

# Anaphor Binding and $\varphi$ -(Mis)Matches in English\*

Byron Ahn (bta@princeton.edu)

Princeton University

Dependency In Syntactic COvariance, Universität Leipzig

## 1 Introduction

- ◆ English reflexive anaphors are composed of two nominals: **(possessive) pronominal** + **self nominal**

(1) We will not embarrass our selves

### (2) STATEMENT ON $\varphi$ -MATCHING

In English reflexives, pronouns  $\varphi$ -match the local antecedent of binding

- ▶ This statement has been widely assumed to be an empirically true generalization (cf. discussion in Sundaresan 2018), and appears in a number of textbooks
  - (e.g., Adger 2003:94, Carnie 2013:10, Sportiche et al. 2013:160, Fromkin et al. 2014:168)
- ▶ And it is presupposed by researchers across a spectrum of analyses
  - Kratzer (2009), on her derivational analysis of matching  $\varphi$ -features: “We don’t build [nonagreeing reflexives] to begin with.” (p.196)
  - Hicks (2009), who does not adopt a derivational analysis of matching  $\varphi$ -features: “[...]anaphors and their antecedents do share the same values for [ $\varphi$ ].” (pp.107-108)

### TWO QUESTIONS

- ◆ **Empirical Question:** How valid is this generalization?
- ◆ **Theoretical Question:** How do we derive this generalization (to the extent it is valid)?

- ▶ We will explore these questions **in the domain of English**
- ▶ To reinforce this: the term “**self-phrase**” is used to refer to English reflexive nominals

- ◆ Some results, to be motivated:

①  $\varphi$ -features in a self-phrase can **mismatch** the local antecedent of binding

- Where mismatch is possible reveals English has a split between 3.s and other reflexives
- Due to the featural makeup of 3.s pronouns and how  $\varphi$ -features are valued/interpreted

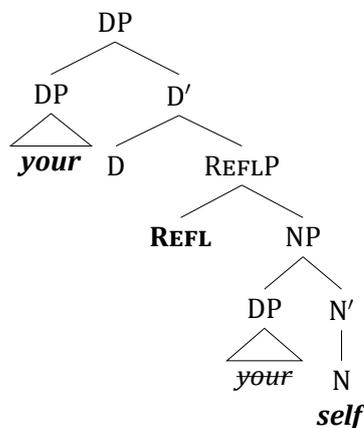
\*This work builds on work done in collaboration with Laura Kalin, who I owe a great debt of gratitude. Additional thanks to Kirby Conrod, for discussion of their dissertation on the syntax of gender, and to audiences of the ANA-LOG Workshop, NELS49, LSA 2019, and NYU Syntax Brown Bag, where aspects of this work was also presented.

- ② These findings **undercut any account of binding that requires syntactic  $\varphi$ -match** with the local antecedent of binding, for a language like English
- i.e., reflexivity in English arises separately from matched  $\varphi$ -features
- ③ “Binding” is a set of operations/constraints that are **distributed across the Grammar**

## 2 Brief Overview of English Reflexive Self-Phrases

- ◆ English reflexives are morphologically complex (see also Postal 1966:182)
  - ▶ Possessive pronoun (*myself*) + a head noun (*myself*)
  - ▶ (This is typologically common: the reflexive anaphor is composed of a possessor and a inalienably possessed nominal)
- ◆ Ahn and Kalin 2018: A reflexive morpheme sits between D and N<sup>1</sup>

(3) *yourself* (reflexive)



- ◆ English anaphors are **not** the spell-out of a single bundle of features (*i.e., not a single vocab. item*)
  - ▶ Rather there are (at least) two feature bundles that feed separate instances of vocabulary insertion
    - For each of the two nominals (pronominal possessor +  $\sqrt{\text{SELF}}$ ) inside of the anaphor<sup>2</sup>
    - ▶ What gives rise to the nominal features (case and  $\varphi$ -features) that manifest on these nominals?
      - The pronoun (case, person, number, gender, animacy, genericity)
      - The  $\sqrt{\text{SELF}}$  nominal (number)
- ◆ Let us briefly consider the pronoun's case
  - ▶ It may see that there is a split between  $\pi:1/2$  (GEN) and  $\pi:3$  (ACC)
    - e.g., *myself/yourself* vs. *himself*
  - ▶ This is restricted to reflexive self-phrases
    - (cf. the reified substantive reading in '*His 3-year-old self was very cute*')

<sup>1</sup>One idea might be that *own* manifests this REFL head; this cannot be the case, as *own* does not entail reflexivity: '*For my friends, their true selves were being revealed to them, but my own self never revealed itself to me*'. In a case like this, where *own* occurs between *my* and *self*, you are not guaranteed a reflexive interpretation.

<sup>2</sup>This raises interesting issues with a Reinhart and Reuland 1993 style typology of anaphors as  $\pm R$  and  $\pm \text{SELF}$ . Under this analysis of English, English anaphors might be seen as  $+R$  and  $+\text{SELF}$ , in the way that Anagnostopoulou and Everaert (1999) describe for Greek. There are issues to work out if this is how English anaphors are to be analyzed (in the same way that issues arise for Greek). (Thanks to Nikos Angelopoulos for pointing this out to me.)

- ▶ Ahn & Kalin note that this case split goes away with modifiers that intervene between the pronoun and  $\sqrt{\text{SELF}}$ :
  - (4) a. He has never perjured himself.
  - b. He has never perjured his/\*him honest self.
- ▶ Instead: What looks like a 1/2 vs. 3 split at the surface may not be a split, at the level of syntax
  - Ahn & Kalin: It's special morphophonology for  $\pi:3$ 
    - ◊ (possibly due to historical accidents)
  - ...on the basis of reflexive morphosyntax, shared across all reflexive self-phrases
    - ◊ (Briefly: there is a morphosyntactic piece only present in reflexive self-phrases, REFL, that triggers 3.GEN $\rightarrow$ 3.ACC, under certain locality conditions; REFL may be a candidate for the locus of features like Hicks 2009's VAR feature)
- ◆ Today: It's not that English doesn't have any anaphor splits
  - ▶ But it's not in the surface morphology; it's wrt **where  $\varphi$ -match with local antecedents of binding is (not) required**

### 3 Features in the Self-Phrase

#### 3.1 Two Analytical Approaches to $\varphi$ -Features

- ◆ Before exploring the data wrt where  $\varphi$ -match is required, let us briefly consider some of what has been said about the  $\varphi$ -Matching generalization in (2)
- ◆ Some approaches treat bound pronouns as  $\varphi$ -deficient “minimal pronouns” that get their  $\varphi$ -features value via a derivational relationship with the local antecedent of binding
  - ▶ Kratzer (2009): a functional head<sup>3</sup> values reflexive anaphors'  $\varphi$ -features via Feature Transmission
  - ▶ Others: AGREE with the nominal antecedent values reflexive anaphors'  $\varphi$ -features
    - (e.g., Heinat 2006, Reuland 2006, Rooryck and Vanden Wyngaerd 2011)
- ◆ Others treat bound pronouns as having their  $\varphi$ -features specified as soon as  $\varphi$ -bundles are merged/built
  - ▶ This sort of idea is compatible with other works that do not for syntactic feature matching, but rather rely on interpretive compatibility (e.g., Heim 2008, Hicks 2009, Safir 2014)
  - ▶ Heim argues that  $\varphi$ -features correspond to presuppositions in the semantics, effectively (though not directly) causing  $\varphi$ -features of a bound pronoun to match those of the antecedent

#### THEORETICAL QUESTIONS FOR $\varphi$ -FEATURES IN REFLEXIVE ANAPHORS

- ◆ What is/are the mechanism(s) that yield  $\varphi$ -feature matching between bound pronouns and their antecedents?
- ◆ How much uniformity should we expect across languages?
- ◆ Within English, are the pronouns in self-phrases uniform, regarding how  $\varphi$ -features are determined?

