

Pronouns vs. Definite Descriptions*

Kyle Johnson

University of Massachusetts at Amherst

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This paper looks at an approach to Principle C in which the disjoint reference effect triggered by definite description arises because there is a preference for using bound pronouns in those cases. Philippe Schlenker has linked this approach to the idea that the NP part of a definite description should be the most minimal relative to a certain communicative goal. On a popular view about what the syntax and semantics of a personal pronoun is, that should have the effect of favoring a pronoun over a definite description. It requires, however, a way of distinguishing bound pronouns from non-bound pronouns, and the paper makes a proposal about how these two kinds of pronouns can be distinguished in the way needed. The resulting view of Principle C is then used to give a reanalysis of “Vehicle Change” effects, explain a puzzle about its acquisition.

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1 Introduction

Among the things that children must learn about the determiner phrases in English are how they can be deployed to express referential dependencies. One of the things that must be acquired is that most determiner phrases cannot corefer with other determiner phrases if one c-commands the other. Thus, in (1), for instance, the object and subject determiner phrases must refer to distinct individuals.

- (1) a. The woman likes her.
- b. The woman likes the woman.

The effects illustrated in (1) are usually known by the names of the descriptive principles formulated for them by Chomsky (1981). These principles, in (2), distinguish the two cases with a locality condition, which I refer to here with the term “binding domain.”

- (2) a. Principle C
 - A definite description cannot refer to the same individual referred to by an expression, α , if α c-commands the definite description.
 - b. Principle B
 - A pronoun cannot refer to the same individual referred to by an expression, α , if α c-commands the pronoun and is in the pronoun’s binding domain.
- (3) α c-commands β iff β is (reflexively) dominated by α ’s sister.

An illustration of the locality condition’s effects are in (4).

- (4) a. The woman said that I would visit her.
b. The woman said that I would visit the woman.

In (4a), the prohibition against taking *her* and *the woman* to corefer that (1a) illustrates is lifted. In (4b), by contrast, the two instances of *the woman* are, just as in (1b), most naturally understood to refer to distinct individuals. We won't be concerned with the precise formulation of this locality condition; it will be sufficient for us to take a binding domain to be the smallest clause or DP containing the pronoun. The difference between (1a) and (4a), then, is that the smallest clause containing *her* contains *the woman* only in (1a) and therefore only in (1a) does it fall under Principle B.

What is involved in learning Principles B and C? Among other things, one must acquire what makes Principles B and C different, and this is the focus of this paper. What must one learn to distinguish the terms that Principles B and C apply to? I will sketch a view of what it is that makes pronouns different from definite descriptions that is aimed at explaining why Principles B and C are sensitive to this difference. The explanation will rest on a view of what Principles B and C derive from, and most of this paper will be devoted to sketching such a view. We will return to the question of what must be learned in order for the difference in Principle B and C to be acquired in the conclusion, where I will suggest that the account of Principles B and C sketched here explains a difference in how they are acquired.

The view of how Principles B and C should be derived that I will examine was initiated by Tanya Reinhart.¹ Her idea is that both effects are the result of competitions among terms that can express coreference, with Principles B and C describing

¹ See Reinhart (1983).

the losers in those competitions. In the case of Principle B, for instance, the meaning that it prevents (1a) from having is better conveyed by (5).

(5) The woman likes herself.

Because (5) unambiguously conveys the information that the subject and object of *likes* are the same, it is a “better” way of expressing this meaning than is (1a). The effect of disjoint reference in (1a), then, might result from a Gricean chain of reasoning that goes as follows. If a speaker chooses to use (1a) instead of (5), then that speaker has not chosen a sentence that unambiguously expresses coreference. There must be a reason for that choice, and a salient one is that the speaker does not mean to express coreference. Thus, (1a) acquires the implication that non-coreference is intended.

There are difficult issues involved in making this account work. We must find a way of ensuring, for instance, that the Gricean chain of reasoning doesn’t merely cause (1a) to communicate the speaker’s uncertainty of the referential (in)dependency of subject and object; the Gricean reasoning must lead us to the conclusion that the speaker intends to signal non-coreference. And we must be certain that there aren’t other differences in the meaning of (1a) and (5) that could be credited with the speaker’s decision to use (1a) instead of (5).² Nonetheless, Reinhart’s idea does provide an explanation for the fact that, once certain factors are controlled for, the locality condition that Principle B invokes matches that which governs how far a reflexive may be from its antecedent. The reason that (4a) allows for a coreferent reading between *her* and *the woman*, for example, can be explained by the ungrammaticality of (6).

(6) * The woman said that I would visit herself.

² See Grodzinsky and Reinhart (1993) and Heim (1998) for some discussion of these problems.

In general, then, the locality condition that Principle B obeys is the same as that which determines how far a reflexive may be from its antecedent. Moreover, reflexives can only corefer with terms that c-command them, and in this way too, Reinhart's idea can explain why (7a) allows a coreferent reading between *the woman* and *her* by way of the failure of *herself* to be able to corefer with *the woman* in (7b).

- (7) a. The woman's mother likes her.
 b. The woman's mother likes herself.

Let us assume that this is the source of Principle B effects. Note that it makes the failure of coreference between the two occurrences of *the woman* in (1b) an effect of Principle B too.

- (1b) The woman likes the woman.

The same chain of Gricean reasoning converges towards the conclusion that the intention behind producing (1b) is that the two occurrences of *the woman* should be understood to refer to different individuals. What we're left with, then, is the question of why definite descriptions continue to invoke disjoint reference effects even with terms that are not in their binding domain. For this, Reinhart suggests that there is a competition between the definite description and a pronoun. The reason that (4b) does not allow a coreferent reading between the two occurrences of *the woman* is because (4a) is a "better" way of expressing that meaning.

- (4) a. The woman said that I would visit her.
 b. The woman said that I would visit the woman.

But unlike competitions with a reflexive, the competition in (4) cannot invoke the same Gricean chain of reasoning. (4a) does not unambiguously express coreference

between *the woman* and *her*, and therefore does not provide a superior way of communicating that reading relative to (4b). If there is a competition between (4a) and (4b), then it is on the basis of some other criterion.

A clue to what that criterion is might be gleaned from the relevance of *c*-command to Principle C. Because Principle C only prohibits coreference between two definite descriptions if one *c*-commands the other, we do not want the competition we are searching for in (4) to be present in (8) as well.

- (8) a. A man the woman met said that I would visit her.
 b. A man the woman met said that I would visit the woman.

While there is a preference for expressing coreference between the object of *visit* and *the woman* with (8a), (8b) still does not invoke the strong non-coreference effect found in (4b). If there is a competition between using a pronoun and using a definite description to express coreference, then it is not a competition with every pronoun. It is a competition only with pronouns that are *c*-commanded by the terms they corefer with.

Pronouns that are *c*-commanded by another determiner phrase are capable of having a different semantic relationship with that determiner phrase than mere coreference. They can be interpreted as variables bound to that determiner phrase. Thus, for instance, *her* can be a variable bound to *no woman* in (9a) but not (9b).

- (9) a. No woman said that I would visit her.
 b. A man no woman met said that I would visit her.

So one idea — and this is Reinhart’s — is that definite descriptions compete with bound variables. If that is correct, then what we need to understand is what that

competition is about, and why are bound variables the winners. I will adopt, but also modify, the way of characterizing this competition in Schlenker (2005).

2 Schlenker's Principle C

Schlenker's idea is animated by a variety of exceptions to Principle C. One of those is epithets, as the contrast in (10) illustrates.

- (10) a. * John₁ is so careless that the man₁ will get killed in an accident one of these days.
 b. John₁ is so careless that the idiot₁ will get killed in an accident one of these days.

(fashioned after Schlenker 2005, (3a): 386)

Another are cases of equation, or assertion, that Tanya Reinhart made famous. One of these is (11).

- (11) A: Who is that man over there?
 B: He is Colonel Weisskopf.

