Persons, Imposters, and Monsters

by

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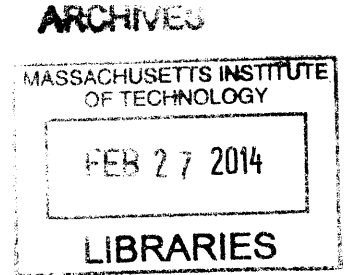in partial fulfillment of the requirements for the degree of

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Abstract

This dissertation is about person features, their representation and interpretation in natural language.

I will argue that there are several ways in which person features can be represented and interpreted. Most importantly, I will provide evidence for a kind of person features that are parts of referential indices of pronouns, constraining possible values that the assignment function maps the indices to (cf. Minor 2011, Sudo 2012). It is this particular way of representing person features that allows to postulate operators that manipulate the assignment in way that all pronouns with certain person features are affected.

Such operators, as I will demonstrate, do exist. They come in at least two varieties, *imposter operators* and *monster operators*.

Imposter operators manipulate the assignment by making all free 1st person indices (or all 2nd person indices) undefined in their scope, and when 1st or 2nd person indices are undefined 3rd person indices can be used instead. Building on the observations from Collins and Postal 2012, I will argue that we can interpret the 3rd person pronoun in sentences like *Yours truly's dissertation was filed a week before his birthday* as referring to the speaker because there is a silent imposter operator that suppresses 1st person indices in the domain that includes the imposter *yours truly* and the pronoun. Furthermore, it is due to the presence of the same operator that the 1st person pronoun and the 3rd person pronoun in sentences like *Yours truly filed his dissertation before my birthday* cannot be understood as coreferential.

Another likely candidate for a person-sensitive assignment-manipulating operator is the monster operator in Mishar Tatar (strictly speaking, it is not a Kaplanian monster, but I will use the term anyway). This operator is responsible for the fact that a subclass of indexical pronouns in this language may *shift* to denote the coordinates of the context embedded under an attitude predicate.

Thus, the dissertation contains two case studies: one on imposters in English (Chapter 1) and one on indexical shifting in Mishar Tatar (Chapter 2). The overall hope is to build a case in which possible interpretations of person pronouns can inform us about their syntactic representation.

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Contents

Chapter 1

The theoretical landscape of person features (a sketch)

There are two major case studies in this dissertation, one on *imposters* in English (Chapter 2) and one on *indexical shifting* in Mishar Tatar (Chapter 2). Both studies are concerned with environments in which pronominal person features get "affected" in certain ways. In the presence of *imposters* like *yours truly* 1st person pronouns may become undefined to the effect that 3rd person can be used instead (cf. *Yours truly$_i$ is afraid that his$_i$ dissertation might misrepresent his$_i$/*my$_i$ ideas*). In attitude reports in languages that have indexical shifting, 1st person pronouns can (and in some cases, even must) denote attitude holders, not the speakers. What these two cases potentially have in common is some semantic manipulation that is somehow targeted at pronouns with particular person features. We will see that at least "impostrous" domains in English and indexical shifting environments in Mishar Tatar should be analyzed in terms of person-sensitive assignment function manipulation, but before we get to this conclusion, we will need to have a short general discussion of person features.

The representation and interpretation of person features in natural language have been in the center of many debates in theoretical linguistics. In this introductory chapter, I am going to review some of the major views on the matter, mainly for a practical reason: to provide the necessary background for the two major case studies in the chapters to follow.

We will be mostly, although not exclusively, concerned with person features of pronouns. The two big questions that I will address are (1) how person features contribute to the interpretation of pronouns that carry them, and (2) what is the best way these person features can be represented in syntax for compositional semantics to work.

1.1   Person features as context coordinates

From the point of view of semantics, it seems intuitive to somehow link 1st and 2nd person features to the *speaker and hearer coordinates* of the context of utterance. The theoretical challenge concerns the precise way in which this link is established in natural language. The first idea that we will discuss is to make this link straightforward: person features just *denote* those coordinates.

1.1.1 Indexical semantics for *you* and *I*

The easiest way to get from 1st and 2nd person features to speakers and hearers would be to have the features denote those coordinates. Perhaps, all the semantics sees of 1st and 2nd person pronouns are their person features, and these features are interpreted relative to a context in the following way:

(1)   a. $[\![\, \phi{:}[\text{1st}] \,]\!]^{c,g,w} = s_c$, i.e. the speaker (the author) in context c.

     b. $[\![\, \phi{:}[\text{2nd}] \,]\!]^{c,g,w} = h_c$, i.e. the hearer (the addressee) in context c.
        cf. Kaplan 1977/1989, Kratzer 1998, 2009, Anand and Nevins 2004, Anand 2006

For our current purposes, *contexts* can be understood as triples consisting of a speaker, s, a hearer, h, and a world, w^1. Alongside with the assignment function, g, and the evaluation world, w, the context is a parameter relative to which the interpretation function $[\![\,]\!]$ maps linguistic expressions to their denotations.

The need for contexts as necessary parameters of evaluation, distinct from possible worlds (or world-time pairs), has been extensively argued for in Stalnaker 1970, Kaplan 1977/1989, Lewis 1980 etc. In fact, one of the arguments for contexts is the fact that there are expressions like *you* or *I* or *here* whose meaning is determined solely by the context of use. Such expressions are known as *indexicals*. The reliance on the context, as opposed to the world-time of evaluation, is what explains the difference in meaning between expressions like *I* and *the speaker*.

For example, the meanings of the two sentences below are obviously different (unless (2b) is uttered by John, who for some reason, decided to first cal himself by his name).

(2)   a.   Whenever John says something to Mary, Mary listens to the speaker.

     b.   Whenever John says something to Mary, Mary listens to me.

The difference is due to the fact that the noun phrase *the speaker* is evaluated with respect to a world-time pair that can get universally bound:

(3)   a. $[\![\text{ the speaker }]\!]^{c,g,\langle w,t \rangle}$ = the unique person who speaks in world w at time t.

     b. $[\![\, (2a) \,]\!]^{c,g,\langle w,t \rangle} = 1$ iff for all $\langle w',t' \rangle$ such that John says something to Mary in w' at t', Mary listens to the unique person who speaks in w' at t'.

The denotation of *I* doesn't have a world-time pair that could be bound. There is only a context that stays fixed[2]:

(4)   a. $[\![\, I \,]\!]^{c,g,\langle w,t \rangle} = s_c$.

     b. $[\![\, (2b) \,]\!]^{c,g,\langle w,t \rangle} = 1$ iff for all $\langle w',t' \rangle$ such that John says something to Mary in w' at t', Mary listens to s_c.