<sup>3</sup>This head, in turn, will have gotten its features under a relationship with a separate nominal; e.g., the subject.

### 3.2 English Mismatches

- ◆ Let us continue by denying the universality of the statement<sup>4</sup> in (2), that the  $\varphi$ -features in a reflexive must match the  $\varphi$ -features of the local antecedent

- ▶ The pronominal possessor and the local antecedent of binding need not match in  $\varphi$ -features:<sup>5</sup>
- ▶ Three domains in which this shows up

- Imposters (cf. Collins and Postal 2012)

(5) [*Spoken by a parent to a child*] (✓3.P > 1.P)  
Mommy and Daddy need some time to ourselves / themselves.

(6) [*Spoken by a male-identifying individual*] (✓3.S > 1.S)  
 I am a teacher who takes care of himself / myself.

(7) [*Spoken to a female judge*] (✓3.S > 2.S)  
 Does Your Honor doubt yourself / herself?

- Group/quantified NPs

(8) [*Spoken about the United Nations*]<sup>6</sup> (✓3.S > 3.P)  
The U.N. finds itself / themselves in a difficult position.

(9) [*Spoken about a group of individuals*] (✓3.S > 3.P)  
The football team organizes the weekly tailgate itself / themselves.

(10) [*Spoken by a woman in a group of women*]<sup>7</sup> (✓3.S > 1.P)  
Each of us is proud of ourselves / themselves / herself.

(11) [*Spoken to a group of men*] (✓3.S > 2.S)  
At least one of you has perjured himself / yourself.

- Swapped identity contexts

(12) I wouldn't blame myself / yourself, if I was you. (✓1.S > 2.S)

(13) If I were someone moving in next door, I would get myself / themselves some ear plugs. (✓1.S > 3.P)

⇒ **These are serious problems for analyses that treat the generalization in (2) as a premise/explanandum**

- ▶ At the same time, not just anything goes

(14) \*He<sub>4</sub> is proud of your<sub>4</sub> self.

(15) \*If I were him, I<sub>4</sub> would behave him<sub>4</sub> self.

⇒ **Whatever rules out these last two forms must not make any appeal to a mechanism that requires a matching of  $\varphi$ -features**

<sup>4</sup>The generalization can be made universal if (i) the feature-matching syntactic operation is more nuanced in how/when it applies, and/or (ii) the syntactic  $\varphi$ -features that value the features of the pronoun need not be the overtly manifested  $\varphi$ -features on the antecedent.

<sup>5</sup>Data like (10) show that Kratzer's (2009) analysis of German bound pronouns does not obviously extend to the pronouns in English reflexives; the form of *be* ('is') suggests that  $v^0$  has 3.S  $\varphi$ -features, which should be incompatible with building *our* from a minimal pronoun under Feature Transmission.

<sup>6</sup>These judgments are for varieties in which group nouns agree as singular. See Smith 2017 for a discussion of facts from BrE varieties, in which the reflexive bound pronoun does not always match the person agreement on the verb.

<sup>7</sup>Here, *ourself* and *themself* are also attested.

- ◆ There can be mismatch between the  $\sqrt{\text{SELF}}$  and the antecedent:
  - (16) You guys pushed your self, drove your self, sacrificed, trained and competed  
(M.Romney 2002)
  - (17) The team credits them selves.
- ◆ There can be mismatch between the  $\sqrt{\text{SELF}}$  and the pronoun:
  - (18) %Everyone loves them self //
  - (19) %We each did it our self
  - (20) %We all need to ask our self [a very serious question] (ABC Nightline)
- ▶ Similar to previous findings in other languages, that features of the maximal DP for an anaphor (whose head N would be  $\sqrt{\text{SELF}}$  in English) can differ from the features of the pronoun (cf. Greek clitic doubling, Iatridou 1988, Anagnostopoulou and Everaert 1999; Selayares agreement, Woolford 1999)

### 3.3 Pronominal Appropriateness

#### 3.3.1 Non-Reflexive Contexts

- ◆ What allows a pronoun to be used felicitously as referential to / covariant with an antecedent?
  - ▶ Intuitively, compatibility between a pronoun's  $\varphi$ -features and its antecedent appears to (in part) be **interpretively determined**
  - ▶ Perhaps by something like 'appropriateness', such that the pronoun and the antecedent are **interpretively compatible**<sup>8</sup>
    - (similar views in, e.g., Heim 2008, Hicks 2009, Safir 2014, Conrod 2019)
  - ▶ e.g., our knowledge of Michelle Obama and the context tells us that referring to that person as 'she' (but not 'he' or 'you guys') is appropriate
    - (Similar to honorific/politeness-marking nominals in other languages; cf. Conrod 2018)
- ◆ It is **not**  $\varphi$ -match that is necessary in English pronoun-antecedent relationships
  - ▶ *each/any of us* and *us* are interpretively identical enough that a 1.P pronoun can be used even in covariation contexts with a syntactic antecedent of *each/any of us*
    - (21) a. Each of us likes our mother.
    - b. Whenever any of us is late, our spouse complains to us.
  - ▶ Referential appropriateness is perhaps highlighted by cases where the context impacts what pronouns are available as appropriate
    - Swapped identity contexts like (22) allow a 2nd person pronoun to be appropriate to refer back to *I*
      - (22) If I<sub>5</sub> were you<sub>8</sub>, I<sub>5.as.8</sub> would make your<sub>5.as.8</sub> way home
  - ▶ **Gender is especially instructive**, showing a slightly more complex (but important) way in which context affects pronoun appropriateness is
    - There are claims that (the relevant sort of) gender features may not even be syntactically represented on the antecedent
    - Common nouns in English (even ones that appear gendered, according to social norms)

<sup>8</sup>I leave open what grammatical/non-grammatical variables/operations should be used in modeling "compatibility".

don't have gender  $\varphi$ -features (examples from Ackerman 2018)

(23) a. #At the farmhouse, **the cowgirl**<sub>1</sub> left **his**<sub>1</sub> lasso in the kitchen.

b. At the Halloween party, **the cowgirl**<sub>1</sub> left **his**<sub>1</sub> lasso in the kitchen.