(from Grodzinsky and Reinhart 1993)

Note that names can be thought of as definite descriptions. The semantics of a name like *Colonel Weisskopf*, for instance, can be something with a meaning akin to *the one named Colonel Weisskopf*.³ I will treat names and DPs headed by *the* as both similar definite descriptions. Thus, names fall under Principle C, as the failure of coreference between the two *Sally*'s in (12) shows.

³ See Burge (1973) for this treatment and for evidence that proper names are syntactically definite descriptions, see Longobardi (1994). As a reviewer notes: I am passing over a lively literature debating this hypothesis.

(12) Sally said that I admire Sally.

(11), then, counts as an exception to Principle C.

And, finally, there are cases that Schlenker discovered. One of these is (13).

- (13) a. A linguist₁ working on Binding Theory was so devoid of any moral sense that he₁ forced a physicist [working on particles] to hire the linguist₁'s girlfriend in his lab.
- b. * A linguist₁ working on Binding Theory was so devoid of any moral sense that he₁ forced me to hire the linguist₁'s girlfriend in his lab.

(Schlenker 2005, (5): 387)

In each of these exceptional cases, Schlenker suggests that the NP part — the restrictor of the definite description — is adding useful information. This, he suggests, is why the disjoint reference effect associated with Principle C does not arise. In the case of epithets, for instance, the NP is adding expressive content. It is doing more than merely helping fix the referent of *the*. In the case of the equation in (11), the name is providing the answer to the question. And in (13), Schlenker argues that the NP, namely *linguist*, plays a disambiguating function in the first example that is absent in the second example.

His proposal, then, is that restrictors for DPs are disallowed unless they add information in a maximally minimal way. He formulates it, informally, this way:⁴

⁴ Schlenker cites Bolinger (1979) as an antecedent to this idea, and also mentions unpublished work by Barry Schein. A reviewer notes that MINIMIZE RESTRICTORS! says something close to the opposite of “Maximize Presupposition,” a condition Irene Heim devises to account for certain differences between indefinites and definites, and which Uli Sauerland has extended to a wider set of phenomena. (see Heim (1991) and Sauerland (2008a).) I will reformulate MINIMIZE RESTRICTORS! so that it is not an entirely pragmatically driven condition, taking it somewhat out of the orbit of Maximize Presupposition. Nonetheless, an interesting project would be to look at the interaction of these two conditions.

(14) Minimize Restrictors!

A definite description *the A B* [where order of *A* and *B* is irrelevant] is deviant if *A* is redundant, i.e. if:

- a. *the B* is grammatical and has the same denotation as *the A*, and
- b. *A* does not serve another purpose.

(Schlenker 2005, (13): 391)

As independent support for *Minimize Restrictors!*, Schlenker raises cases in which disjoint reference effects are not at stake, but instead only the informativeness of the NP part of a definite description is. One of these cases is in (15).

- (15)
- a. John's blond father has arrived.
 - b. John's blond brother has arrived.
 - c. John's idiotic father has arrived.

(Schlenker 2005, (12): 390)

In (15b), *blond* can be used restrictively. But it has only an appositive meaning in (15a), and in fact sounds a little odd, perhaps because this not a canonical position for an appositive in English nominals. This oddness is absent in (15c), where *idiotic* is a clear evaluative adjective. What is odd about (15a)? Schlenker suggests that it violates *Minimize Restrictors!*, since *blond* does not change what *John's blond father* refers to and does not seem to serve any other purpose. It is this, rather specialized sense, of “redundant” that is needed in (14).⁵

⁵ There are online processing effects which seem to support something like MINIMIZE RESTRICTORS! as well. Sedivy, Tanenhaus, Craig, and Carlson (1999) (and see Sedivy (2003)) shows that there is a delay in processing adjectives which do not contribute to fixing the referent of the DP they reside in.

If `MINIMIZE RESTRICTORS!` plays a role in generating Principle C effects, then we need to find a way of introducing this role into the competition scheme described in the previous section. Schlenker, who also adopts the Reinhart view of Principle C effects, suggests that `MINIMIZE RESTRICTORS!` is the judge of the competition between bound pronouns and definite descriptions. He takes a step towards this goal by making `MINIMIZE RESTRICTORS!` sensitive to the information provided by other material in a discourse, including the information provided by terms that *c-command* a definite description. This will make `MINIMIZE RESTRICTORS!` judge the minimality of the restrictor part of a definite description relative to the information about the referent of that definite description that is provided elsewhere. If the other term establishes the referent sufficiently well, then a definite description that refers to the same individual will almost always have more of a restrictor than necessary. This, then, is the source of Principle C effects on Schlenker's view. Only when the restrictor serves some other useful function, like those illustrated above, will `MINIMIZE RESTRICTORS!` allow it.

Schlenker decides to implement this idea by stepping back from the view that *c-command* is the relevant description of where Principle C effects arise. As a consequence, the competition his system describes is slightly different than the one I described in the previous section. It is not a competition between definite descriptions and bound pronouns. Instead of *c-command*, he decides to model Principle C effects with a relation definite descriptions have with terms that have been made prominent in the discourse. He defines an algorithm for determining when terms are prominent in a discourse, and then makes definite descriptions get evaluated by `MINIMIZE RESTRICTORS!` with respect to these prominent terms. His algorithm is dynamic. It traverses phrase markers and raises and lowers the prominence of the

terms it parses as it goes through phrase the marker. This is formulated in such a way that terms which are prominent when a definite description is parsed include those that *c*-command that definite description. In this way, Schlenker builds in the *c*-command requirement that Principle C references. Thus, the competition that Schlenker's system describes is one that pits definite descriptions against terms with less of a restrictor when that definite description refers to something that a prominent item refers to. He also assumes that pronouns have less of a restrictor than full definite descriptions, an assumption we will revisit shortly. Schlenker's Principle C, then, amounts to (16), coupled with MINIMIZE RESTRICTORS! .

- (16) Pronouns that refer to discourse-prominent individuals in some context, are more minimally restricted than are full definite descriptions in that context.

Why does Schlenker back away from using *c*-command directly in modeling Principle C? There are effects which superficially resemble Principle C effects but do not involve *c*-command, and Schlenker wishes to capture these as well. Two of these that he discusses are in (17).

- (17) a. *Context*: A professor and her Teaching Assistant are grading a late exam together. After both of them have looked at some length at the exam, the professor says:
- i. ? The student should pass.
 - ii. He should pass.
- b. *Context*: I have just test-driven a car. While still in it, I say:
- i. ? The car drives well.
 - ii. It drives well.

(Schlenker 2005, (24) & (25))

The contexts in these examples make prominent a student and a car, and in each case, referring to that salient object with either the full definite description or the pronoun should be licit. And yet, there is a preference for using the pronoun. If the competition that MINIMIZE RESTRICTORS! judges is between expressions that refer to prominent terms, then MINIMIZE RESTRICTORS! would correctly apply here and favor the pronoun.

I do not know what is going on in (17), but I believe it isn't the same thing that lies behind Principle C effects. First, it is noteworthy that the effect in (17) is considerably weaker than the effect in a typical illustration of Principle C. The contrasts in (17) are very subtle indeed, whereas the contrast in (4) is sharp. Moreover, it is possible to mitigate the effect in examples like (17) in ways that do not alleviate Principle C effects. I believe, for instance, that the contrast in (17) disappears when the definite description is a name. I find no contrast in (18).

- (18) *Context:* A professor and her Teaching Assistant are grading an exam turned in late by Tom. After both of them have looked at some length at the exam, the professor says:
- a. Tom should pass.
 - b. He should pass.

But names produce just as strong a Principle C effect as other definite descriptions; compare (18) with (19). (I use matching subscripts on two DPs to indicate that the two DPs should be understood as coreferent.)

- (19) a. * The woman₁ said that I liked Nancy₁.
- b. * Nancy₁ said that I liked Nancy₁.

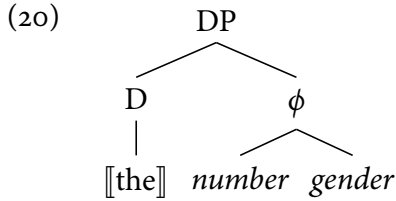
I do not think we should classify the contrasts in (17) as the same thing that underlies Principle C effects.