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[1]Arguably, contexts should also contain *times* (see, e.g., Kaplan 1977), but this is irrelevant for our discussion.

[2]For now, we can maintain the view that the context parameter is fixed to be the context of utterance and cannot be manipulated in any way, cf. Kaplan 1977/1989. In Chapter 3 we will see that this may not always be the case.

Indexical pronouns like *you* and *I* are also different from 3rd person pronouns in that 3rd person pronouns do not denote constants in a given context and may refer to the same individuals in contexts with different coordinates. For instance, in (5a), the pronoun *him* can refer to the same individual, say, John, whether the sentence is uttered by Bob or David. This is not the case with *me*. If (5b) is uttered by different individuals, *me* has to pick up different referents: David, if he is the utterer, Bob, if he is, etc.

(5) a. Whenever John says something to Mary, Mary listens to him.

   b. Whenever John says something to Mary, Mary listens to me.

3rd person pronouns denote variables that are interpreted by the assignment function. The assignment function can be set up in various ways. For example the 3rd person pronoun *she* in (6), can have an index that can be mapped to Mary:

(6) a. $[\![\ \text{she}_7\ ]\!]^{c,g[7\to\text{Mary}],w} = g(7)$

   b. I saw Mary yesterday. She was very happy. (= Mary was very happy.)

But for some reason, *she* in (6) can never refer to the speaker of the utterance. Why would this be so? One possibility is that there is a constraint on assignment functions that doesn't allow them to map indices to context coordinates[3]. Another possibility is to define a condition on use of the pronouns to the effect that 3rd person pronouns won't be used when 1st or 2nd person pronouns could be used instead. Here is how this condition could look like:

(7) *Elsewhere 3rd person*
  A 3rd person pronoun P_3 cannot be used in a context c in a sentence S, if there is an alternative sentence S', different from S at most in that P_3 is replaced by a 1st person or a 2nd person pronoun, and for all w $[\![\ S\ ]\!]^{c,g_c,w} = [\![\ S'\ ]\!]^{c,g_c,w}$, where g_c is the assignment determined by c.

It has been argued that 3rd person features, unlike 1st or 2nd person features, are not represented in syntax (see Harley and Ritter 2002, Béjar and Rezac 2003, Anagnostopoulou 2005, Adger and Harbour 2007). If this view is correct, then the condition in (7) can be understood as a preference for marked person features.

1.1.2 The problem of plural pronouns

The indexical semantics of 1st and 2nd person features, despite its intuitive appeal, suffers from several empirical problems. One of them is that the analysis doesn't seem to extend straightforwardly to plural 1st and 2nd person pronouns, like *we* and *you*$_p$l. It is clear, at least in some languages, that the number feature in such pronouns is represented in syntax. For example, in English, it triggers plural agreement on the verb, which is the same, whether the subject is 1st, 2nd or 3rd person:

(8) We/you/they are linguists.

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[3]In Chapter 2 we will see some data that will tell us that this is not the way to go.

But if the plural number feature is present and somehow conveys the idea of plurality, how does it compositionally combine with the person feature?

In case of 3rd person plural pronouns, this is not to hard to imagine: the plural feature would add a presupposition that the individual denoted by the pronoun is not atomic.

But the same strategy would not work, in the general case, for 1st and 2nd person pronouns. The pronoun *we* doesn't normally refer to a plurality of speakers. Although one could imagine a situation in which several people speak in unison (or, say, co-author a paper) and refer to themselves as *we*, generally *we* refers to a plurality of individuals, such that the speaker is one of them. Similarly, the plural pronoun *you* doesn't have to refer a plurality of hearers, it can just refer to a plurality that includes the hearer, but not the speaker.

A possible solution would be to rethink the semantic import of the plural feature. If it is not (only) conveying a presupposition about the contents of a pronoun, but rather can (also) denote something like '*and others*', then the problem may be solved. For example, Kratzer (2009) proposes that the plural feature of 1st and 2nd person pronouns is associative[4].

A way of formalizing this intuition would be to assume 1st and 2nd person plural pronouns always spell-out a conjunction of pronouns: *I and you* → *we*; *you and they* → *you* etc. The plural feature of the conjunction would be still semantically interpretable as conveying the presupposition of plurality. 1st and 2nd person features, in turn, would be interpretable only on singular pronouns that are parts of conjunctions, while the 1st and 2nd person features that we see on resulting plural pronouns are uninterpretable, projected by some syntactic rule, based on the availability of a corresponding interpretable 1st or 2nd person features in underlying conjunctions (see Collins and Postal 2012: 42–43, 121–122 for a concrete proposal).

In what follows, I will discuss another problem for indexical semantics of 1st and 2nd person features. As we will see, the only working solution will be, again, to assume that 1st and 2nd person features on pronouns are not always interpretable.

1.1.3   Fake indexicals

1.1.3.1   The problem

The problem is that 1st and 2nd person pronouns may be used as bound variables, just like 3rd person pronouns. Here is an example, originally due to Barbara Partee (Partee 1989):

(9)   I am the only woman around here who could admit that I could be wrong.

On one of the readings, the sentence can be paraphrased as '*I am a woman who could admit that I could be wrong, and there are no other women around here who could admit that they are wrong*'. On this reading, the 1st person pronoun in the relative clause is *bound* within it. The relative clause here denotes a predicate λx.x *could admit that* x *could be wrong*. But we have no mechanism by which the indexical meaning of a 1st person pronoun could be converted into a bound variable. For 3rd person pronouns, on the other hand, since they are variables anyway, a mechanism for interpreting them as bound does exist. By the rule of *Predicate Abstraction* any referential index can be lambda-bound (cf. Heim and Kratzer 1998):

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[4]Some languages have designated morphology for associative plurals, see Daniel 2000 and Moravcsik 2003 for a typologically-informed discussion.

(10) *Predicate Abstraction*

If α is a branching node with daughters β and γ, where β dominates only a binder index λ_i, then for any assignment function g, $[\![\alpha]\!]^g = \lambda x. [\![\gamma]\!]^{g[i \to x]}$.

So, for example, if the trace of the moved relative pronoun in (11) would happen to have the same numerical index as the pronoun *she*, it would end up being bound within the relative clause, by (10).

(11) I am the only woman around here who [$\lambda_{[7 \to x]}$ $t_{[7 \to x]}$ could admit that she$_{[7 \to x]}$ could be wrong].