- ◇ “The feminine definition associated with cowgirl is thus defeasible, since gender agreement between cowgirl and his should be impossible if the property being checked is a  $\varphi$ -feature” (Ackerman:p.4)

- ▶ This highlights the role of context (social gender) for determining  $\varphi$ -gender in English pronouns

- ◆ The **interpretation** of a (non-reflexive) pronoun's  $\varphi$ -features **in context** matters for what is a possible antecedent

- ▶ (Not syntactic  $\varphi$ -matching)

### 3.3.2 Reflexive Contexts

- ◆ And this extends to the reflexive cases

- ▶ i.e., pronouns in reflexive self-phrases are subject to the same condition on appropriateness as discourse-anaphoric pronouns

#### (24) CONDITION ON PRONOMINAL APPROPRIATENESS IN ENGLISH

A pronoun in an English reflexive self-phrase must be able to be appropriately construed as referring to / varying with its antecedent

- ▶ This construability is **enough** to rule out data like (14)

(14) \***He**<sub>4</sub> is proud of **your**<sub>4</sub> self.

- ‘he’ cannot be construed as referring to ‘you’ in this context

- ▶ Conversely, groups of individuals can be construed as a collection of individuals or a single inanimate entity

(9) [*Spoken about a group of individuals*] (✓3.S > 3.P)  
**The football team** organizes the weekly tailgate **itself** / **themselves**.

- ▶ Also imposters (discussed by Collins and Postal (2012) in the frame of “ultimate antecedents”):

(25) [*Spoken to a king*]  
**Your majesty** must protect **yourself/himself**.

(26) [*Spoken by a parent to a child*]  
**Mommy and Daddy** need some time to **ourselves/themselves**.

- ◆ Context, appropriateness, and construal matter most obviously for English 3rd person pronouns, because of **gender**

- ▶ Effect of context with common noun antecedents:

(27) a. At the farmhouse, **the cowgirl** embarrassed **herself** / **#himself**.

b. At the Halloween party, **the cowgirl** embarrassed **herself** / **himself**.

- ▶ Suggesting that antecedent nominals like *the cowgirl* **cannot** on their own provide a  $\varphi$ -value of [ $\gamma$ : +F] to any reflexive pronoun with an unvalued gender feature

- ▶ Names might have gender features (Bjorkman 2017), but their gender features must be flexible enough to account for social gender of the referent (Ackerman 2018)
  - Thus expressions like ‘*Sue likes himself*’ are **not** ungrammatical; where deviant, it is infelicity (Conrod 2017, 2018)
    - ◊ Kim  $\Rightarrow$  Individual of female gender  $\Rightarrow$  inappropriate as antecedent for *himself*
    - ◊ Kim  $\Rightarrow$  Individual of non-binary gender  $\Rightarrow$  inappropriate as antecedent for *herself*
  - A lack of gender  $\varphi$ -features for lexical NPs on the antecedent might be problematic for analyses where bound pronouns rely on  $\varphi$ -valuation from the local antecedent binding
- ▶ Effect of context with quantified antecedents:

(28) [*Spoken by a single woman in a group of women*]  
**Each of us** is doing it **ourselves** / **herself**.

(29) [*Spoken by a single man in a group of men*]  
**Each of us** is behaving **ourselves** / **himself**.

- ▶ Also instructive for these contexts are the referentially-singular uses of *they*,<sup>9</sup> where social gender of the referent(s) is unknown, not fixed, irrelevant, or non-binary

(30) [*Spoken about a group of mixed-gender artists*]  
**Each artist** ought to express **them** %selves/%self.

(31) [*Spoken about an individual of unknown gender*]  
**Whoever that is** ought to control **them** %selves/%self.

(32) [*Spoken about an individual with non-binary gender identity*]  
**Kim** wrote a book by {**them** %selves/%self} / **#himself** / **#herself**.

- (*lots of inter-speaker variation*<sup>10</sup> is observed in contexts with various usages of ‘*they*’)

$\Rightarrow$  **Basic Idea:** The felicity of a pronoun in a reflexive anaphor is constrained in the same way as other (discourse-anaphoric) pronouns

- ▶ “The requirement [...] is  $\varphi$ -feature consistency, not  $\varphi$ -feature matching.” (Sundaresan 2018:8)
- ▶ More work is necessary to define exactly how this notion of appropriateness/consistency is precisely defined, constrained, and implemented by the grammar
  - Indeed, this is a (purposefully) weak theory, which may be able to generate expressions that are deemed unacceptable
- ▶ Pronominal appropriateness alone is not enough; auxiliary constraints (linguistic and social) will be necessary to capture the range of (un)acceptable data

<sup>9</sup>There are large groups of people (including me) for whom ‘*they*’ can also be used in contexts with definite individuals, where the speaker knows the referent to have male/female gender identity (and has possibly already committed to it in conversation), but does not invoke it (again). e.g., ‘*I know {the secret winner of the contest}<sub>6</sub> has told {his}<sub>6</sub> friends that {he}<sub>6</sub> won. [...] {Their}<sub>6</sub> opponents have not yet been informed.*’ (See also Conrod 2017.)

<sup>10</sup>Prediction not discussed in depth here: the sorts of usages of *they/them* that a speaker allows in non-reflexive contexts will predict the sorts of usages of *they/them* that a speakers allows in reflexive contexts too.

### 3.4 Interim Summary

#### ◆ $\varphi$ -features are visible at LF

- ▶  $\varphi$ -compatibility with an antecedent is mediated by interpretation (cf. (24))

(24) **Condition on Pronominal Appropriateness in English**

A pronoun in an English reflexive self-phrase must be able to be appropriately construed as referring to / varying with its antecedent

- e.g., ✓*Each of us is behaving ourselves* because 1.P pronouns are appropriate for *each of us*
- ▶ **Consequence: Reflexive anaphors do not uniformly get their  $\varphi$ -features valued by the local antecedent of binding**

#### ◆ Proof

- ▶ Premise: Reflexive anaphors structurally contain a (bound) pronoun
- ▶ Premise: Not all (bound) pronouns are  $\varphi$ -deficient
- ▶ Premise: Whenever a pronoun's  $\varphi$ -features are derivationally valued, those  $\varphi$ -features must match the antecedent's valuer
- ▶ Observation: Reflexive pronouns do not always  $\varphi$ -match the local antecedent of binding

•• Reflexive pronouns are not always  $\varphi$ -dependent on the local antecedent

- (33) a. **The U.N.** finds itself/ themselves in a difficult position.  
 b. **The football team** organizes the weekly tailgate itself/themselves.  
 c. [*Spoken by a single man in a group of men*]  
**Each of us** is behaving himself/ourselves.

- ◆ Perhaps one could rescue a valuation-across-the-board approach by positing covert elements that give rise to the appearance of  $\varphi$ -mismatch, without  $\varphi$ -mismatch at a derivational level

- ▶ i.e., something like the following:

(34) **The U.N.**<sub>4</sub> finds OP<sub>7</sub> **them**<sub>7</sub> selves in a difficult position.