For this reason, I will not pursue Schlenker's implementation of his idea. Instead, I will explore the idea that MINIMIZE RESTRICTORS! judges just bound pronouns to be better than definite descriptions, when they are used to refer to the same thing, and that this has to do with their syntax. I will take *c*-command to be relevant, then, in what produces Principle C effects. This means we must see how pronouns and definite descriptions differ in the material they contain in their restrictor, since this is what MINIMIZE RESTRICTORS! cares about. To do that requires a closer look at pronouns.

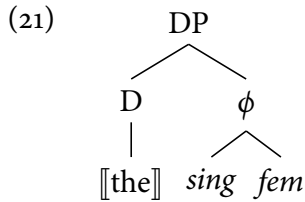
3 The Restrictors of Pronouns

The restrictor part of a pronoun is expressed by its person, number and gender features: its ϕ -features. For the number and gender features, a commonplace idea is that these denote predicates of individuals. Because unbound pronouns have a use that is very close to that of definite descriptions — like definite descriptions they refer to the unique salient individual in their context of use that satisfies the description provided by their restrictor — one popular view is that pronouns simply are definite descriptions with ϕ features serving as a restrictor.

Here is a way of doing that which is modeled loosely on Postal (1969) and Elbourne (2005b). Let pronouns have the shape indicated in (20).



If we credit $\llbracket \text{the} \rrbracket$ with causing these expressions to refer to unique individuals in a salient event, we can account for the similarity in use that definite descriptions and unbound pronouns have. We must also cause $\llbracket \text{the} \rrbracket$ to let the features in ϕ express presuppositions regarding the referent picked out by $\llbracket \text{the} \rrbracket$. The syntax and semantics of *she*, then, might go as (21) indicates.⁶



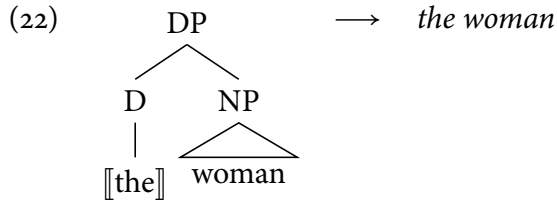
$\llbracket \text{sing} \rrbracket = \lambda x x$ has no more than one atom

$\llbracket \text{fem} \rrbracket = \lambda x x$ the atoms in x are female

$\llbracket (21) \rrbracket =$ the unique individual x whose atom is a female

Let's now consider how the morphological form of pronouns arises from representations like these. Assume that $\llbracket \text{the} \rrbracket$ is also the determiner in a definite description. In those contexts, we want $\llbracket \text{the} \rrbracket$ to be spelled out as *the* followed by the contents of NP that completes the definite description.

⁶ As long as we only consider the singular number feature, we can treat this feature as a predicate. But this won't work for the plural number feature. See Sauerland (2003, 2008b), Rullmann (2004), Kratzer (2009) and references cited therein.



So we need to let the D whose denotation is $\llbracket\text{the}\rrbracket$ map onto the word *the*.

(23) Insert *the* into a D^0 with denotation $\llbracket\text{the}\rrbracket$

For the representations like (20), however, we need to suppress *the* in favor of a personal pronoun. This can be achieved by letting personal pronouns be mapped onto the $\llbracket\text{the}\rrbracket + \phi$ pair — the DP, in (20) — and giving English no vocabulary item to express ϕ alone. If we adopt the view that every terminal in a syntactic representation must have an exponent in the morphology, then this will have the effect of preventing the mapping of $\llbracket\text{the}\rrbracket$ onto *the* by forcing the mapping of $\llbracket\text{the}\rrbracket + \phi$ onto a personal pronoun. In addition to (23), then, let's adopt (24).⁷

(24) a. Insert *she, it, they,...* into a DP containing $\llbracket\text{the}\rrbracket$ and matching ϕ .

b. *Principle of Full Interpretation*

Every terminal must be morphologically expressed.

This gives a description of how pronouns with gender and number features are constructed. There is some reason to think that pronouns with person features are built differently. Note, first, that the pronouns with gender and number features I have discussed above have not been given a person feature. This expresses the generalization that third person is the default feature: it arises when there is no person specification. The two person features in English, then, are first and second. I will

⁷ The Principle of Full Interpretation is the name Chomsky (1995) uses for a condition of the sort I am interested in.

follow Kratzer (2009), and treat first and second person features as expressions that refer to individuals. (c is a variable over contexts.)

- (25) a. $\llbracket 1^{st} \rrbracket^c = \text{the speaker(s) in } c$
 b. $\llbracket 2^{nd} \rrbracket^c = \text{the addressee(s) in } c$

(see Kratzer 2009, section 5)

On this view, then, the syntactic representation of, for instance, *me*, would be (26).

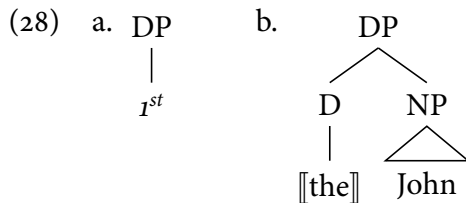
- (26) DP
 |
 1^{st}

This treatment of person features gives us a handle on another example in Schlenker's paper, one that he used to support the hypothesis that Principle C effects make reference to prominent terms. He assumed that the speaker and hearer in a linguistic context are salient, and that *Minimize Restrictors!* (aka Principle C), therefore makes the use of the definite descriptions in (27) ungrammatical.

- (27) Context: John is speaking to Mary.
- a. # John is happy.
 - b. I am happy.
 - c. # Mary is happy.
 - d. You are happy.
 - e. # John's mother is happy.
 - f. My mother is happy.
 - g. # Mary's mother is happy.
 - h. Your mother is happy.

(adapted from Schlenker 2005, (20): 394)

Under this view of first and second person pronouns, however, we can see that MINIMIZE RESTRICTORS! could (in principle) apply without any need to refer to prominence. Because this context gives to *John* and *I* the same referent, we could imagine that MINIMIZE RESTRICTORS! will make the two representations in (28) compete.⁸



Of these two, (28a) has less of a restrictor, and therefore wins.

As Schlenker formulates MINIMIZE RESTRICTORS!, it would not apply to the pair in (28) in the way I have just described. His version compares a DP to other versions of itself, and what is needed for (27) is a way of comparing one DP to another. This is the goal of my reformulation in (29).

(29) Minimize Restrictor!

A DP of type $\langle e \rangle$ is deviant if it contains an expression A, of type $\langle e, t \rangle$ that is redundant.

- a. A is redundant if there is an alternative DP without A, and
- b. A serves no other purpose.

A DP, α , is an alternative to another DP, β , if α could replace β and refer to the same individual that β does.

⁸ A reviewer notes that another attack on the contrasts in (27) would involve using Maximize Presupposition in the way sketched in Sauerland (2008a).

Unlike Schlenker’s *MINIMIZE RESTRICTORS!*, *MINIMIZE RESTRICTOR!* (note the slight name change), is not a strictly pragmatic condition. Schlenker’s condition expresses something like Grice’s maxim of Quantity. It allows a DP to contribute no more semantic content than the semantic context it is in requires. *MINIMIZE RESTRICTOR!*, by contrast, is a more syntactic condition. It looks not at semantically or pragmatically defined contexts, but at syntactically defined ones. And in ranking the DPs that are allowed in that syntactically defined position, the only pragmatic ingredient is the part expressed by (29b).