For the bound uses of 1st and 2nd person pronoun, no comparable trick is available. Since the only parameter relevant for their evaluation is the context of utterance and since, as we stipulated, this parameter cannot be manipulated in any way, for any utterance, the interpretation of 1st and 2nd person pronouns would be constant. Thus, the only reading the sentence in (9) is predicted to have in our system is *not* the bound variable one, but rather the one in which the 1st person pronoun in the relative clause *refers* to the speaker of the utterance: '*I am a woman who could admit that I could be wrong, and there are no other women around here who could admit that I am wrong*'.

The expressions that can bind 1st or 2nd person pronouns are not limited to relative pronouns. For instance, they can be routinely bound by 1st and 2nd person pronouns embedded under alternative-sensitive items like *only* an *even*. Thus, the most salient salient readings of sentences in (12) are the ones in which the second occurrences of 1st and 2nd person pronouns are interpreted as bound variables:

(12) a. Only I did my homework.

   b. Only you did your homework.

   c. Even I did my homework.

   d. Even you did your homework.

For example, the sentence (12a) is most saliently interpreted as '*I did my homework, and nobody else did his or her homework*'. But the only reading we should be able to get with our indexical semantics is '*I did my homework and nobody else did my homework*'.

The bound variable uses of 1st and 2nd person pronouns have become known as *fake indexicals*. Below I will review two proposed solutions to the problem of fake indexicals. In one of them, the indexical semantics of 1st and 2nd person pronouns will be maintained, but additional semantic machinery will be added to get them bound. In the other one, 1st and 2nd pronouns will be treated as ambiguous between indexicals and variables.

1.1.3.2   Monstrous Predicate Abstraction

A solution proposed in Cable 2005 is to introduce a new rule of Predicate Abstraction in addition to the old one (10). By this new rule, the speaker coordinates and adressee coordinates of the context parameter will get bound by appropriate binder indices.

Here is how it works. Let's assume that in addition to numerical binder indices there are also binder indices λs and λh. They are interpreted by the rule of *Monstrous Predicate Abstraction* below:

(13) *Monstrous Predicate Abstraction*

a. If α is a branching node with daughters β and γ, where β dominates only a binder index λs, then for any context c, $[\![\, \alpha\,]\!]^c = \lambda x. [\![\, \gamma\,]\!]^{\langle x, h_c, w_c \rangle}$.

b. If α is a branching node with daughters β and γ, where β dominates only a binder index λh, then for any context c, $[\![\, \alpha\,]\!]^c = \lambda x. [\![\, \gamma\,]\!]^{\langle s_c, x, w_c \rangle}$.

An expression like *only I* or *only you* will be allowed to leave traces with 1st and 2nd person features that are interpreted as indexicals[5].

The semantics of *only* we can assume for our current purposes can as in (14):

(14) $[\![\, only\,]\!]^{g,w,c} = \lambda C. \lambda x_e. \lambda P_{\langle e,t \rangle}. \{ y \in C : P(y) = 1 \} = \{x\}$ (cf. Heim 2008b: 44)

The derivation of the bound reading of a sentence like (12a) works as follows. The subject *only I* QRs leaving behind an indexical trace and creating a binder index λs. By the rule (13), the trace of *only I* and the indexical pronoun *my* will end up being bound, leading to the desired interpretation:

(15) $[\![\, \text{Only I did my homework}\,]\!]^{g,w,c} = 1$ iff $\{ y \in C : y$ did y's homework in $w \} = s_c$
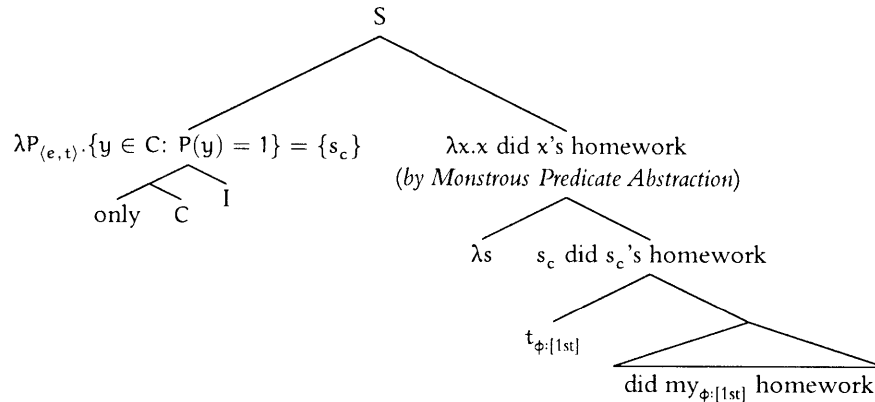
The problem now is that, if the quantifier raising of *only I* always leaves an indexical trace and creating a binder index λs, we are predicting that the sentence (12a) should *only* have the bound reading. Cable's way around this problem is to say that there is another option for the QR of *only I* that is to leave a trace with a *numerical* index and create a *numerical* binder index. If this option is chosen, the standard rule of Predicate Abstraction (10) will be triggered, instead of the Monstrous Predicate Abstraction, and only the trace of the QRed DP will get bound, leaving the indexical pronoun in its scope with its indexical interpretation:

(16) $[\![\, \text{Only I did my homework}\,]\!]^{g,w,c} = 1$ iff $\{ y \in C : y$ did s_c's homework in $w \} = s_c$

---

[5]In Cable's original system *only* doesn't form a constituent with pronouns, but these details will be irrelevant for our discussion

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S

$\lambda P_{\langle e,t\rangle}.\{y \in C : P(y) = 1\} = \{s_c\}$ $\lambda x.x$ did s_c's homework
                                            (*by Predicate Abstraction*)