- ◆ This would be insufficient; consider a gap in the mismatches that we have seen

- ▶ **Not attested: 3.S anaphors with a 1st/2nd person or 3.P antecedent**

- (35) a. **Those nations in the U.N.** find \*itself/themselves in a difficult position.  
 b. **The football players** organize the weekly tailgate \*itself/themselves.  
 c. [*Spoken by a single man in a group of men*]  
**We** are each behaving \*himself/ourselves.

- A covert operator account like (34) would need to explain why the operator cannot provide 3.S  $\varphi$ -features, but it can provide any other pronoun's  $\varphi$ -features
  - ◇ (*Note: this is about  $\pi$  and #, and not about person alone; recall 'them'*)
  - ◇ This suggests that there is a morphosyntactic division in these reflexive pronouns, which goes beyond the interpretive constraint in (24)

•• 3.S reflexive pronouns require a unique, more complex analysis

## 4 3rd Singular Pronouns in English

- ◆ To be very repetitive: 3.s bound pronouns<sup>11</sup> do not allow  $\varphi$ -mismatch from their local binder

- (36) a. **The U.N.** finds itself/ themselves in a difficult position.  
 b. **Those nations in the U.N.** find \*itself/themselves in a difficult position.

- ◆ What is it about 3.s pronouns that is different?

- ▶ Notably, English 3.s pronouns show the most  $\varphi$ -features of any person/number
- ▶ The only pronoun that marks distinctions in gender, animacy, or genericity

(37)

	S	P
1	me	us
2	you	
3.M	him	them
3.F	her	
3.INANIM	it	
3.GENERIC	one	

- ◆ Observation: English 3.s pronouns are  $\varphi$ -valued for grammatical gender ( $\gamma$ ), unlike other (pro)nominals

(38)

	S	P
1	$\gamma: \emptyset$	$\gamma: \emptyset$
2	$\gamma: \emptyset$	
3	$\gamma: \pm F, \pm M$	$\gamma: \emptyset$

- ◆ In order to spell out a 3.s pronoun,  $\gamma$  needs to be specified
  - ▶ Perhaps because there is no spell-out for  $[\pi:3, \#:sg, \gamma:\emptyset]$
- ◆ Pronominal  $\gamma$  features in a language like English depend on the antecedent, in the context
  - ▶ Conrod (2019, p.c.):  $\gamma$  features on pronouns need to be licensed by an appropriate antecedent in the context
    - A very rough paraphrase of the felicity condition for  $[[\gamma: +F]]$ :  
 “It is socially appropriate for me to refer to the antecedent as ‘she’ in this context”
    - *One possible appropriate antecedent: an accessible syntactic nominal with a  $\gamma$  feature (i.e., a gendered pronoun)*
    - *Another: an accessible context that defines an individual/set that can help determine the appropriateness of the particular gender features on pronouns*
  - ▶ Sigurðsson (*to appear*): Context is represented in the clause’s left periphery
- ◆ Thus to license  $\gamma$  on a pronoun, the syntax needs access to an antecedent in context
  - ▶ Meaning the syntax needs to access both to the  $\gamma$  feature and information about the antecedent/context
  - ▶ One possibility: the  $\gamma$  features are ‘in-born’ at merge, and what is needed is a comparison to the antecedent’s interpretation (Conrod 2019)
    - This would mean all anaphors in English can come fully  $\varphi$ -specified

<sup>11</sup> assume bound pronouns are identifiable by the grammar, due to a particular feature specification, e.g., the VAR feature discussed by Hicks (2009).

- ▶ Another possibility: the pronoun is deficient such that its  $\gamma$  features are determined by the features of the context/antecedent (Sigurðsson *to appear*)
  - This would mean anaphors in English exhibit a gender-based split (cf. Sundaresan 2018's discussion of language-internal splits in anaphors)
- ▶ (I will not adjudicate between these possibilities)
- ◆ **Core Idea:** The licensing of  $\gamma$  features in English involves a derivation that disallows  $\varphi$ -mismatches
  - ▶ This core idea is stated in the generalization in (39)

**(39) GENERALIZATION ON ENGLISH GENDER-CONDITIONED  $\varphi$ -MATCH**

If a bound pronoun has a gender  $\varphi$ -feature that is specified (i.e., not  $\emptyset$ ), then the bound pronoun must have  $\varphi$ -features that do not conflict with those specified on the local binder.<sup>12</sup>

- ▶ In other person-number combinations, mismatch is possible: the  $\gamma$ -feature can remain unspecified, and the pronoun can go unconstrained by the morphosyntactic derivation)
- ◆ Prediction: if the syntax cannot access the antecedent and the context, a 3.s pronoun cannot have its  $\gamma$  feature evaluated for its appropriateness
  - ▶ That is, 3.s pronouns should be ineffable where such access is blocked — back to the data!

## 5 Swapped Identity Contexts

- ◆ We saw, in passing, that the effects of context in English on reflexive  $\varphi$ -features can be seen in swapped-identity contexts
  - ▶ e.g., in **counter-indexical (CID) contexts**, which can be introduced with '*if I were someone else*':<sup>13</sup>

(40) [*Speaker A is going to the airport shortly, and asks Speaker B whether it's a good idea to bring food or buy food on the plane. B replies...*]

a. If I were you, I'd do **myself** a favor and bring food! [✓1.s>1.s]

b. If I were you, I'd do **yourself** a favor and bring food! [✓1.s>2]
  - ▶ In this sort of shifted context, the local syntactic antecedent of binding is a 1st person pronoun, but the self-phrase can contain a 2nd person pronoun<sup>14</sup>
    - Because they are construed as identical in the CID context where 'I' = 'you'
- ◆ This sort of mismatch context has some surprising constraints, that go beyond the 'appropriate pronoun' generalizations we have seen so far
  - ▶ (But they also respect those generalizations)

<sup>12</sup>Stated more formally: If  $\gamma_{\text{pronoun}} \neq \emptyset$ , then  $\varphi_{\text{antecedent}} \subseteq \varphi_{\text{pronoun}}$

<sup>13</sup>In other investigations to anaphors in shifted CID contexts (e.g., Lakoff 1996, Anand 2007, Kamholz 2012, Kauf 2017), what is explored is the interpretation of anaphors that  $\varphi$ -match their closest syntactic antecedent. (That is, what interpretations are available for a fixed expression?) For example, they have explored sentences like '*if I were you, I'd be looking at myself*', and whether it is a looking-at-addressee action or looking-at-speaker action. On the other hand, this work explores the question: what morphological forms of the anaphor are available for a fixed interpretation? As far as I know, this question has not been investigated up to this point.

<sup>14</sup>It is not the case that the local binder 'I' is at the relevant level [ $\pi$ :2]. Consider the following, where a 2nd person adnominal emphatic reflexive is out: "*if I were you, I myself/\*yourself would be enjoying this.*"

## 5.1 Two Constraints on CID $\varphi$ -Mismatch

### ① The antecedent has to be 1.s

- (41) a. If I<sub>5</sub> were you<sub>8</sub>, I wouldn't worry myself<sub>5.as.8</sub> / yourself<sub>5.as.8</sub> .  
 b. If we<sub>5</sub> were you<sub>8</sub>, we wouldn't worry ourselves<sub>5.as.8</sub> / \*yourselves<sub>5.as.8</sub> .  
 c. If you<sub>5</sub> were me<sub>8</sub>, you wouldn't worry yourself<sub>5.as.8</sub> / \*myself<sub>5.as.8</sub> .