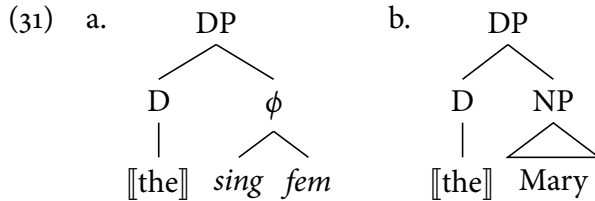
Consider how *MINIMIZE RESTRICTOR!* applies to (27b). Because (28a) can replace (28b) in (27b) and still refer to John, it is an alternative to (28b). For (27b) to satisfy *MINIMIZE RESTRICTOR!*, the NP containing *John* will have to serve some purpose. The only purpose it could serve here is providing the name for John. But that is possible only if the speaker of (27b) assumes the hearer does not know what his name is. Of course, in that case (28b) would be a particularly bad way of referring to John. There is, therefore, no sensible purpose for speaking *John* in this context, and *Minimize Restrictor!* chooses (28a) over (28b).

With this reformulation of *MINIMIZE RESTRICTORS!*, and a picture of how pronouns are built, let’s now reconsider how Principle C effects might be generated.

Consider first the sentences in (30).

- (30) a. Mary’s₁ son thought Mary₁ was great.
 b. Mary’s₁ son thought she₁ was great.

There is no Principle C effect in (30a), and so we can conclude that there is no contest between the pronoun in (30b) and the name in (30a). When we look at these two DPs, we see that they each contain a predicate that the other does not.



Does that make MINIMIZE RESTRICTOR! favor one over the other? Not if we understand the “serve a purpose” clause in (29b) to include allowing the DP a restrictor is in to refer to the relevant individual. Imagine, for instance, pitching (31a) against (31b). If (31a) refers to the same individual that (31b) does, then it will be an alternative to (31b). Because the NP part of (31b) (i.e., *Mary*) is not found in (31a), it will have to serve a purpose or violate MINIMIZE RESTRICTOR!. Its purpose, however, is to allow (31b) to refer to *Mary*. Without its restrictor, (31b) does not refer to the individual that (31a) does. We should therefore not expect *Minimize Restrictor!* to favor one of the other of the DPs in (31), since without their restrictors neither of these DPs will be an alternative to the other.

In general, then, MINIMIZE RESTRICTOR! is not too sensitive to the semantic content of the restrictors involved. If they serve a non-redundant role in letting the DP they are in refer, then they will pass MINIMIZE RESTRICTOR!. Alternations like (32), then, will be allowed.

- (32) *Context:* Jane and The woman are looking at a pair of men across the cafeteria.
 The woman says to Jane:
- a. I think the tall one is more your type than mine.
 - or*
 - b. I think the ugly one is more your type than mine.

With either (32a) or (32b), The woman can be referring to the same man. *Minimize Restrictor!* doesn't care if he's tall or ugly. Either are parsimonious ways of describing the individual under consideration.

This is the reason, then, that third person pronouns do not compete with full definite descriptions. They both have necessary restrictors. To produce Principle C effects, we need to see why pronouns do compete with full definite descriptions when they are bound. This is the context in which Tanya Reinhart suggested Principle C effects arise.

Before doing that, we should note that it is not always the case that definite descriptions cannot corefer with terms if a pronoun in their position could be construed as a variable bound by that term. Indeed, (30) is one such case. There is no Principle C effect in (33a), even though a pronoun in the position that the second occurrence of *Mary* occupies could be interpreted as a variable bound by something that stands in the position that the first occurrence of *Mary* stands in (as (33b) shows).

- (33) a. Mary's son thinks that Mary is great.
 b. No woman's son thinks that she is great.

Presumably the pronoun in (33) is able to be bound by *no woman* because the scope of *no woman* is wider than its surface position would suggest. Or perhaps the pronoun in (33b) is able to be interpreted as a variable through the same mechanism that allows the pronoun in (34) to be so interpreted.

- (34) Everyone who drove a Chevette wanted to return it.

What this, and other examples show, is that it isn't just any bound variable pronoun that MINIMIZE RESTRICTOR! favors over a full definite description. Instead, it

seems to be just those pronouns which are interpreted as bound by a term in a c-commanding surface position that compete with full definite descriptions.

The relation “c-commanded by a term in a surface position” is one that we find in the literature on agreement. Agreement allows a term to sit in one syntactic position but get expressed morphologically on a term in another position. Tense in English, for instance, is expressed morphologically on main verbs under “agreement,” and this agreement relation is constrained by c-command. Tense may only get expressed on verbs that it c-commands from its surface position. Let’s use the relation defined in (35) to express agreement.⁹

(35) α can AGREE with β iff:

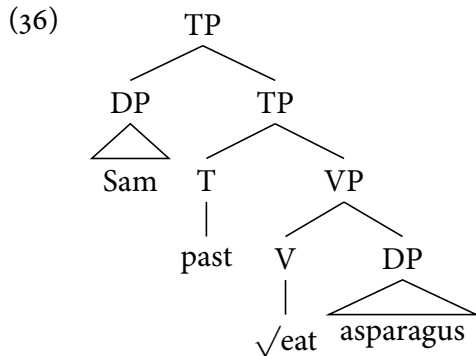
- a. The position α is pronounced in c-commands the position β is pronounced in, and
- b. α and β are allowed to host the same features, but only one of them does, and
- c. There is no γ , such that α could AGREE with γ and γ could AGREE with β , that lacks the feature which AGREE links between α and γ .

α AGREES with β if the features absent on one of them are read off of the features present on the other.

Note that this conception of AGREE does not have it copy a feature from one term to another, or pass values from one feature set to another. The features always reside just in the terms that bring them into the representation. What AGREE does is allow a feature residing in one term to be construed as part of another term.

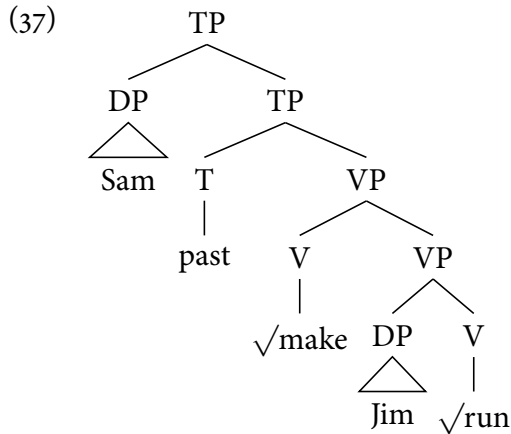
⁹ Compare Pesetsky and Torrego (2007).

To see how this works, consider the simple case of tense agreement illustrated by (36).



“√eat” represents the root of the verb that, in this case, gets pronounced as *ate*. Assume that verbs in English can host the tense feature, and also assume that the Principle of Full Interpretation requires that *past* have a morphological exponent. For the verb in (36) to be matched to a lexical item, then, it will have to have access to the past tense feature in T. This will allow it to be matched to the lexical item *ate*. AGREE can hold between T and V, since c-command holds, they are both allowed to host the tense feature, and there is no intervening term that can AGREE. Moreover, AGREE does hold, thereby allowing the missing past feature on √eat to be accessed when matching V to *ate*.

Consider, by contrast, the case in (37).



As with (36), the Principle of Full Interpretation will force T to AGREE with some verb so that it gets morphologically expressed. In this case, that V is the one containing $\sqrt{\text{make}}$ and not $\sqrt{\text{run}}$. The reason $\sqrt{\text{run}}$ cannot express *past* is because there is another term, namely $\sqrt{\text{make}}$, that can AGREE with $\sqrt{\text{run}}$, and which T can agree with, that does not bear the *past* feature. (35c) prevents agreement from holding across intervening things than can be the targets for AGREE, and that is would happen if T and $\sqrt{\text{run}}$ AGREE in (37).

I suggest that AGREE is involved in forming the pronouns that compete with definite descriptions in the way that Principle C describes. I'll begin by showing how AGREE can play a role in forming pronouns that have no restrictor — what Angelika Kratzer calls “minimal pronouns.” Because of how AGREE works, these minimal pronouns will only appear in those environments where we find that definite descriptions trigger Principle C effects. Once that is done, we'll return to how MINIMIZE RESTRICTOR! produces those effects.