only   C   I

λ_1 $g(1)$ did s_c's homework

t_1

did my$_{\phi:[1st]}$ homework
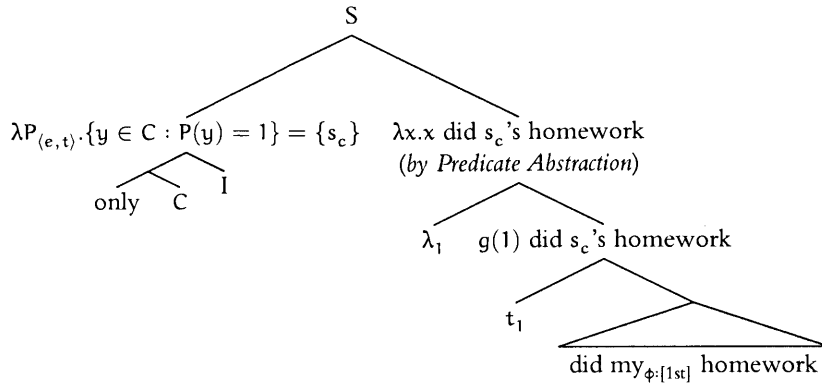
But even if we stipulate two different derivations of the bound and non-bound reading, we will still have a problem. It is predicted if there are many pronouns with the same person feature, say 1st, in the scope of *only I*, they will either be *all bound* or *all non-bound*. This is easy to prove. If one 1st person pronoun is bound in the scope of *only I*, it means that Monstrous Predicate Abstraction was applied, which, in turn, means that *all* 1st person expressions were bound in the scope of *only I*. If, on the other hand, there is one 1st person pronoun in the scope of *only I* that is non-bound, it means that Monstrous Predicate Abstraction wasn't applied, and so there can be *no* bound 1st person pronouns in the scope of *only I*.

As pointed out in Kratzer 2009, Minor 2011 and Sudo 2012, this prediction is wrong, since, clearly, the "mixed readings" in which there are bound and non-bound pronouns are in the scope of *only I* are in general allowed. For example, the sentence below has all four possible readings (some of them may be harder to get than the other, but, using some plausible scenarios, all four should work):

(17)   Only I let my friends to talk my parents.
       '*I let my friends talk to my parents and ...*
       a.   ...*nobody else lets my friends talk to my parents.*'   (all pronouns non-bound)
       b.   ...*nobody else lets his/her friends talk to his/her parents.*'   (all pronouns bound)
       c.   ...*nobody else lets his/her friends talk to my parents.*'   (only the first *my* bound)
       d.   ...*nobody else lets my friends talk to his/her parents.*'   (only the second *my* bound)

The same problem obviously arises for 2nd person pronouns as well. A solution could be to somehow make binder indices λs and λh more selective. But if this step is made (and, as we will see in 1.3, this is what Minor (2011) and Sudo (2012), in a sense, do), we would have to dispense with simple indexical semantics of 1st and 2nd person pronouns. In our current system, when the *only* parameter that these pronouns are interpreted relative to is the context, which stays uniform for all pronouns, binding into that context will necessarily affect *all* the indexical pronouns in the scope of the binder.

1.1.4   Feature Transmission

A different kind of solution of the problem of fake indexicals is to postulate that they have denotations that are different from true indexicals.

Under this view 1st and 2nd person pronouns are ambiguous: they can either have an indexical or simple variable interpretation (cf. Kratzer 2009). Following Kratzer, we

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can call pronouns that are interpreted simply as individual variables *minimal pronouns*. The person features of *minimal pronouns* are not interpetable. They get their uninterpetable features from their binders, by some syntactic agreement-like mechanism that is often called *Feature Transmission*. Various implementations of this idea were proposed in Kratzer 1998, 2009, Schlenker 1999, 2002, von Stechow 2003 and Heim 2008b.

The rule of feature transmission can be formulated as follows:

(18)   *Feature Transmission under Variable Binding* In the derivation of PF, all features of a DP must be copied onto all variables that it binds.   Heim 2008b

Having φ-features is viewed as morphological requirement. If a pronoun is "born" with necessary φ-features, it will be licensed at PF. But if a pronoun is born "defective", or *minimal*, lacking some or all of necessary features, it will have to somehow get them in course of the derivation. Feature Transmission is, thus, a mechanism of licensing minimal pronouns.

The problem of mixed readings that we noticed in the previous section doesn't arise in a theory that has Feature Transmission. Any two pronouns that will be eventually spelled out as, say, 1st person pronouns can start out differently: one can have an interpretable indexical 1st person feature, while the other one can be minimal and get its uninterpretable 1st person feature from its semantic binder only at PF. Here is, for example, how (17) is going to be derived when it is interpreted as in (17c):

(19)   a.   At Spell-out: [Only i[1st]]-u[1st] t-u[1st] let $\varnothing$'s friends talk to i[1st]'s parents.

     b.   At PF: [Only I$_{[1st]}$]-[*1st*] let my-[*1st*] friends talk to my$_{[1st]}$ parents.

     c.   At LF: [Only [1st]] λ_7 [t$_7$ lets $\varnothing_7$'s friends talk to [1st]'s parents $\rightarrow$
             [Only s$_c$'s] λx [x lets x's friends talk to s$_c$'s parents.

Given the Y-model of syntax that we assume here, it might be alarming that the *PF*-rule of Feature Transmission cares about *semantic* variable binding, but this can be remedied by allowing syntax to have some information that would be translated into variable binding at LF. For example, we could postulate binder indices in syntax (cf. Kratzer 2009). There might also be other conceptual problems with Feature Transmission (see discussions in Heim 2008b and Sudo 2012), but for now, we can assume that it works.

1.2   Person features in presuppositional heads

Now we will consider a different theory of 1st and 2nd person features. In this one, these features will be adding *indexical presuppositions* to minimal pronouns (for a less concise articulation of this view I address the readers to Schlenker 1999, 2003, Heim 2008b, and especially Sauerland 2004, 2008, 2013). Under this view, person features are treated in essentially the same way as other φ-features: gender and number (see Cooper 1983, Heim and Kratzer 1998, Sauerland 2003, Sauerland, Anderssen and Yatsushiro 2005, a.o.).

1.2.1 Person features of pronouns and expressions containing them

Syntactically, person pronouns will be spell-outs of a pronominal head, intepreted as a variable, and a ɸ-head containing a person feature, contributing an indexical presupposition[6]:

(20) a. ɸP → I   b. ɸP → you   c. ɸP → (s)he

     pro_i ɸ pro_i ɸ pro_i ɸ

            [1st]   [2nd]   [3rd]

(21) a. $[\![\ 1st\ ]\!]^{c,w,g} = \lambda x\!:\ x$ contains s_c.

     b. $[\![\ 2nd\ ]\!]^{c,w,g} = \lambda x\!:\ x$ contains h_c, but not s_c.

     c. $[\![\ 3rd\ ]\!]^{c,w,g} = \lambda x\!:\ x$ doesn't contain either s_c or h_c.[7]

(22) a. $[\![\ I\ ]\!]^{c,w,g} = [\![\ 1st\ ]\!]^{c,w,g}([\![\ pro_i\ ]\!]^{c,w,g}) = g(i)$ if $g(i)$ contains s_c,

                                          undefined otherwise.

     b. $[\![\ you\ ]\!]^{c,w,g} = [\![\ 2nd\ ]\!]^{c,w,g}([\![\ pro_i\ ]\!]^{c,w,g}) = g(i)$ if $g(i)$ contains h_c, but not s_c,

                                          undefined otherwise.

     c. $[\![\ (s)he\ ]\!]^{c,w,g} = [\![\ 3rd\ ]\!]^{c,w,g}([\![\ pro_i\ ]\!]^{c,w,g}) = g(i)$ if $g(i)$ doesn't contain h_c or s_c,

                                          undefined otherwise.