- ▶ This constraint reveals that contextual 'appropriateness' matching is not enough
- ▶ Suggestion: this has to do with semantic/syntactic privileges afforded to the speaker of the utterance

### ② A 3.s reflexive pronoun can't mismatch the antecedent

- (42) a. If I<sub>5</sub> were her<sub>8</sub>, I'd be proud of myself<sub>5.as.8</sub> / \*herself<sub>5.as.8</sub>  
 b. If I<sub>5</sub> were him<sub>8</sub>, I'd be proud of myself<sub>5.as.8</sub> / \*himself<sub>5.as.8</sub>  
 c. If I<sub>5</sub> were them<sub>8</sub>, I'd be proud of myself<sub>5.as.8</sub> / %themselves<sub>5.as.8</sub> / %themselves<sub>5.as.8</sub>

- ▶ The contrast between reflexive pronouns *them* and *her* is *a priori* surprising – *though hopefully we might expect it at this point in this talk*
  - It reveals that this is a **constraint on 3.s pronouns not all 3rd person pronouns**
- ▶ Also, this seems to be a **constraint on particular  $\varphi$ -features, and not reference**
  - It is acceptable to have a mismatching antecedent for all uses of *them*
  - Including plural-referring *them* in (42c), as well as<sup>15</sup> epicene *them* as in (43)

(43) If I were any one of them, I'd be proud of myself/themselves

- ▶ This constraint against 3.s pronouns will be understood through the lens of gender
  - But first we'll have to look at two more constraints

◆ These first two constraints have been corroborated by a pilot study on Amazon Mechanical Turk task ( $n=78$ )

◆ Median scores so far are given below (1="unnatural"; 5="natural")

(44) Ratings for  $\varphi$ -mismatch anaphors in conditionals

		Pronoun					
		1.S	2.S	3.S	1.P	2.P	3.P
Ant:	1.S	–	4	2.5	–	5	4
	1.P	–	2	2	–	2	2

◆ Details in the appendix (Appendix B)

<sup>15</sup>Additionally, specific *them* (e.g., person whose known male/female gender identity is not being revealed), as well as gender non-binary *them* (i.e., person whose known gender is non-binary) seem to work fine here too, for speakers who accept these usages of *them*.

## 5.2 Two More Constraints on CID $\varphi$ -Mismatch

### ③ The embedded clause must be in the irrealis mood

- (45) a. If I<sub>5</sub> were you<sub>8</sub>, I<sub>5.as.8</sub> would buy myself<sub>5.as.8</sub> / yourself<sub>5.as.8</sub> a new car.  
 b. When I<sub>5</sub> was you<sub>8</sub> in a dream, I<sub>5.as.8</sub> bought myself<sub>5.as.8</sub> / \*yourself<sub>5.as.8</sub> a new car.
- ▶ Suggestion: the semantics of irrealis mood is necessary
  - ▶ Suggestion: this irrealis mood allows a counterfactual perspective operator in the syntax
    - This (optionally introduced) logophoric operator brings in the perspective of the person whose identity is being taken on<sup>16</sup>

### ④ $\varphi$ -mismatch is impossible between coindexed elements within the scope of the modal

- (46) a. If I<sub>5</sub> were you<sub>8</sub>, I<sub>5.as.8</sub> 'd [ keep myself<sub>5.as.8</sub> to myself<sub>5.as.8</sub> / \*yourself<sub>5.as.8</sub> ]  
 b. If I<sub>5</sub> were you<sub>8</sub>, I<sub>5.as.8</sub> 'd [ keep yourself<sub>5.as.8</sub> to yourself<sub>5.as.8</sub> / \*myself<sub>5.as.8</sub> ]

(47) If I<sub>5</sub> were you<sub>8</sub> ...

- a. I<sub>5.as.8</sub> 'd [ ask the administrator to assign me<sub>5.as.8</sub> to myself<sub>5.as.8</sub> / \*yourself<sub>5.as.8</sub> ]
  - b. I<sub>5.as.8</sub> 'd [ ask the administrator to assign you<sub>5.as.8</sub> to yourself<sub>5.as.8</sub> / \*myself<sub>5.as.8</sub> ]
  - c. I<sub>5.as.8</sub> 'd [ ask for myself<sub>5.as.8</sub> to be assigned to myself<sub>5.as.8</sub> / \*yourself<sub>5.as.8</sub> ]
  - d. I<sub>5.as.8</sub> 'd [ ask for yourself<sub>5.as.8</sub> to be assigned to yourself<sub>5.as.8</sub> / \*myself<sub>5.as.8</sub> ]
- ▶ Notice the interpretation here
    - In the irrealis clause, all pronouns/anaphors are interpreted in the same way: me-as-you
    - (The facts in (47) can repeat with 2.P and 3.P pronouns)
  - ▶ BUT, if *me* is interpreted as in the non-counterfactual sense, then mismatch is possible again

(48) If I<sub>5</sub> were you<sub>8</sub>, I<sub>5.as.8</sub> 'd [ ask them to assign me<sub>5</sub> to myself<sub>5.as.8</sub> / yourself<sub>5.as.8</sub> ]

- ▶ When interpreted me-as-you, all pronouns in the scope of *would* are either 1.S or match the  $\varphi$ -features of perspective holder
- ▶ Consistent with an operator in the middle-field, tied up in irrealis mood
  - And the operator can only have an effect on the  $\varphi$ -features of pronouns interpreted in this way of 'me-as-X'
  - (And the operator cannot be in the high left-periphery of the clause, since the subject above *would* does not have the  $\varphi$ -features of the perspective hold)

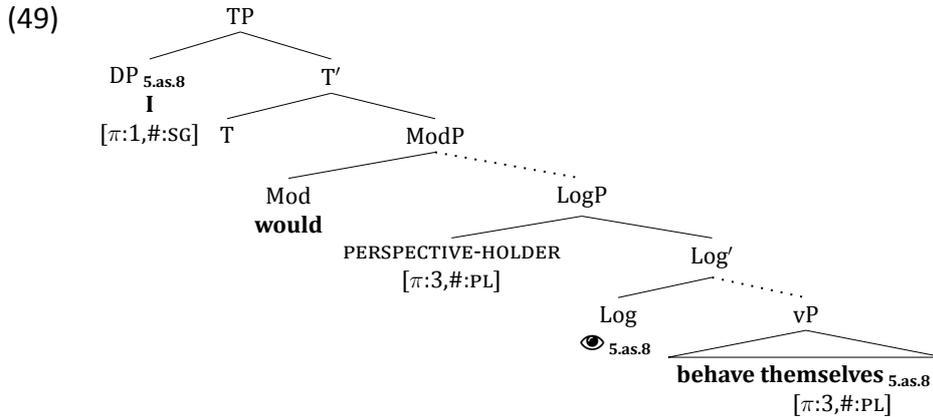
## 5.3 Some Nascent Ideas Towards Understanding CID Constraints

- ◆ Counter-indexical contexts suggest that the mismatch is influenced by the syntax/semantics of irrealis mood and of a middlefield perspective shifting operator
  - ▶ In particular, there appears to be some sort of operator in the inflectional middle-field or perhaps in the low left periphery in the verbal spell-out domain
    - This then seems to cause all pronouns in its scope to have the same  $\varphi$ -features as the perspective holder

<sup>16</sup>Thanks to Sandhya Sundaesan for pointing me in this direction.