3.1 *Minimal Pronouns*

There is evidence that the ϕ features on a pronoun can be expressions of material elsewhere in the same way that main verbs express tense in English. That is, ϕ features on pronouns can come by way of AGREE. One place where this evidence arises is in the case of fake indexicals, like that illustrated in (38).¹⁰

- (38) I'm the only one around here who can take care of my children
(Kratzer 2009, (1):188)

This has an interpretation paraphrasable by “For all x , if x can take care of x 's children, then x is me.” We need to let *my* be a variable that ranges over individuals that aren't the speaker, it seems, and this is at odds with the first person feature it seems to contain. A solution pursued in Kratzer (1998) is to let the person feature on bound pronouns like *my* in (38) have no semantic value, and instead only contribute to how the pronoun is spelled out. She develops a system in which pronouns can be expressed as bare referential indices, and when those bare indices are bound, they can inherit feature values from the term that binds them.¹¹ This is essentially what I wish to allow for the cases of bound pronouns that create the competition which results in Principle C.¹²

We'll need to add to our system the mechanism by which pronouns get a bound variable interpretation. I will adopt the commonplace view that this is done by letting

¹⁰ This example is modeled after one in Partee (1989).

¹¹ There are many difficulties in getting this approach to fake indexicals to work out, and all of them are relevant to the project I describe here. I have tried to produce a system that is close enough to Kratzer (2009) that I can inherit many, maybe all, of her solutions to those difficulties.

¹² For other ways of expressing bound first and second pronouns, see Kratzer (2009), Rullmann (2004), Stechow (2003), Heim (2008), and Schlenker (2004). I will talk as if the features accessed through AGREE by bound pronouns are on their antecedents, but Kratzer (2009) makes a compelling case that the features are on verbal heads instead. (See also Kratzer (2004) and Adger and Ramchand (2005).)

DPs have a referential index, represented with arabic numerals. When one DP is interpreted as a variable bound by another, they both have the same referential index. I will assume, somewhat less conventionally, that referential indices have no other interpretation than binding. If a DP contains a referential index, then it is a binder or a bindee. The index will get a different interpretation depending on which DP it resides in. In the binding DP, it sets up the binding relation; in the bound DP, it provides the variable that is bound. In the pronoun that contains an index, then, it will provide the variable.

There are different ways of implementing this.¹³ For concreteness, I will assume that pronouns which contain an index can contain nothing else — neither $[[\text{the}]]$ nor ϕ features. This might follow from how features are semantically interpreted. Kratzer (2009) suggests that if an index were to combine with person or number features, we might expect the predicates that person and number features denote to be saturated by the index, since the index refers to an individual. This would give us something of the wrong semantic type. If an index were to be semantically combined with a person feature, then we would need a way of combining two things that refer to individuals (see below), and we might reasonably expect that the armory of semantic composition rules would not provide the right means for doing that.¹⁴

In order to derive Principle C effects from MINIMIZE RESTRICTOR!, it is necessary to force those pronouns which get access to ϕ features from some other DP to be bound to that DP. One way of doing this would be to treat indices as features as

¹³ See Heim and Kratzer (1998) for my model.

¹⁴ See Kratzer (2009) for more discussion of this scenario. This discussion presupposes Kratzer's interesting proposal that semantic composability can be a constraint on which combinations of features can be found on one term. Note that taking the *plural* feature to be a predicate would not work under these assumptions. see note 6.

well, thereby making them susceptible to the AGREE relation. This would allow us to place a condition on AGREE like that in (39).¹⁵

- (39) Let \mathbb{F} and \mathbb{F}' be features of the same type (e.g., gender, number, index) contained by \mathbb{T} and \mathbb{T}' respectively. If \mathbb{T} and \mathbb{T}' AGREE, then \mathbb{F} and \mathbb{F}' must be the same.

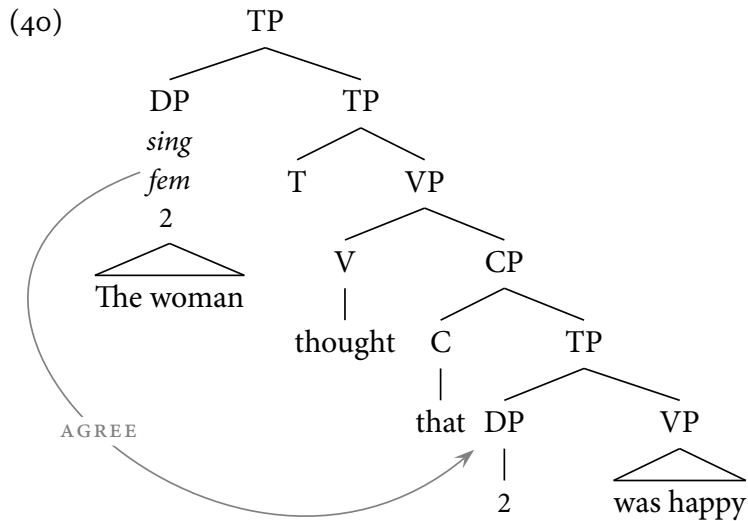
This will force a pronoun that AGREES with another DP in order to access its ϕ features to have the same index that DP has.

We can now see how this system would let ϕ features be accessed by a bound pronoun under agreement. If we (dare) set aside the details of how the features in the binding DP are represented (and interpreted), we can see how this works by considering (40).

¹⁵ A reviewer points out that (39) presupposes that a pronoun can AGREE with only one other term, and that there are examples which might threaten that assumption. The reviewer raises (ia), and (ib) is based on Rullmann (2004, (9d): 163). (These examples are first broached in Partee (1989), and discussed in Heim (2008) and Kratzer (2009).)

- (i) a. Every man told his girlfriend that they were going to get married.
 b. Every man I date wants us to get married.

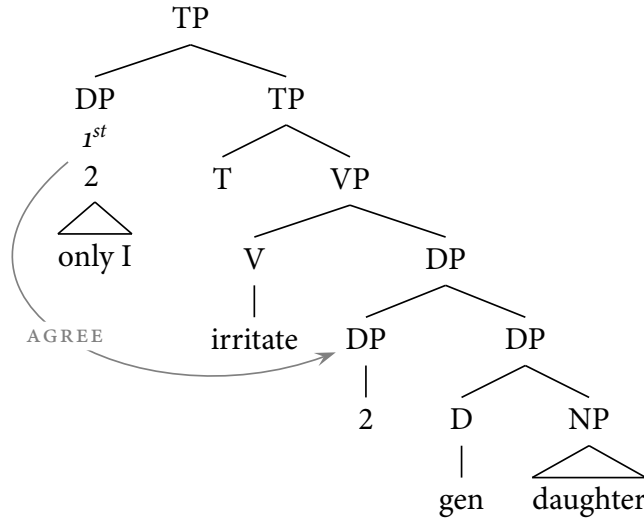
In (ia), *they* can be a variable that ranges over the pluralities picked out by *every man* and *his girlfriend*. In (ib), *us* can vary with *every man* and *I*. These examples need a way of capturing the bound variable readings of these pronouns, but the problem they might pose for (39) would arise if their ϕ features came by way of AGREE. The meaning of the pronoun in (ib) is consistent with it being built from $[[\text{the}]]$, and so with its own ϕ features and without an index. To get it to act as a variable, we'd have to employ the machinery that gives e-type pronouns their interpretation. The assumption I've adopted for first person features wouldn't allow that analysis of (ib), however. And so, some extension to my proposals is needed here. See Kratzer (2009, section 5) for some ideas.



The pronoun in (40) comes with just the index 2. It needs ϕ features to be pronounced however, because all personal pronouns express ϕ features. Those ϕ features are provided by AGREE, which gives this pronoun access to the features in the DP *the woman*. These ϕ features will not be part of the semantic interpretation of the pronoun. They are only accessed for the purposes of choosing the pronoun to insert into the position occupied by [_{DP} 2].

Together, then, these factors allow third person pronouns to lack ϕ features just in those cases where they are bound and can AGREE. The situation is entirely parallel to how the cases of first and second person pronouns work under Kratzer (1998). Consider, by way of illustration, (41).