From the point of view of syntax, severing the person feature from the pronoun is plausible, since person features, including 1st person and 2nd person, can occur on non-pronominal DPs and be interpreted in the same way they are interpreted with pronouns. For example, if we look at a language with rich verbal agreement morphology, like Russian, we will see that conjunctive subject DPs in (23a) and (23b) trigger 1st person or 2nd person agreement on the verb, respectively.

(23) a. [Ja i   Nataša]   bud-em žit' vmeste.
         [I   and Natasha].1PL will-1PL live together
         'Natasha and I will live together.'

     b. [Ty i   Petja]   bud-ete žit' vmeste.
         [you and Petja].2PL will-2PL live together
         'Petja and you will live together.'

---

[6]Other ɸ-features may be contained there as well. Alternatively, there are multiple ɸ-heads with different features, see Sauerland 2008. For our purposes, we will only look at person features.

[7]Another possibility is to have the following lexical entries for [2nd] and [3rd]:

(i) a. $[\![\ 2nd\ ]\!]^{c,w,g} = \lambda x\!:\ x$ contains h_c or s_c.

     b. $[\![\ 3rd\ ]\!]^{c,w,g} = \lambda x\!:\ x$.

The 2nd person feature restricts the denotation of pronouns to *participants* (not just addressees), while the 3rd person feature is presuppositionally vacuous. The choice between different person features is governed by the *Maximize Presupposition* principle (see Sauerland 2008 for the relevant discussion.

If φ-heads are allowed to take not just pronouns, but all kinds of DPs as complements, the agreement pattern in (23) can be explained straightforwardly. The particular values of person features that we see in (23) are presuppositional, in they same sense as the features of the pronouns in (22) are. 1st person feature in (23a) conveys a presupposition that the referent of the conjunctive subject DP contains the speaker. Similarly, 2nd person in (23a) conveys a presupposition that the referent of the conjuction contains the addressee, but not the speaker.

Person features of plural pronouns can be analyzed in the same way. Thus, treating person features as indexical presupposition triggers takes care of the problem for indexical semantics that we noted in 1.1.2, the plural forms of 1st and 2nd person pronouns do not have to be associative. For example, the pronoun *we* spells out the 1st person feature that is treated in a regular way, as in (22a): the pronoun denotes a plurality of individuals and is defined only if this plurality contains the speaker.

1.2.2 The problem of fake indexicals: take 2

Another problem for indexical semantics that we discussed resurfaces with indexical presuppositions. It is the problem of fake indexicals.

Although now it may be possible to semantically bind minimal pronouns that are embedded under φ-heads, their presuppositions would project in a way that would nullify the effect of binding. Consider the derivation of the bound reading of (12a) (for simplicity, as we are only talking about singular individuals, assume that the 1st presupposition is of the form $g(i) = s_c$):

(24) Only I did my homework.
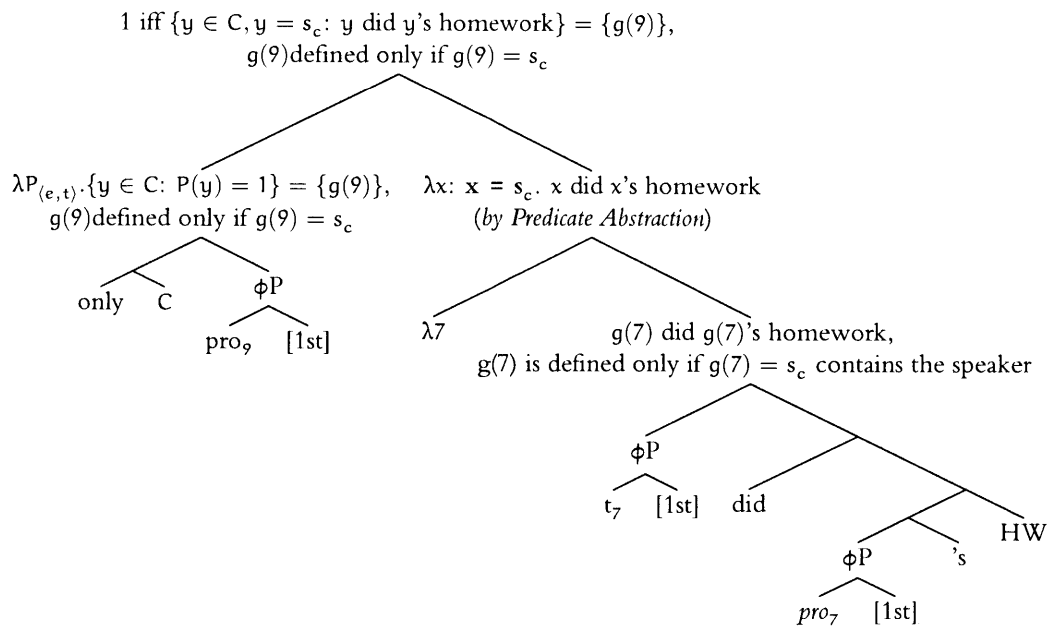
Since under our current view the pronoun *my* contains a variable, this variable can get bound by the same binder index that binds the trace of *only I*. However, the indexical

presupposition of *my* and the trace of *only I* projects in a way that limits the possible range of arguments that the derived reflexive predicate takes to just the speaker. Given the semantics of *only*, the result of applying *only I* to the derived predicate leads to a tautology: the statement of equality between two singleton sets, each of which contains the speaker.

One possible solution would be to say that ϕ-heads are optional, and minimal pronouns can get their feature under variable binding via Feature Transmission (cf. e.g. Heim 2008b).

Another possibility was put forward in Heim 2008a (see also Sudo 2012: 155–156, Jacobson 2013, Spathas 2010 for gender features, and Sauerland 2013 for a related proposal). The idea, going back to Karttunen and Peters 1975, 1979, is to separate presuppositional and assertoric values of linguistic expressions. Presuppositions and assertions would be computed in parallel on separate *tiers*. This could be helpful in our case, since we could now formulate the semantics of *only* in such a way that it won't be affected by indexical presuppositions of its scope argument.

