THE COMPLICATED AND MURKY WORLD OF BINDING THEORY

We're about to get sucked into a black hole …

26 February-2 March

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 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 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]
     - "He" could be Art or someone else.
     - 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$_i$ / Herself$_i$ bopped Heidi$_i$ on the head with a zucchini.

- Anaphors *can* be the subjects of ECM clauses.
  2. Heidi believes <u>herself</u> to be an excellent cook, even though she always bops herself on the head with zucchini.

SOME DESCRIPTIVE OBSERVATIONS

OBSERVATION 2: PRONOUNS AND ANAPHORS REFER TO DIFFERENT PEOPLE (I.E. 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 refer to Claire.

1. Cherlon$_i$ really hopes that she$_{i/j}$ can keep herself$_{i/j}$ from buying every cute pair of boots at Macy's.
   - ❑ 'She' can refer to Cherlon or someone else.
   - ❑ 'Herself' refers to whomever 'she' refers to.

2. Cherlon$_i$ really hopes that she$_{i/j}$ can keep her$_{i/j/k}$ 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 Cherlon if 'she' refers to someone else.

OBSERVATION 4: BOTH PRONOUNS AND ANAPHORS ARE ALLOWED AS SUBJECTS OF ECM INFINITIVES.

3. The judge$_i$ considers her$_j$ 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$_i$ considers herself$_i$ 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.

More Technically…

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$_{j/*i}$.

     ❑ Even though Claire c-commands herself, *Claire* is in the main clause and *herself* is in the embedded clause.
     ❑ The binding relationship cannot be established inside the clause containing *herself*.
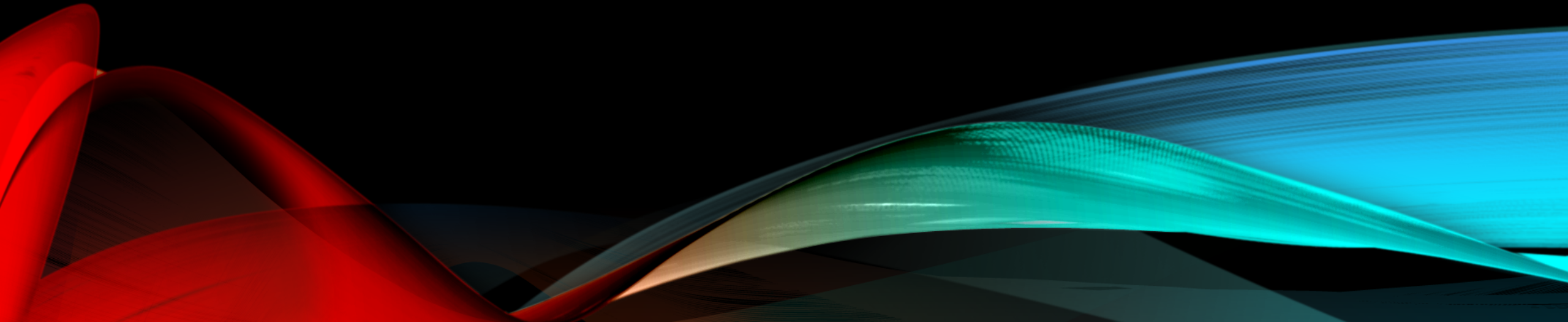
PRINCIPLE B

- A pronoun must be free in its binding domain.
- *Free*: Not bound (not c-commanded by and co-indexed with another DP)

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 sometimes characterized as a *pronominal anaphor*.

• PRO needs a binder (a coreferential c-commanding DP), <u>but</u> that binder is outside of the clause containing PRO.

❑ And PRO can serve as a binder:

❑ Cherlon$_i$ prefers [PRO$_i$ to pack herself$_i$ lunch/ to pack lunch for herself$_i$].

❑PRO is bound by *Cherlon*, which is in the higher clause.

❑*Herself* is bound within its clause by PRO.

RAISING

1. The yoga instructor$_i$ seems to watch himself$_{i/*j}$/him$_{*i/j}$ in the mirror.

   ❏ This pattern suggests that the binding relation is established before movement.
   ❏ seems [the yoga instructor$_i$ to watch himself$_{i/*j}$/him$_{*i/j}$ in the mirror].

ECM

2. The judge$_i$ considers her$_j$/herself$_i$ to be a consistent source of insight into the reliability of character witnesses.