(41) Only I irritate my daughter =



As with the third person pronoun, the minimal pronoun in (41) is built with just an index. It will get interpreted by the binding rule as a variable. Without AGREE, however, it will not be pronounceable, since personal pronouns can be inserted only into positions with ϕ features. In this case, the requisite ϕ feature is 1st person, provided by AGREE with the subject DP. As noted above, this feature cannot be part of the semantic interpretation of the genitive pronoun, and this allows the variable to range over individuals that are not the speaker.¹⁶

What I have done, then, is import roughly the system for fake indexicals found in Kratzer (1998) to cases of third person pronouns. In Kratzer (2009), she shows that there is a locality condition on fake indexicals that mimics that found for reflexives. That locality condition does not show up for the minimal third person pronouns that this paper requires. Kratzer suggests that first and second person features have a privileged relationship with the voice head that builds verbal predicates, and ties

¹⁶ This means that whenever a first or second person pronoun is bound, it ranges over unrestricted individuals (i.e., is a fake indexical). When *only I irritate my daughter* gets an interpretation in which *my* refers just to the speaker, it does not have a variable, but is built instead from the 1st person feature.

this to the locality condition found for fake indexicals. If that is correct, it provides a way of building a more complete system of minimal pronouns than is provided here, one that explains the different locality conditions on minimal pronouns that Kratzer discusses.

3.2 *Minimize Restrictor!* + *minimal pronouns* = *Principle C*

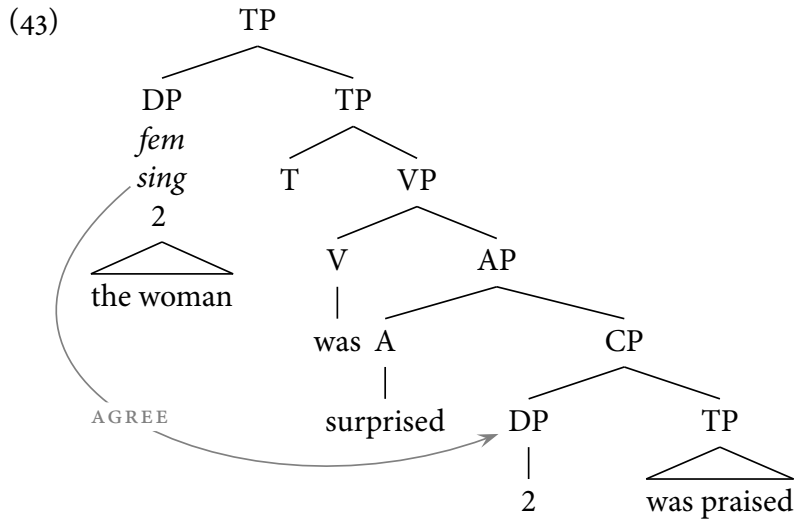
The existence of minimal third person pronouns provides the competitor that MINIMIZE RESTRICTOR! favors in contexts where Principle C effects materialize. To see this, consider the Principle C violation in (42).

(42) The woman was surprised that the woman was praised.

This will violate MINIMIZE RESTRICTOR! if the second occurrence of *the woman* can be replaced by an alternative DP that refers to the same individual that *the woman* does but has less of a restrictor than does *the woman*. If the second occurrence of *the woman* doesn't refer to the same individual that the first occurrence of the *the woman* does, then there will be no such alternative DP. All the alternatives will contain a restrictor which, like *woman*, allows it to refer.

But if the second occurrence of *the woman* refers to the same individual that the first occurrence of *the woman* does, then there is an alternative DP that MINIMIZE RESTRICTOR! favors. This alternative DP is the bound minimal pronoun shown in (43).¹⁷

¹⁷ Note, then, that the bound pronoun in (43) is expressing coreference.



For this reason, (42) violates MINIMIZE RESTRICTOR! when the two occurrences of *the woman* refer to the same individual, but is grammatical otherwise. This happens whenever a definite description is coreferent with something that c-commands it from its surface position, since those are the situations in which the alternative DPs for that definite description include a minimal pronoun. This is what Principle C describes.

4 Evidence from Vehicle Change

There is an interesting fact about the misbehavior of Principle C in ellipsis contexts that follows if Principle C derives from MINIMIZE RESTRICTOR!. This behavior might then be seen as evidence for this approach.

Definite descriptions do not obey Principle C when they have undergone Ellipsis. This is illustrated by (44) and (45).

- (44) a. Mary likes John₁'s children and, of course, John₁ does Δ too.
 b. * Mary likes John₁'s children and, of course, John₁ likes John₁'s children too.
 c. \approx Mary likes John₁'s children and, of course, John₁ likes his₁ children too.
- (45) a. I know that Mary likes the guy₁ over there, but don't tell him₁ that she does Δ .
 b. * I know that Mary likes the guy₁ over there, but don't tell him₁ that she likes the guy₁ over there.
 c. \approx I know that Mary likes the guy₁ over there, but don't tell him₁ that she likes him₁.

The *Johns* in (44a) can corefer and the two instances of *the guy* in (45a) can refer to the same individual too. If the VPs that have elided in these constructions had to match the antecedent VPs exactly, we might expect them to be equivalent to (44b) and (45b), where that is not true. In (44b) and (45b), there is a Principle C effect between the two occurrences of *John* and the two occurrences of *the guy*. It appears, then, that the ellipsis in (44a) and (45a) has licensed a violation of Principle C.

Definite descriptions still invoke disjoint reference effects when they are in an ellipsis. But they do so in a way that conforms to Principle B, as (46) indicates.

- (46) * Mary admires John₁, but not as much as John₁ does Δ
compare:
 * Mary admires John₁, but not as much as John₁ admires John₁.
 * Mary admires John₁, but not as much as John₁ admires him₁.

The account of this effect offered by Fiengo and May (1994), where it was first uncovered, is to let an ellipsis contain a coreferent pronoun in place of a definite description in the antecedent. The elided VPs in (44a) and (45a) would match those spoken in (44c) and (45c) on this view. Fiengo and May (1994) suggest that this is because the antecedence condition on ellipsis allows pronouns and definite descriptions that refer to the same thing to be treated as equivalent. Merchant (1999) formulates a general antecedence condition on ellipsis that derives this effect. Fiengo and May (1994) dub this process “Vehicle Change.” On this approach, the key to the effect is how tight a match the syntax of an elided phrase must have with its antecedent. If the antecedence conditions on ellipsis can be loosened so that a definite description matches a coreferent pronoun, then the effects of vehicle change will be explained.

The antecedent conditions on ellipsis are something of a mystery. There is some evidence that suggests that an ellipsis need not match exactly its antecedent, and this supports a Vehicle Change account. For instance, Webber (1978) and Hardt (1993) discuss examples like (47).

(47) Sam wants to play Bach and Mary wants to play Stravinsky, but they can't Δ .

What's elided in (47) is something like *play Bach or play Stravinsky*, which matches neither of the VPs that could serve as antecedent. On the other hand, there is evidence that an ellipsis must match rather perfectly its antecedent. An example of this sort discussed by Chung (2007) is (48).

(48) * Sam is ashamed but I don't know who Δ

compare:

(48') Sam is ashamed but I don't know of whom Δ .

In (48) a clause has elided that contains a trace left by moving *whom*. As (48') indicates, this trace counts as identical to the implicit object of *ashamed* in the antecedent. The difference between (48) and (48') that is responsible for the ungrammaticality of (48) is that the preposition *of* must have elided in (48) but not (48'). There is no *of* in the antecedent, however, and so the ellipsis fails. Chung concludes that the antecedent conditions on ellipsis require that the lexical items which make up the elided material must all be found in the antecedent. In the face of examples like Chung's, Vehicle Change seems to require too permissive an antecedent condition on ellipsis.