Here is a way of doing this that works for our purposes. Let's assume the following rules of semantic interpretation ($[\![\,\alpha\,]\!]_A$ is to be read as *the assertoric value of* α and $\Pi([\![\,\alpha\,]\!])$, as *the presuppositional set of* α, which can include multiple *presuppositional values*: $[\![\,\alpha\,]\!]_{\Pi_1}$, $[\![\,\alpha\,]\!]_{\Pi_2}$ etc.).

The rule of Two-tiered Predicate Abstraction ensures that PA applies at both the assertoric tier and the presuppositional tier:

(25) *Two-tiered Predicate Abstraction*
   If α is a branching node with daughters β and γ, where β dominates only a binder index λ_i,
   then for any assignment function g and for all j, such that $[\![\,\gamma\,]\!]_{\Pi_j}^g \in \Pi([\![\,\alpha\,]\!]^g)$,
   $[\![\,\alpha\,]\!]_A^g = \lambda x. [\![\,\gamma\,]\!]_A^{g[i \to x]}$,
   and $[\![\,\alpha\,]\!]_{\Pi_j}^g = \lambda x. [\![\,\gamma\,]\!]_{\Pi_j}^{g[i \to x]}$.

The rule of Two-tiered Functional Application below makes it possible for presuppositional values to semantically combine with each other, as well as with the assertoric for the information from the assertoric tier to feed into the presuppositional tier, if the semantic types match.

(26) *Two-tiered Functional Application*
   If α is a branching node with daughters β and γ
   and $[\![\,\beta\,]\!]_A^{c,g,w} \in D_\sigma$ and $[\![\,\gamma\,]\!]_A^{c,g,w} \in D_{\langle \sigma,\tau \rangle}$,
   then $[\![\,\alpha\,]\!]_A^{c,g,w} = [\![\,\gamma\,]\!]_A^{c,g,w} ([\![\,\beta\,]\!]_A^{c,g,w})$;
   and Π_α is fully construed as follows:

   a. For all ξ, ψ and for all i, j such that $[\![\,\beta\,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\,\beta\,]\!]^{c,g,w})$, $[\![\,\beta\,]\!]_{\Pi_i}^{c,g,w} \in D_\xi$
      and $[\![\,\gamma\,]\!]_{\Pi_j}^{c,g,w} \in \Pi([\![\,\gamma\,]\!]^{c,g,w})$, $[\![\,\gamma\,]\!]_{\Pi_j}^{c,g,w} \in D_{\langle \xi,\psi \rangle}$,
      $[\![\,\gamma\,]\!]_{\Pi_j}^{c,g,w} ([\![\,\beta\,]\!]_{\Pi_i}^{c,g,w}) \in \Pi([\![\,\alpha\,]\!]^{c,g,w})$.   (presupposition to presupposition 1)

   b. For all ξ, ψ and for all i, j such that $[\![\,\beta\,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\,\beta\,]\!]^{c,g,w})$, $[\![\,\beta\,]\!]_{\Pi_i}^{c,g,w} \in D_{\langle \xi,\psi \rangle}$
      and $[\![\,\gamma\,]\!]_{\Pi_j}^{c,g,w} \in \Pi([\![\,\gamma\,]\!]^{c,g,w})$, $[\![\,\gamma\,]\!]_{\Pi_j}^{c,g,w} \in D_\xi$,
      $[\![\,\beta\,]\!]_{\Pi_i}^{c,g,w} ([\![\,\gamma\,]\!]_{\Pi_j}^{c,g,w}) \in \Pi([\![\,\alpha\,]\!]^{c,g,w})$.   (presupposition to presupposition 2)

   c. For all i such that $[\![\,\beta\,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\,\beta\,]\!]^{c,g,w})$ and $[\![\,\beta\,]\!]_{\Pi_i}^{c,g,w} \in D_\sigma$,
      $[\![\,\gamma\,]\!]_A^{c,g,w} ([\![\,\beta\,]\!]_{\Pi_i}^{c,g,w}) \in \Pi([\![\,\alpha\,]\!]^{c,g,w})$.   (assertion to presupposition 1)

d. For all i and for all ξ, ψ such that $\langle \xi, \psi \rangle = \sigma$
and $[\![\, \gamma \,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\, \gamma \,]\!]^{c,g,w})$ and $[\![\, \gamma \,]\!]_{\Pi_i}^{c,g,w} \in D_\xi$,
$[\![\, \beta \,]\!]_{A}^{c,g,w} ([\![\, \gamma \,]\!]_{\Pi_i}^{c,g,w}) \in \Pi([\![\, \alpha \,]\!]^{c,g,w})$. (assertion to presupposition 2)

e. For all i and for all ψ such that $[\![\, \beta \,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\, \beta \,]\!]^{c,g,w})$ and $[\![\, \beta \,]\!]_{\Pi_i}^{c,g,w} \in D_{\langle \sigma\tau, \psi \rangle}$,
$[\![\, \beta \,]\!]_{\Pi_i}^{c,g,w} ([\![\, \gamma \,]\!]_{A}^{c,g,w}) \in \Pi([\![\, \alpha \,]\!]^{c,g,w})$. (presupposition to assertion 1)

f. For all i and for all ψ such that $[\![\, \gamma \,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\, \gamma \,]\!]^{c,g,w})$ and $[\![\, \gamma \,]\!]_{\Pi_i}^{c,g,w} \in D_{\langle \sigma, \psi \rangle}$,
$[\![\, \gamma \,]\!]_{\Pi_i}^{c,g,w} ([\![\, \beta \,]\!]_{A}^{c,g,w}) \in \Pi([\![\, \alpha \,]\!]^{c,g,w})$. (presupposition to assertion 2)

g. For all ξ, ψ, χ, μ and for all i such that $[\![\, \beta \,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\, \beta \,]\!]^{c,g,w})$, $[\![\, \beta \,]\!]_{\Pi_i}^{c,g,w} \in D_\xi$
and there is no P such that
$P \in \{ [\![\, \gamma \,]\!]_{A}^{c,g,w} \} \cup \Pi([\![\, \gamma \,]\!]^{c,g,w}$ and $[\ P \in D_{\langle \xi, \psi \rangle}$ or $[\ P \in D_\mu$, if $\xi = \langle \mu, \chi \rangle\ ]\ ]$,
$[\![\, \beta \,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\, \alpha \,]\!]^{c,g,w})$. (project unchanged 1)

h. For all ξ, ψ, χ, μ and for all i such that $[\![\, \gamma \,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\, \gamma \,]\!]^{c,g,w})$, $[\![\, \gamma \,]\!]_{\Pi_i}^{c,g,w} \in D_\xi$
and there is no P such that
$P \in \{ [\![\, \beta \,]\!]_{A}^{c,g,w} \} \cup \Pi([\![\, \beta \,]\!]^{c,g,w}$ and $[\ P \in D_{\langle \xi, \psi \rangle}$ or $[\ P \in D_\mu$, if $\xi = \langle \mu, \chi \rangle\ ]\ ]$,
$[\![\, \gamma \,]\!]_{\Pi_i}^{c,g,w} \in \Pi([\![\, \alpha \,]\!]^{c,g,w})$. (project unchanged 2)[8]