- (Assumption: the formal  $\varphi$ -features of the perspective holder are introduced by the logophoric head or by a pronoun in Spec,LogP; cf. Charnavel *to appear*)

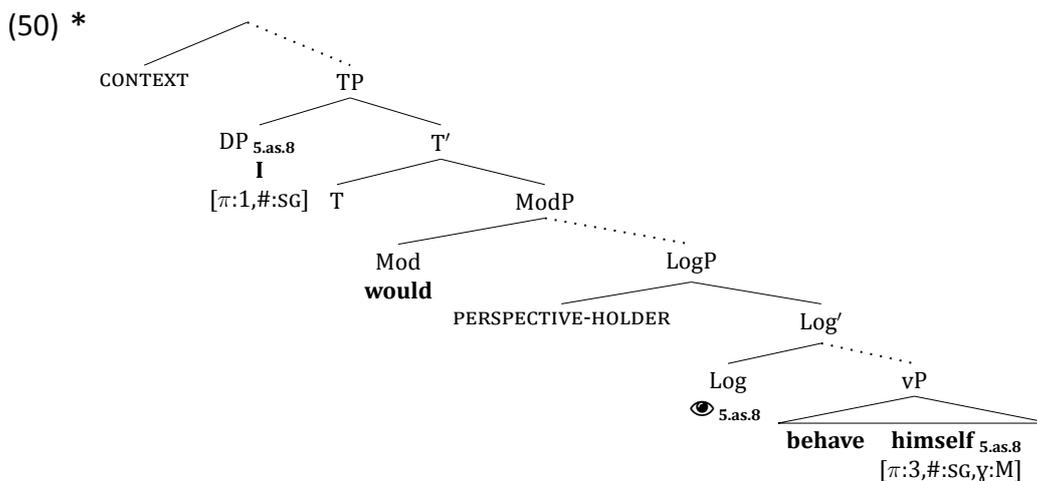
◆ Possible sketch of ‘*If I were them, I’d behave themselves*’



- ▶ In cases like this, the local antecedent of binding is determined before the middle field, in the verbal phase (between Log and v, VoiceP; Ahn 2015)
  - So it is still the case that there is  $\varphi$ -mismatch with the local antecedent of binding (“I”)
  - At the same time, this counter-indexical perspective operator,  $\text{eye}$ , provides the  $\varphi$ -features of the perspective holder for the pronoun (“they”)
- ▶ In this way, these CID contexts still constitute a violation of the generalization that anaphors  $\varphi$ -match the local antecedent of binding
  - But there is also an explanation of why these features can be the ones we find on the pronoun

◆ But now that we have the  $\text{eye}$  and its argument, **what blocks a 3.s bound pronoun** in CID contexts?

- ▶ Recall from §4 that gender on a 3.s pronoun relies on an syntactically present antecedent with a  $\gamma$ -feature and/or a contextually represented entity to help determine the appropriateness of the  $\gamma$ -feature of the pronoun
- ▶ And consider the unacceptable structure in (50):



- ▶ This is unacceptable because **the 3.s pronoun’s  $\gamma$  feature cannot be licensed in this structure**
  - The only pronominal in the derivation is a 1.s pronominal, which doesn’t have  $\gamma$  specified
    - ◊ No nominal source to license [ $\gamma$ :M]
  - If the context is in the CP region (Sigurðsson *to appear*), the logophoric operator serves as

an intervener, blocking access to it

- ◇ No contextual source to license [ $\gamma$ :M]

◆ Open Questions

- ▶ Why can't the perspective-holder have gender features?
  - This would allow 3.s phi-mismatch
  - Perhaps it is grammatical, but such perspective holders are simply less easily accessible (cf. Zribi-Hertz 1989:711)
  - Perhaps it is indeed ungrammatical, and has to do with the types of  $\varphi$ -features that the perspective-holder can have and/or which elements of English can bear  $\gamma$  features
- ▶ What requires the antecedent to be 1.s?
  - Perhaps 👁 can only shift the perspective of the [AUTHOR] participant

## 6 Conclusions

### 6.1 Bound Pronouns and $\varphi$ -(mis)match

- ◆ We started with a common statement, and developed some deeper constraints/generalizations

(2) **Statement on  $\varphi$ -Matching**

In English reflexives, pronouns  $\varphi$ -match the local antecedent of binding

(24) **Condition on Pronominal Appropriateness in English**

A pronoun in an English reflexive self-phrase must be able to be appropriately construed as referring to / varying with its antecedent

(39) **Generalization on English Gender-Conditioned  $\varphi$ -Match**

If a bound pronoun has a gender  $\varphi$ -feature that is specified (i.e., not  $\emptyset$ ), then the bound pronoun must have  $\varphi$ -features that do not conflict with those specified on the local binder.

(51) **Constraints on Counter-Indexical  $\varphi$ -Mismatch in English**

Counter-indexical contexts can only support  $\varphi$ -mismatch if (i) the antecedent is 1.s, (ii) the bound pronoun is not 3.s, (iii) the embedded clause is in the irrealis mood, and (iv) all pronouns in the scope of the modal  $\varphi$ -match each other

- ▶ We saw data motivating that these latter three constraints/generalizations are more accurate successors to the statement in (2)

⇒ **We should replace (2) in English with (24) and (39)**

- Recall (2) suggests that English bound pronouns will *always*  $\varphi$ -match their antecedent
- Instead we need a weaker constraint for all bound pronouns
  - ◇ One about pronominal appropriateness (24) applies to all bound pronouns
- Plus an additional constraint for 3.s bound pronouns in English, which never violate (2)
  - ◇ They are subject to additional derivational constraints, described in (39), because how its  $\varphi$ -features (particularly  $\gamma$ ) are licensed
- ▶ By “replace (2)”, I mean “**replace as descriptive explananda** to be captured by deeper analyses”

- ◆ This investigation has led to some more specific conclusions

### ❶ English bound pronouns can have well-formed $\varphi$ -features in at least two ways

- Most can  $\varphi$ -conflict with the local antecedent of binding
  - ◇ (1st, 2nd, and 3.P can behave this way)
  - ◇ These bound pronouns are candidates for merging with all  $\varphi$ -features specified
    - ▷ As must be possible for (certain) discourse-anaphoric pronouns
- But a 3.S one *never*  $\varphi$ -conflicts with its antecedent
  - ◇ Here, the derivation requires the pronoun's  $\varphi$ -features to match a binder; because of the grammar of English  $\gamma$ -features
- In other words, English anaphors exhibit a grammatical split based on  $\gamma$ 
  - ◇ English split: 1/2/3.P vs. 3.S
  - ◇ cf. grammatical splits along other nominal features in Sundaresan 2018