If there was independent evidence that a definite description in an antecedent for an ellipsis could be matched by a coreferent pronoun in the ellipsis, then we could see Vehicle Change as another example suggesting that an ellipsis need not be exactly identical to its antecedent. It is difficult to manufacture examples that would provide such evidence, however. One possible environment where a test case might be manufactured involves sloppy anaphora in e-type pronoun contexts.¹⁸ E-type pronouns, like those in (49), can be sloppily bound in ellipsis contexts.

- (49) If a cop meets a drug addict, he'll arrest him, but if a cop meets an arms manufacturer, he won't Δ .

What's elided in (49) can be *arrest him*, with the *him* referring to the arms manufacturer. The same is true of the fully articulated version of (49), as long as the *arrest him* part is de-accented.

- (50) If a cop meets a drug addict, he'll arrest him, but if a cop meets an arms manufacturer, he won't *arrest him*.

NB: material in *italics* is deaccented

¹⁸ See Tomioka (1999).

The examples in (51) have a similar sloppy interpretation, though they involve definite descriptions — epithets — instead.

- (51) a. If a cop meets a drug addict, he'll arrest the idiot, but if a cop meets an arms manufacturer, he won't *arrest the idiot*.
- b. If a cop meets a drug addict, he'll arrest the idiot, but if a cop meets an arms manufacturer, he won't *arrest him*.

We can test the existence of Vehicle Change, then, by determining which of (51) serves as the source for the ellipsis in (52).

- (52) If a cop meets a drug addict, he'll arrest the idiot, but if a cop arrests an arms manufacturer he won't Δ .

Judgements, unfortunately, do not seem to be clear. The trend among my informants tends towards giving (52) the interpretation that (51b) has. That is, (52) tends to be understood as calling the arms manufacturer an idiot. This suggests that what has elided here is not a pronoun, but instead *the idiot*. It goes against Vehicle Change. This is too weak an effect to rest any weight on, but perhaps these examples provide a model for ones that will provide clearer evidence.

If it should turn out that the antecedent conditions on ellipsis are stringent enough to prevent Vehicle Change, then the absence of Principle C effects in examples like (44) could be construed evidence for Schlenker's proposal. Suppose that the antecedent conditions on ellipsis result in (53).

- (53) All definite descriptions in an antecedent, α , must be exactly reproduced in an ellipsis that takes α as its antecedent.

And consider how MINIMIZE RESTRICTOR! would apply to (44a).

(44a) Mary likes John₁'s children and, of course, John₁ does ~~like John₁'s children~~ too.

The occurrence of *John*₁ within the ellipsis is in a position that a minimal pronoun can be, and a minimal pronoun in that position will also refer to John. For this reason *MINIMIZE RESTRICTOR!* would normally favor the minimal pronoun, and the usual result is a violation of *MINIMIZE RESTRICTOR!*. But in an ellipsis context, a minimal pronoun cannot be used because the antecedent conditions on ellipsis — the condition that enforces (53) — will not permit it. *Minimize Restrictor!* only favors minimal pronouns where they are available, but one isn't here, and so *John*₁ is the least restricted term available. *Minimize Restrictor!* is satisfied, and no Principle C effect arises.

Principle B effects are still expected in ellipsis contexts because the Gricean chain of reasoning sketched in the introduction still applies. If the speaker of (46) wishes to communicate that the person John admires is John, then (46) is not the least ambiguous way of indicating that.

(46) Mary admires John, but not as much as John does Δ .

The sentence in (54) is better.

(54) Mary admires John, but not as much as John admires himself.

The Gricean chain of deductions thereby leads to construing (46) in a way that does not allow the two occurrences of *John* to corefer.

This is just a sketch of an argument. For it to be complete requires getting a better account of the antecedent conditions on ellipsis. But if the antecedent conditions

on ellipsis should turn out to be strict enough to ensure (53), then the absence of Principle C effects in ellipsis contexts is just what *Minimize Restrictor!* would predict.

5 Consequences for Acquisition

We are now in a position to address the question of what is involved in acquiring Principles B and C, and more particularly their difference. Acquiring Principle B involves knowing that sentences with reflexives can unambiguously express coreference in certain contexts; and it requires understanding enough to know how to carry out the Gricean chain of deductions that lead to the conclusion that not using a reflexive in those contexts carries an implicit non-coreference message. Principle C involves an entirely different tool set. It requires knowing MINIMIZE RESTRICTOR!, and what the language permits as the set of alternative DPs which MINIMIZE RESTRICTOR! ranks. It requires, then, knowing how to express variables with minimal pronouns.

Some studies suggest that there is a delay in the acquisition of Principle B.¹⁹ In many of these studies, children seem to allow a Principle B violating interpretation for sentences such as (55) well into their fifth or sixth year.

(55) Kitty says that Sarah should point to her.

(from Chien and Wexler 1990)

Unlike adults, children in these studies can understand *her* to corefer with *Sarah*.

By contrast, the evidence about the acquisition of Principle C seems to indicate that

¹⁹ See Chien and Wexler (1987), Crain and McKee (1986), Deutsch and Koster (1982); Deutsch, Koster, and Koster (1986), Grimshaw and Rosen (1990), Hyams and Sigurjónsdóttir (1990), Koster (1984), Lust (1986), Crain and McKee (1986), McKee (1988), Sigurjónsdóttir, Hyams, and Chien (1988), Solan (1983, 1987), Otsu (1981), and many others. But see also Elbourne (2005a) and Conroy, Takahashi, Lidz, and Phillips (2009) for important caveats.

children master it quite early, as early as four years of age.²⁰ Which of the differences between Principles B and C are responsible for this disparity?

The account of Principles B and C sketched here fit best with the conclusions of Chien and Wexler (1990), who argue that what causes the delay in Principle B effects is acquiring the ability to engage the Gricean chain of deductions. The Reinhart-based account of Principle B is a pragmatic one. It requires that a child be able to deploy the meanings of sentences to draw inferences from their use. To know Principle B is to have acquired enough of the semantics/pragmatics interface to know how to use the denotations of sentences to convey meanings. By contrast, the account of Principle C that I have sketched here is essentially a syntactic one, and in this way differs from both Schlenker's and Reinhart's view. *MINIMIZE RESTRICTOR!* is a principle about how best to match syntactic forms to meanings. It requires a certain level of proficiency in constructing DPs and nothing else. One might view the difference in rates of acquisition of Principles B and C, therefore, as support for the kind of account of Principle C that *MINIMIZE RESTRICTOR!* provides. It divorces Principle C from Principle B and makes unsurprising that they would have different trajectories in their acquisition.

References

Adger, D. and G. Ramchand (2005). Merge and move: *Wh*-dependencies revisited. *Linguistic Inquiry* 36(2), 161–193.

²⁰ See Lust, Loveland, and Kornet (1980), Solan (1983), Crain and McKee (1986), McDaniel, Cairns, and Hsu (1990), Guasti and Chierchia (2000), and Kazanina and Phillips (2001).

- Bolinger, D. (1979). Pronouns in discourse. In T. Givón (Ed.), *Syntax and Semantics 12: Discourse and Syntax*, pp. 289–309. New York: Academic Press.
- Burge, T. (1973). Reference and proper names. *Journal of Philosophy* 70, 425–439.
- Chien, Y.-C. and K. Wexler (1987). Children's acquisition of reflexives and pronouns. *Papers and Reports on Child Language Development* 26, 30–39.
- Chien, Y.-C. and K. Wexler (1990). Children's knowledge of locality conditions in binding as evidence for the modularity of syntax and pragmatics. *Language Acquisition* 1(3), 225–295.
- Chomsky, N. (1981). *Lectures on government and binding*. Dordrecht, The Netherlands: Foris Publications.
- Chomsky, N. (1995). *The minimalist program*. Cambridge, Massachusetts: MIT Press.
- Chung, K.-S. (2007). Spatial deictic tense and evidentials in Korean. *Natural Language Semantics* 15(3), 187–219.
- Conroy, A., E. Takahashi, J. Lidz, and C. Phillips (2009). Equal treatment for all antecedents: How children succeed with principle B. *Linguistic Inquiry* 40(3), 446–486.
- Crain, S. and C. McKee (1986). The acquisition of structural restrictions on anaphora. In S. Berman, J.-W. Choe, and J. McDonough (Eds.), *Proceedings of North East Linguistics Society* 16, Amherst, Massachusetts, pp. 94–110. Graduate Linguistic Student Association.
- Deutsch, W., C. Koster, and J. Koster (1986). Children's errors in understanding anaphora. *Linguistics* 24, 203–225.
- Deutsch, W. and J. Koster (1982). Children's interpretation of sentence-internal anaphora. *Papers and Reports on Child Language Development* 21, 39–45.