Further, we can assume the following lexical entries for 1st person pronouns and *only*. It is particularly important to notice that their semantic types on the assertoric tier do not have to correspond to the semantic types of presuppositions they convey. For example, any 1st person pronoun has an assertoric value of type e and a type t presupposition in its presupposition set. *Only*, on the other hand, denotes a quantifier of type $\langle e, \langle et, t \rangle \rangle$ on the assertoric tier, and its presupposition set is empty[9].

(27) a. $[\![\, pro_i\, [\text{1st}] \,]\!]_{A}^{c,w,g} = g(i)$
$\Pi([\![\, pro_i\, [\text{1st}] \,]\!]^{c,w,g}) = \{[g(i) = s_c]\}$

b. $[\![\, only_C \,]\!]_{A}^{c,w,g} = \lambda x_e.\lambda P_{\langle e,t \rangle}.\{y \in C: P(y) = 1\} = \{x\}$
$\Pi([\![\, only_C \,]\!]^{c,w,g}) = \varnothing$

The goal of these particular lexical entries is to make sure that, given the rules for multi-tiered semantic computation specified above, the presupposition of the VP doesn't become an argument of *only*. Let's see how the system works for our example sentence.

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[8]These last two rules are there two ensure that if an expression has a presuppositional value that cannot be composed with any presuppositional or assertoric value of its sister, it will project up unchanged. In our cases, this rule will be needed for indexical presuppositions of pronouns. These presuppositions are of type t, while the assertoric value of pronouns is of type e. It could have been more elegant to assume some type-shifting rules to the effect that both the presupposition and the assertion are of the generalized quantifier type (Irene Heim, p.c.). That way, every expression would have had assertions and presuppositions of a same type, and modified presuppositions could have been not added to a set, but rather conjoined by generalized conjunction. To save some ink, I am not following this path here.

[9]For the purposes of analyzing our fake indexical example, it actually doesn't matter if *only* comes without a presupposition, or its presupposition value is the same as its assertoric value, or its presupposition value is $\lambda x_e.\lambda P_{\langle e,t \rangle}.P(x)$.

(28)

$$\text{TP}$$
$$A: 1 \text{ iff } \{y \in C: y \text{ did } y\text{'s homework} = 1\} = \{g(9)\}$$
$$P: \{g(9) = s_c\}$$

$$\text{DP}_{\text{Subject}}$$
$$A: \lambda P_{\langle e,t \rangle}.\{y \in C: P(y) = 1\} = \{g(9)\}$$
$$P: \{g(9) = s_c\}$$

$$A: \lambda x: x \text{ did } x\text{'s HW}$$
$$P: \{\lambda x.x = s_c\}$$

$$A: \lambda x_e.\lambda P_{\langle e,t \rangle}.\{y \in C: P(y) = 1\} = \{x\}$$
$$P: \varnothing$$
$$\mid$$
$$only_C$$

$$A: g(9)$$
$$P: \{g(9) = s_c\}$$
$$pro_9 \quad [\text{1st}]$$

$$\lambda 7 \qquad \text{VP}$$
$$A: g(7) \text{ did } g(7)\text{'s HW,}$$
$$P: \{g(7) = s_c\}$$

$$\phi P$$
$$\text{did}$$
$$t_7 \quad [\text{1st}] \qquad \qquad \text{HW}$$
$$\phi P \qquad \text{'s}$$
$$pro_7 \quad [\text{1st}]$$
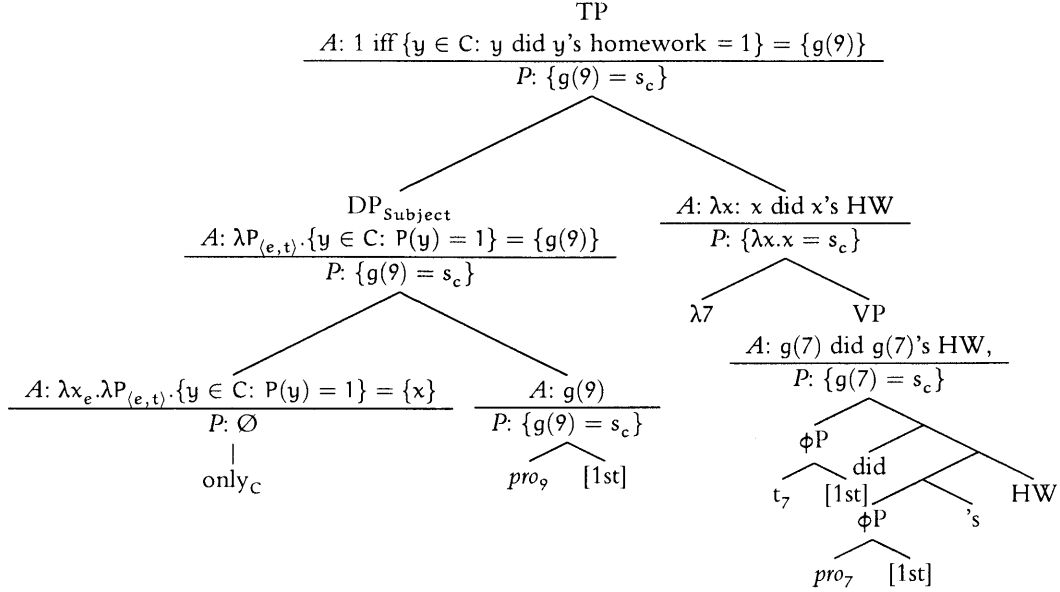
In the VP, there are two coindexed 1st person expressions (a pronoun and a trace of *only I*[10]), with identical presupposition sets that contain just the statement $g(7) = s_c$. This is an expression of type t, and that means that it is going to project up unchanged, until structural conditions on the application of *Two-tiered Predicate Abstraction* (25) are met. When this rule applies, we see a change at both the presupposition and the assertion tiers. Of greater interest to us is what happens at the presupposition tier: now it has a singleton set containing a presupposition of type $\langle e, t \rangle$: $\lambda x.x = s_c$.