### ❷ Morphosyntax builds reflexive anaphors

- $\varphi$ -feature bundles for bound pronouns are built in the morphosyntax
  - ◇ If English makes any use of bound pronouns that are  $\varphi$ -deficient (e.g.,  $\gamma$ -deficient) at the point of merge, such deficient pronouns are only required for 3.S
- How these  $\varphi$ -features are licenced influences the derivation and where mismatch is possible
  - ◇ Ruling out antecedent-mismatching 3.S bound pronouns has to do with the grammatical structures of  $\gamma$  features
- Open Question: Does English employ AGREE to achieve  $\varphi$ -matching, where we see it?
  - ◇ No evidence either way
  - ◇ The existence of  $\varphi$ -mismatch with the local antecedent of binding suggests that binding is not always mediated by AGREE in English
  - ◇ It is possible that AGREE is involved where we do see  $\varphi$ -match between the bound pronoun and antecedent

### ❸ $\varphi$ -features must be active at LF

- Concepts like 'appropriate construal' in (24) are certainly interpretive
  - ◇ Social gender (continuously defined) matters, in ways different ways than grammatical gender (categorically defined)
  - ◇ Contexts (such as CID contexts) can manipulate how  $\varphi$ -features are interpreted
- Assuming interpretation is involved in where mismatches are possible (and possibly involved in what  $\varphi$ -features match with), this means these features are interpretable at LF
- This contrasts with the view that is not uncommon:
  - ◇ "The form of the anaphor (e.g. the reflexive) plays no real role in the interpretation afforded [...] This means that the agreement features are essentially bereft of semantic interpretation" (Drummond et al. 2011:399)
- Instead, what has syntactic roots ( $\varphi$ -features inside self-phrases) also has interpretational consequence (see also Heim 2008, Safir 2014, Conrod 2019)

## 6.2 “Binding” Across Modules

- ◆ Properties of binding are **not solely the product of syntax**
  - ▶ Our investigation into  $\varphi$ -features and nominal structures English reflexive self-phrases has depended on multiple components of grammar
  - ▶ Some syntactic
    - Building English reflexive anaphors (pronoun + REFL +  $\sqrt{\text{SELF}}$ )
    - Building the  $\varphi$ -bundles for the pronoun
  - ▶ Some postsynthetic (based on syntactic input; see Ahn and Kalin 2018)
    - The case form of the reflexive pronoun
    - The (lack of) interpretation of  $\sqrt{\text{SELF}}$  in reflexive self-phrases
  - ▶ Some semantic/pragmatic (based on syntactic input)
    - Determining whether a bound pronoun can be construed as referring to an antecedent or not, on the basis of  $\varphi$ -features
    - Semantic constrains mismatches (e.g., modality) in the CID contexts
- ◆ Also, languages appear to differ on which grammatical operations comprise the set of binding operations
  - ▶ (Reminder! Some number of the analytical moves made here are specific to English)
- ◆ We need a multi-module approach to binding, whose name makes this obvious

### “Distributed Binding Theory”

- ◆ Other discussion of English-type reflexivity have also exposed that binding is done at multiple modules and at the interfaces
  - ▶ Some of it is syntactic
    - Reflexive features in the (extended) verbal projection (e.g., Labelle 2008, Kratzer 2009, Reuland 2011, Ahn 2015)
  - ▶ Some of it is semantic/pragmatic (based on syntactic input)
    - What types of meanings are possible for anaphors (e.g., Anand 2007, Reuland and Winter 2009, Kauf 2017)
  - ▶ Some of it is phonological (based on syntactic input)
    - Where anaphors are prosodically weak/strong (e.g., Ahn 2015)
- ◆ This talk hasn’t aimed to produce definitive analyses for all of these problems
  - ▶ Rather, the goal is to show that binding does not emerge from a single grammatical module
  - ▶ And working on binding is interface work

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## A Some Notes on the Internal Structure of Reflexive Self-Phrases

❶ There is a *self* component, which is a nominal:

- ▶ Consider the object-incorporation-like compounding process:

(52) a. They are completely self-reliant.

b. They rely on **themselves** completely.

(53) a. He is a self-described polyglot.

b. He describes **himself** as a polyglot.

(54) a. We chose the self-install option.

b. We chose the option to install it **ourselves**.

(55) a. This is a self-driving car.

b. This is a car that drives **itself**.

- ▶ What is adjacent to the V is a bare N, as with other Ns:

(56) a. She is an **Eagles**-supporting Philadelphian.

b. She is a Philadelphian who supports the **Eagles**.

### HISTORICAL CHANGE

- ◆ In older forms of English (and still in other Germanic languages), the *self* morpheme is an adnominal intensifier<sup>17</sup>
  - ▶ It lacked nominal distribution, didn't inflect like a nominal, etc. (cf. Keenan 2002)
- ◆ Now *self* is **certainly nominal**
  - ▶ Given evidence like compounding, pluralization, etc.

❷ What precedes *self* is a **possessive pronoun**:

- ▶ Consider the form of the pronoun:

(57) a. I will defend myself.

b. You can do it **yourselves**.

- ▶ Headline allows for null bound pronoun possessors

(58) a. ...Bill O'Reilly embarrasses self, colleagues, country... (<http://wapo.st/1TYFgoH>)

b. Bill O'Reilly embarrassed **himself**, **his** colleagues, and **his** country.

❸ In addition, there is some **invisible reflexive morphosyntactic glue**

- ▶ It is detectable through **allomorphy** in 3rd person contexts (for certain varieties of English)

(59) a. They did it **them**/**\*their** selves.

b. After spending two years in meditation, **their**/**\*them** selves were fully realized.

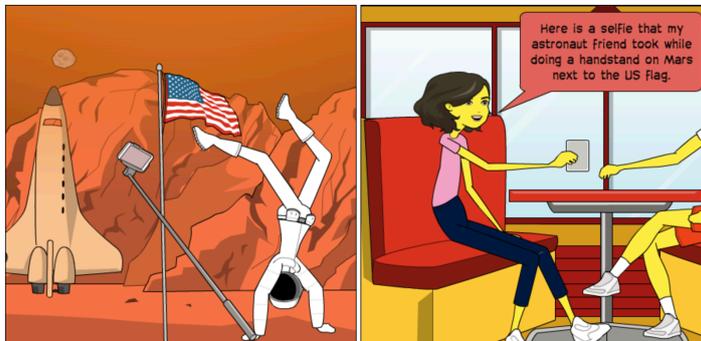
<sup>17</sup>In fact, this difference is almost certainly related to the other differences between English reflexive anaphors and reflexive anaphors in other Germanic languages (e.g., absence/presence of possessive pronouns within the anaphor, and possibly even (un)availability of long distance binding).