3. The judge$_i$ believes the defendant$_j$ to have conducted herself$_{j/*i}$ appropriately.

4. The judge$_i$ believes her$_j$ to have conducted herself$_{j/*i}$ 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)/(4) suggest that the subject of the embedded clause is in the same binding domain as the object.
-ECM subjects behave like they "straddle" domains.

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 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…

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)

3. Jón   upplýsti hver hefði/*hafði   barið sig.

   John$_i$ revealed who had(subj)/*(ind)   hit   refl$_i$

   'John revealed who had hit himself.'   (EX 2c)

What's the pattern???

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)

THE SUBJUNCTIVE!

❑ 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.

TO COMPLICATE MATTERS…

❑**The subject of an embedded subjunctive clause can be a reflexive.**

NOTE: Acc/Dat on the embedded subject is because the embedded verb requires its subject to be in that case.

1.   Hún   sagði að   sig   vantaði   peninga.
        she$_i$.Nom said   that refl$_i$.Acc   lacked(subj) money
         'She said that herself lacked money.'   (EX 8a)

2.   Hún   sagði að   sér   þætti   vænt um mig.
        she$_i$.Nom said   that refl$_i$.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 <u>really</u> far away.**

3. Jón   segir   að   Haraldur viti   að   Sigga elski   sig.

    John$_i$ says(ind) that Harald$_j$ knows(subj) that Sigga loves(subj) refl$_{i/j}$

    'John says that Harold knows that Sigga loves himself.' (EX 23b)

4. Jón   segir   að   María telji   að   Haraldur vilji   að Billi   heimsœki sig.

    John$_i$ says(ind) that Maria believes(subj) that Harold$_j$ wants(subj) that Billy$_k$ visit(subj) refl$_{i/j/k}$

    'John says that Maria believes that Harold wants Billy to visit himself.' (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).

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(11) a.    kofi  be  yè-dzo
           Kofi say Log-leave
           'Kofi₁ said that he₁ left.'
     b.    kofi  be  e-dzo
           Kofi say Pro-leave
           'Kofi₁ said that he₁ left.'
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❑ A logophor can also appear with psychological predicates. *Anna* is happy that *she(herself)* bore a child.

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(12)   ana  kpɔ dyidzo      be     yè-dyi   vi
       Ana see happiness Comp Log-bear child
       'Ana₁ was happy that she₁ bore a child.'
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- Maybe the source condition can explain the contrast below.

(17) Hann$_i$ sagði [að sig$_i$ vantaði hæfileika].
he$_i$ said [that self$_i$ lacked ability]
'He$_i$ said that he$_i$ lacked ability.'

(18) *Honum$_i$ var sagt [að sig$_i$ vantaði hæfileika].
he$_i$ was told [that self$_i$ lacked ability]
'He$_i$ was told that he$_i$ lacked ability.'

- 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 logohor 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)).

(20) *Barnið$_i$ bar þess ekki merki [að það hefði verið hugsað vel um sig$_i$]
child$_i$-the bore it not signs [that there had been thought well about self$_i$]
'The child didn't look as if it had been taken good care of.'

(21) Barnið$_i$ lét ekki í ljós [að það hefði verið hugsað vel um sig$_i$].
child$_i$-the put not in light [that there had been thought well about self$_i$]
'The child$_i$ didn't reveal that it$_i$ had been taken good care of.'

There are many counter-examples to standard Binding Theory!

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

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.
6. 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 $zich_m$.

Max_m washes Se_m

"Max washes himself."

9. *Max_m haat $zich_m$.

Max_m hates SE_m

"Max hates himself."

"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$_j$ 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$_2$'s picture of himself$_j$/him$_j$.   2.56 – preference for pronoun

(Klug 2013, EX 5)

KLUG ALSO NOTES THAT POINT OF VIEW CAN BE A FACTOR.

(f) John$_i$ likes [PRO$_i$] to hear stories about him$_{i/j}$.

(g) *John$_i$ likes [PRO$_i$] to tell stories about him$_i$.

(h) John$_i$ likes for Kyle$_j$ to tell stories about him$_{i/k}$.

(i) John$_i$ likes [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."

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.