- Elbourne, P. (2005a). On the acquisition of Principle B. *Linguistic Inquiry* 36(3), 333–365.
- Elbourne, P. D. (2005b). *Situations and Individuals*. MIT Press.
- Fiengo, R. and R. May (1994). *Indices and identity*. Cambridge, Massachusetts: MIT Press.
- Grimshaw, J. and S. T. Rosen (1990). Knowledge and obedience: The developmental status of the binding theory. *Linguistic Inquiry* 21(2), 187–222.
- Grodzinsky, Y. and T. Reinhart (1993). The innateness of binding and coreference. *Linguistic Inquiry* 24(1), 69–102.
- Guasti, M. T. and G. Chierchia (1999/2000). Reconstruction in child grammar. *Language Acquisition* 8, 129–170.
- Hardt, D. (1993). *Verb Phrase Ellipsis: Form, Meaning and Processing*. Ph. D. thesis, University of Pennsylvania.
- Heim, I. (1991). Artikel und definitheit. In *Semantik: Ein internationales Handbuch der zeitgenössischen Forschung*, pp. 487–535. Berlin: Mouton de Gruyter.
- Heim, I. (1998). Anaphora and semantic interpretation: A reinterpretation of Reinhart's approach. In O. Percus and U. Sauerland (Eds.), *The Interpretive Tract*(25), pp. 205–246. Cambridge, Massachusetts: MIT, Department of Linguistics.
- Heim, I. (2008). Features on bound pronouns. In D. Harbour, D. Adger, and S. Béjar (Eds.), *Phi Theory*, pp. 35–56. Oxford: Oxford University Press.
- Heim, I. and A. Kratzer (1998). *Semantics in generative grammar*. Malden, MA: Blackwell.

- Hyams, N. and S. Sigurjónsdóttir (1990). The development of “long-distance anaphora”: A cross-linguistic comparison with special reference to Icelandic. *Language Acquisition* 1(1), 57–94.
- Kazanina, N. and C. Phillips (2001). Coreference in child Russian: Distinguishing syntactic and discourse constraints. In A. H.-J. Do, Domínguez, and A. Johansen (Eds.), *Proceedings of the 25th Boston University Conference on Language Development*, Somerville, Massachusetts, pp. 413–424. Cascadilla Press.
- Koster, J. (1984). On binding and control. *Linguistic Inquiry* 15, 417–459.
- Kratzer, A. (1998). More structural analogies between pronouns and tense. In D. Strolovitch and A. Lawson (Eds.), *Proceedings of SALT VIII*, Cornell University, Ithaca, NY, pp. 92–110. CLC Publications.
- Kratzer, A. (2004). Telicity and the meaning of objective case. In J. Guéron and J. Lecarme (Eds.), *The syntax of tense*, pp. 389–423. Cambridge, Massachusetts: MIT Press.
- Kratzer, A. (2009). Making a pronoun: Fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40(2), 187–237.
- Longobardi, G. (1994). Reference and proper names. *Linguistic Inquiry* 25(4), 609–666.
- Lust, B. (1986). *Studies in the acquisition of anaphora: Volume 1. Defining the constraints*. Dordrecht.
- Lust, B., K. A. Loveland, and R. Kornet (1980). The development of anaphora in first language: Syntactic and pragmatic constraints. *Linguistic Analysis* 6, 359–391.
- McDaniel, D., H. S. Cairns, and J. Hsu (1990). Binding principles in the grammars of young children. *Language Acquisition* 1, 121–139.

- McKee, C. (1988). *Italian children's mastery of binding*. Ph. D. thesis, University of Connecticut at Storrs.
- Merchant, J. (1999). *The syntax of silence: sluicing, islands, and identity in ellipsis*. Ph. D. thesis, University of California, Santa Cruz.
- Otsu, Y. (1981). *Towards a theory of syntactic development*. Ph. D. thesis, Massachusetts Institute of Technology.
- Partee, B. (1989). Binding implicit variables in quantified contexts. In C. R. Wiltshire, R. Graczyk, and B. Music (Eds.), *Papers from the 25th Regional Meeting of the Chicago Linguistics Society, Part One*, Chicago Illinois, pp. 342–365. Chicago Linguistics Society: University of Chicago.
- Pesetsky, D. and E. Torrego (2007). The syntax of valuation and the interpretability of features. In S. Karimi, V. Samiiian, and W. K. Wilkins (Eds.), *Phrasal and Clausal Architecture: Syntactic Derivation and Interpretation*, pp. 262–294. Amsterdam: John Benjamins Publishing Company.
- Postal, P. M. (1969). On so-called 'pronouns' in English. In D. Reibel and S. Schane (Eds.), *Modern Studies in English*, pp. 201–244. Englewood Cliffs, New Jersey: Prentice-Hall.
- Reinhart, T. (1983). *Anaphora and Semantic Interpretation*. Chicago, Illinois: University of Chicago Press.
- Rullmann, H. (2004). First and second person pronouns as bound variables. *Linguistic Inquiry* 35(1), 159–168.
- Sauerland, U. (2003). A new semantics for number. In *Proceedings of SALT 13*, Cornell University, Ithaca, NY, pp. 258–275. CLC Publications.

- Sauerland, U. (2008a). Implicated presuppositions. In A. Steube (Ed.), *The Discourse Potential of Underspecified Structures*, pp. 581–600. Berlin, Germany: Mouton de Gruyter.
- Sauerland, U. (2008b). On the semantic markedness of Phi-features. In D. Harbour, D. Adger, and S. Béjar (Eds.), *Phi Theory*, pp. 57–82. Oxford: Oxford University Press.
- Schlenker, P. (2004). Person and Binding: A partial survey. *Italian Journal of Linguistics* 16(1), 155–218.
- Schlenker, P. (2005). Minimize restrictors! (notes on definite descriptions, condition C and epithets). In E. Maier, C. Bary, and J. Huitink (Eds.), *Proceedings of Sinn und Bedeutung*, Volume 9, pp. 385–416.
- Sedivy, J. C. (2003). Pragmatic versus form-based accounts of referential contrast: Evidence for effects of informativity expectations. *Journal of Psycholinguistic Research* 32(1), 3–32.
- Sedivy, J. C., M. K. Tanenhaus, G. C. Craig, and G. N. Carlson (1999). Achieving incremental semantic interpretation through contextual representation. *Cognition* 71, 109–147.
- Sigurjónsdóttir, S., N. Hyams, and Y.-C. Chien (1988). The acquisition of reflexive and pronouns by Icelandic children. *Papers and Reports on Child Language Development* 27, 97–106.
- Solan, L. (1983). *Pronominal Reference: Child Language and the theory of grammar*. Dordrecht: Reidel.

- Solan, L. (1987). Parameter setting and the development of pronouns and reflexives. In T. Roeper and E. Williams (Eds.), *Parameter Setting*, pp. 189–210. Dordrecht, The Netherlands: D. Reidel Publishing Company.
- Stechow, A. v. (2003). Feature deletion under semantic binding. In M. Kadowaki and S. Kawahara (Eds.), *Proceedings of the North East Linguistics Society*, Volume 33, Amherst, Massachusetts, pp. 377–403. Graduate Linguistic Student Association: University of Massachusetts at Amherst.
- Tomioka, S. (1999). A sloppy identity puzzle. *Natural Language Semantics* 7(2), 217–241.
- Webber, B. (1978). *A Formal Approach to Discourse Anaphora*. Ph. D. thesis, Harvard University.