- A reflexive morpheme, REFL<sup>0</sup>, triggers 3rd person pronouns to surface as ‘accusative’ in certain structure-based contexts
- What disturbs the locality shows that the REFL morpheme is distinct from the  $\sqrt{\text{SELF}}$  morpheme and the D morpheme
- ▶ It is also detectable through **allosemy**:  $\sqrt{\text{SELF}}$  lacks clear content in reflexive contexts
  - It gets a reified substantive reading (cf. Safir 1996) in the absence of REFL<sup>0</sup>
  - But REFL<sup>0</sup> triggers a lack of semantic contribution by the root  $\sqrt{\text{SELF}}$  (cf. camouflage constructions; Collins et al. 2008, Collins and Postal 2012)

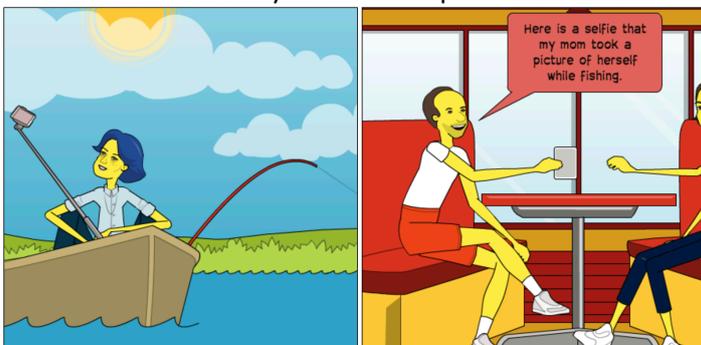
## B Rating Task Details

### ◆ Introduction to the task:

- ▶ “Here is a selfie that my astronaut friend took while doing a handstand on Mars next to the US flag”



- ▶ “Here is a selfie that my mom took a picture of herself while fishing”

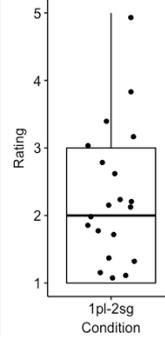


### ◆ Target Stimuli:

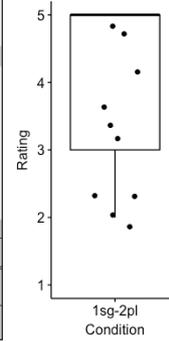
- ▶ “If I were you, I’d do yourself a favor and bring food”



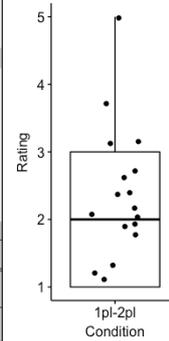
► “If we were you, we’d do yourself a favor and bring food”



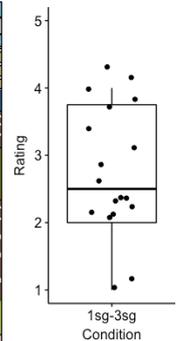
► “If I were you guys, I wouldn’t try to move the fridge by yourselves”



► “If we were you guys, we wouldn’t try to move the fridge by yourselves”



► “If I were her, I would be proud of herself”



► “If we were her, we would be proud of herself”



► “If I were you, I wouldn’t try to plan the whole thing by themselves!”

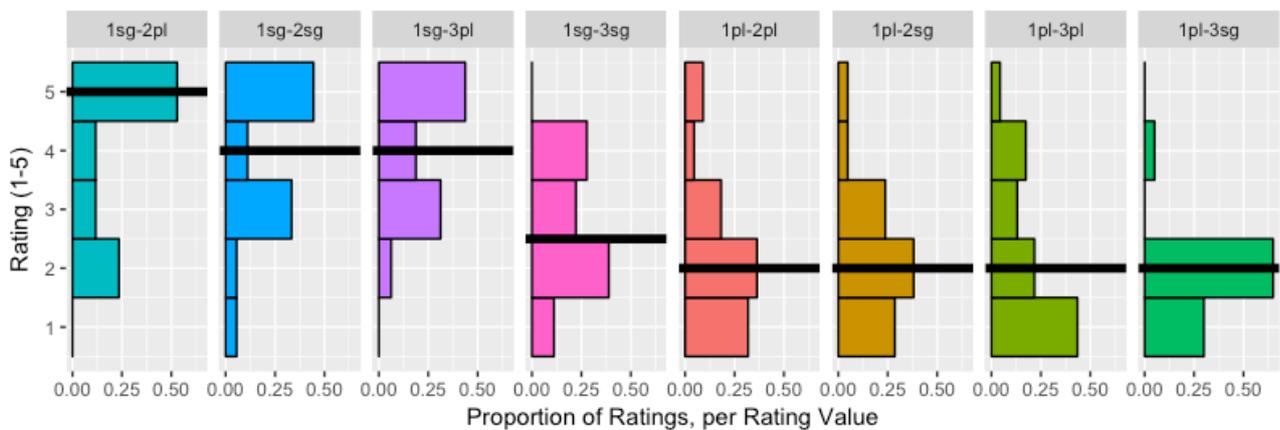


► “If we were you, we wouldn’t try to plan the whole thing by themselves!”



◆ Summary of results:

Ratings of Mismatches, by Condition



► There is a sharp change in the distribution of the ratings when the constraints on antecedents/pronouns are not met<sup>18</sup> (Dark black lines indicate median score)

◆ T-tests confirm what can be seen visually above (data formatted as “*T-value; p significance*”)

<sup>18</sup>Further details of the data and analysis are given in the appendix. A full-fledged follow-up study is in progress.

	1p-2p	1p-2s	1p-3p	1p-3s	1s-2p	1s-2s	1s-3p
1p-2s	-0.1; ns						
1p-3p	-0.1; ns	-0.1; ns					
1p-3s	-1.2; ns	-1.1; ns	-1.1; ns				
1s-2p	<b>4.7; ***</b>	<b>4.7; ***</b>	<b>4.9; ***</b>	<b>5.7; ***</b>			
1s-2s	<b>4.5; ***</b>	<b>4.5; ***</b>	<b>4.7; ***</b>	<b>5.5; ***</b>	-0.3; ns		
1s-3p	<b>4.8; ***</b>	<b>4.8; ***</b>	<b>5.0; ***</b>	<b>5.8; ***</b>	0.2; ns	0.4; ns	
1s-3s	1.2; ns	1.3; ns	1.4; ns	2.4; ns	<b>-3.3; *</b>	<b>-3.1; *</b>	<b>-3.4; *</b>

Pairwise comparisons using t tests with pooled SD (df=147)

- ▶ The 3 conditions deemed grammatical by native speaker linguists (**1s-2p, 1s-2s, 1s-3p**) were **all given ratings significantly different from** (in a positive direction) **the other conditions**
  - In addition, the ratings given to the 1s-3s condition was not significantly different from the ratings given to the conditions with 1P antecedents
- ▶ This corroborates the generalizations that 3s pronouns cannot mismatch their antecedents, and that mismatch requires the antecedent to be 1s