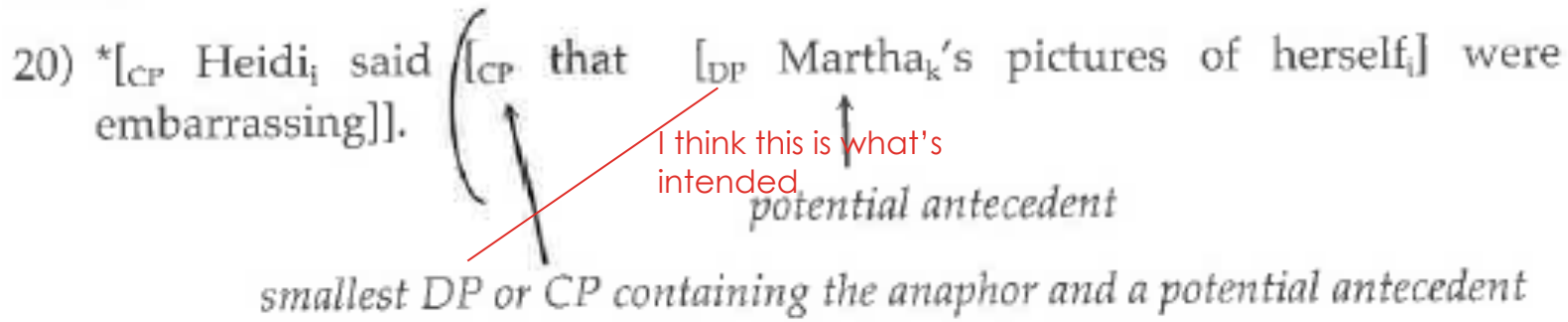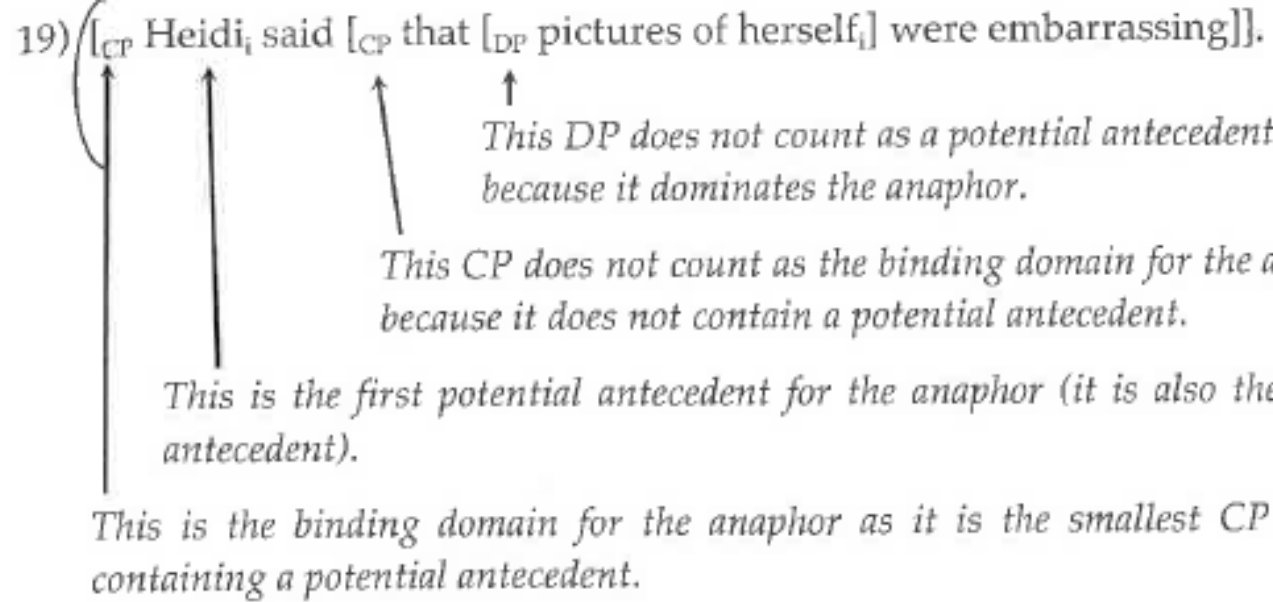- We get the same effect as in (1). Martha is the antecedent for herself.

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).

18) **Binding Principle A (final):** One copy of an anaphor in a chain must be bound within the smallest CP or DP containing it and a potential antecedent.

