds} B if and only if A c-commands B and A and B are coindexed.

\textbf{Principle A}: An anaphor must be bound in its binding domain.

\textit{Binding Domain} (for now): The clause containing the DP (anaphor, pronoun, \textit{R-expression})

1. Claire\textsubscript{i} really likes that Nancy\textsubscript{j} admires herself\textsubscript{j/*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.

\textbf{Principle B}: A pronoun must be free in its binding domain.

\textit{Free}: Not bound (not c-commanded by and co-indexed with another DP)

2. Claire\textsubscript{i} really likes that Nancy\textsubscript{j} admires her\textsubscript{i/*i/k}.

\textbf{Principle C}: An \textit{R}-expression must be free.

The reference for \textit{R}-expressions doesn’t change.
THE RELATIONSHIP BETWEEN BINDING THEORY AND THE THEORY OF INFINITIVES
PRO AS A “PRONOMINAL ANAPHOR”

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

- And PRO can serve as a binder:
  - Cherlon prefers [PRO to pack herself lunch/ to pack lunch for herself].
  - PRO is bound by Cherlon, which is in the higher clause.
  - Herself is bound within its clause by PRO.
RAISING

1. Peter’s dog seems to watch himself in the mirror.

   Either the binding relation is established before movement...
   
   ...or there is just one binding domain because the lower clause is a TP.

Back to ECM

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

3. The judge believes herself to have conducted 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.
INTERIM SUMMARY

- Control clauses behave like finite clauses w.r.t. binding theory. The embedded clause is a CP.

- Raising doesn't affect binding relationships.

- The subject of an ECM clause behaves like an object of the higher clause and like a subject of the lower clause.
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)

Things look normal...
...BUT THEY’RE NOT!
LONG-DISTANCE REFLEXIVES...

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

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

   John{i} revealed who had(subj)/*(ind) hit refl{i}
   ‘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)

What’s the pattern???
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.  
   shei.Nom said that refli.Acc lacked(subj) money  
   ‘She said that herself lacked money.’  (EX 8a)

2. Hún sagði að sér þætti vænt um mig.  
   shei.Nom said that refli.Dat was(subj) fond of me  
   ‘She said that herself was fond of me.’  (EX 8b)
THE DOMAIN FOR BINDING IS "PROJECTED" UPWARD THROUGH A STRING OF SUBJUNCTIVE CLAUSES. (MALING 1984:214. PARAPHRASE FROM KAYNE 1981)

- The antecedent can be really far away.

   John$_i$ says(ind) that Harald$_j$ knows(subj) that Sigga loves(subj) refl$_{ij}$
   ‘John says that Harold knows that Sigga loves him.’ (EX 23b)

   John$_i$ says(ind) that Maria believes(subj) that Harold$_j$ wants(subj) that Billy$_k$ visit(subj) refl$_{ij/k}$
   ‘John says that Maria believes that Harold wants Billy to visit him.’ (EX 42)
Maybe the long-distance 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” and they have less strict distribution requirements. They don’t need to be c-commanded by their antecedent and they can be in a different clause.
“...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.’
Maybe the source condition can explain the contrast below.

17: “He” is the source of the saying, so the logophor is licensed in the lower clause.

18: “He” is not the source of the telling, so the logophor is not licensed in the lower clause.

And, the source needs to have an “intention to communicate” (or intention to not communicate, as in (21)).
There are many counter-examples to standard Binding Theory!

1. Max criticized himself/*him.
2. Max speaks with himself/*him.
3. Max saw a gun near himself/him.
4. Lucie counted five tourists in the room apart from herself/her.
5. Lucie saw a picture of herself/her.

(Reinhart&Reuland 1993, EX 6-8)

- (1)/(2) are what we expect.
- (3)-(6) are a huge mystery! Both the anaphor and the pronoun can refer back to the subject.

Sidebar: In some languages, the use of an anaphor is connected to particular verbs – e.g. SE-anaphors in Dutch:

7. Maxₘ wast zichₘ.  
   Maxₘ washes Seₘ 
   “Max washes himself.”

   Maxₘ hates SEₘ  
   “Max hates himself.”

(Reinhart&Reuland (1993) propose that some predicates can have a reflexive feature in the lexicon.)
“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/pronoun, the response was 3; if both were grammatical, the response was 2.”

(a) John$_j$ saw a picture of himself$_j$/him$_j$. 1.33 – preference for anaphor
(b) John$_j$ saw Mary$_m$’s picture of herself$_m$/her$_m$. 1.44 – preference for anaphor
(c) John$_j$ believes that pictures of himself$_j$/him$_j$ are on sale. 1.89 – really close to both being OK
(d) John$_j$ wondered which pictures of himself$_j$/b Billy$_b$ saw. 1.89 – really close to both being OK
(e) John$_j$ saw Mary’s picture of himself$_j$/him$_j$. 2.56 – preference for pronoun

(Klug 2013, EX 5)

Turns out that speakers just aren’t good at binding!
KLUG ALSO NOTES THAT POINT OF VIEW CAN BE A FACTOR.

(f) $\text{John}_i$ likes $[\text{PRO}_i]$ to hear stories about $\text{him}_i/j$.
(g) *$\text{John}_i$ likes $[\text{PRO}_i]$ to tell stories about $\text{him}_i$.
(h) $\text{John}_i$ likes for $\text{Kyle}_j$ to tell stories about $\text{him}_i/k$.
(i) $\text{John}_i$ likes $[\text{PRO}_i]$ to tell stories about himself.$_i$

- 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.” (see earlier slides on logophors)
MORE ON “CONTENT 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).

The binding domain is the entire clause, *not* the embedded clause.

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\textsubscript{i} did his\textsubscript{i} uncle phone?  
2. Lucie\textsubscript{i} seems to herself\textsubscript{i} to be beyond suspicion.  

(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]
The WH phrase binds the reflexive pre-movement and the binding relationship remains the same after movement.

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

2. How many poems about himself will John write [how many poems about himself]?
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!

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

3. Which claim that offended Nixon did he repeat?

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 (some speakers do get this contrast).
A CLEVER SOLUTION: “LATE” ADDITION OF ADJUNCTS

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

(1): that Nixon is a crook is an argument of claims because Nixon is a crook is the content of the claim.

(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
• **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 added after the binding relationship has been established.

• The relevant structure for binding is, therefore:

  7. he repeated which claim
  8. he resented which investigation

The R-expression isn’t there, so no Condition C violation!
• Binding Principles A, B, and C do a good job of capturing the general distribution of different types of pronouns.

• But, things are enormously complicated:
  • Just what is the domain for binding?
  • Are long-distance reflexives real or are these logophors? How do we know?
  • What is the role of “point of view” in English?
  • Can adjuncts be added late into the syntactic structure? This has broad-ranging implications.
REFERENCES