From Carnie, Andrew. 2013. Syntax: A Generative Introduction. Blackwell. Malden:MA

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

19) [$_{CP}$ Heidi$_i$ said [$_{CP}$ that [$_{DP}$ pictures of herself$_i$] were embarrassing]].

This DP does not count as a potential antecedent because it dominates the anaphor.

This CP does not count as the binding domain for the anaphor because it does not contain a potential antecedent.

This is the first potential antecedent for the anaphor (it is also the actual antecedent).

This is the binding domain for the anaphor as it is the smallest CP or DP containing a potential antecedent.

20) *[$_{CP}$ Heidi$_i$ said [$_{CP}$ that [$_{DP}$ Martha$_k$'s pictures of herself$_i$] were embarrassing]].

I think this is what's intended

potential antecedent

smallest DP or CP containing the anaphor and a potential antecedent
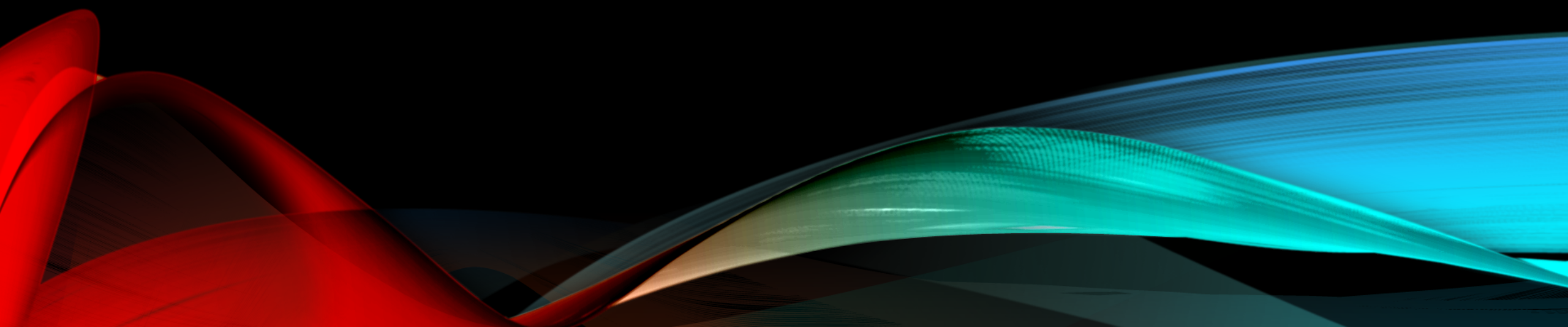
The domain shifts when there's a possessor. The anaphor is bound within the DP that contains it.

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.
•Hmmmm…….

WHAT HAVE WE LEARNED?

PRONOUN AND ANAPHOR COREFERENCE IS A *LOT* MORE COMPLICATED THAN THE SIMPLE VERSIONS OF CONDITIONS A, B, AND C.

BINDING AND MOVEMENT

There's an asymmetry in the semantic consequences of WH movement versus other DP movement.

1.   *Whom$_i$ did his$_i$ uncle phone?
2.   Lucie$_i$ seems to herself$_i$ 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]

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?   (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?' (EX 12.13)

5. How many poems about himself will John write?

1. *How many claims that Nixon$_i$ is a crook is he$_i$ going to tolerate?
❑ he is going [PRO to tolerate how many claims that Nixon is a crook]
❑PRO binds Nixon: Condition C violation

2. *Which investigation of Nixon$_i$ did he$_i$ resent?
❑ he resented which investigation of Nixon
❑ *he* binds Nixon: Condition C violation

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

3.   Which claim that offended Nixon$_i$ did he$_i$ repeat?

4.   Which investigation near Nixon$_i$'s house did he$_i$ resent?

• I know, the judgments are all over the place. But…some speakers do 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.

- (1): *that Nixon is a crook* is an argument of *claims*
  - *Nixon is a crook* is the content of the claim
- (2): *of Nixon* is an argument of *investigation*
  - 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$_i$ is going to tolerate those claims that Nixon$_i$ is a crook.
8. *He$_i$ resented that investigation of Nixon$_i$.

The R-expression isn't there, so no Condition C violation!

Hmmmmm.......

- **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

SUMMARY

- Binding Principles A, B, and C do a good job of capturing the very 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.

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