In the subject DP we have two presuppositional elements: *only*$_C$ with an empty presupposition set, and *I* with the presupposition set $\{g(9) = s_c\}$. This presupposition projects up unchanged (by (26g)). On the assertoric tier *only I* denotes an output of applying *only* to *I*, i.e. the generalized quantifier $\lambda P_{\langle e,t \rangle}.\{y \in C: P(y) = 1\} = \{g(9)\}$.

When the subject combines with the rest of the clause, it takes the VP-predicate as an argument on the assertoric tier, and thus, the sentence asserts that nobody but $g(9)$ did $g(9)$'s homework. On the presuppositional tier, the other presuppositional value of the subject will project unchanged (by (26h)), leading to the presupposition that $g(9)$ is the speaker, and the presuppositional value of the VP-predicate combines with the assertoric value of the subject (by (26c)), again giving the presupposition that (only) $g(9)$ is the speaker. At the end of the day, the bound variable interpretation that we have been after is captured.

The two-tiered system sketched above allows fake indexical pronouns to be not as fake as it may seem. They can still have person features that are interpreted as indexical presupposition triggers, but the way these presupposition project allows these pronouns to be interpreted as bound variables. But, as pointed out in Sudo 2012, such a theory still faces several problems.

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[10]It is actually not crucial for our purposes that the trace of *only I* is embedded in a φP, but we can safely assume that it is, see Sauerland 2003, 2004.

1.2.3 Sudo's problem

One problem that Sudo (2012) points at is that even if person features are presuppositional, they don't seem to project the way other presuppositional features do. Here is one of Sudo's illustrations of how presuppositional gender features behave:

(29) Exactly one student did her homework, (namely Mary).

This sentence has a bound variable reading, roughly paraphrased as '*The student called Mary did her homework and no other student did his or her homework*'. The most important point is that it doesn't seem to be required that other students are all female, in fact, they may even all be male, except for Mary. This means that the gender presupposition of the pronoun *her* projects existentially: the presupposition is that there is a female student who did her homework, and the assertion is that there is only one student that did his or her homework.

For some reason, this doesn't work the same way with person features. Consider the following minimally different sentence:

(30) Exactly one student did my homework, (namely me).

To the extent that this sentence is acceptable at all, it doesn't have a bound variable reading. The only available reading is something like '*I did my homework and no other student did my homework*'. But if the 1st person feature is treated as a presupposition trigger, then, all other things being equal, we should expect the sentence to have the same kind of bound variable reading that was available for (29): (30) should have a reading by which it presupposes that there is a speaker who did his homework and assert that only one student did his or her homework. The fact that we don't seem to be able to arrive at such an interpretation suggests that treating the 1st person feature here as a presupposition trigger is wrong.

To provide additional support to this claim, Sudo also notes that a reflexive 3rd person pronoun *herself* can be bound by a 3rd person DP like *exactly one student*, but a reflexive first pronoun *myself* or a reflexive 2nd person pronoun *yourself* cannot, such sentences would be just ungrammatical:

(31) a. Exactly one student criticized herself.
      b. *Exactly one student criticized myself.
      c. *Exactly one student criticized yourself.

All this being said, it is questionable if the same logic extends to 1st and 2nd person features of plural pronouns. Consider (32):

(32) Exactly two students did our homework.

This sentence seems to have a bound reading. On this reading, (32) presupposes that there is a plurality that includes the speaker who did their homework and asserts that only two students did their homework. I will leave it at this here, but note in passing that this might be relevant for our upcoming discussion of *imposters* in Chapter 2, where it will be argued that only *plural* pronouns can have presuppositional person features.[11]

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[11]Jacobson (2013) also notes a stark contrast between singular and plural 1st person pronouns in their ability to be interpreted as "paycheck" pronouns, as in the examples below:

1.2.4 Stokke's problem

Another problem that Sudo brings up is originally due to Stokke 2010. Again, it points to a differences in interpretation between person features and things that are more "clearly" presupposition triggers, like gender features.

When a wrong gender feature is used in a sentence that would otherwise be true, it doesn't necessarily alter the judgment that the sentence is true. For example, the sentence (33a) is judged true in the given scenario, even though the gender identity of the individual referred to by *she* was not established correctly:

(33)   <u>Scenario</u>: A baby, who is a boy, is sleeping. Mary thought he was a girl, and said the following.

     a. She is asleep.   (Sudo 2012: 142)

The sentence can still be judged true even when a presupposition fails. If this is viewed as a characteristic property of presuppositions, and if person features are presuppositional, then we should expect to find comparable examples where a person feature used is wrong, but the sentence in which it occurred is still judged true.

The claim in Stokke 2010 is that such examples are not to be found. Even if we try hard enough to construct a good testing case, a wrong person feature always seems to make the sentence in which it was used false. Here is an example from Stokke 2010 modelled after the one in Kaplan 1977:

(34)   <u>Scenario</u>: David is looking at a shop window. On the other side of the glass, there is a man who looks just like him, and David therefore mistakes the window for a mirror. Suddenly, he notices that the person's pants are on fire and exclaims:

     My pants are on fire!   (Stokke 2010: 94)

The intuition is that the sentence is just false[12]. However, if the 1st person feature of *my* conveyed a presupposition, maybe, we could have been more generous and acknowledged the presupposition failure while the sentence would be judged to be true, given that the referent of the (minimal) pronoun is identified correctly.

The same intuition can be extrapolated to cases with 2nd person pronouns, like the following:

(35)   <u>Scenario</u>: Saul and David are sitting on a sofa. In front of the sofa is a glass pane. Opposite is another sofa. The sofas look exactly the same and two men dressed like David and Saul are sitting in the seats opposite to them. So, from where David and Saul are sitting, the pane looks like mirror. Suddenly, David realizes that the pants of the person sitting opposite Saul are on fire. So he turns to Saul and warns him:

(i)   a. Some people think that they should do more work than their spouse. Some people think that they should do less work than their spouse. Only MICHAEL thinks that we (= *he and his spouse.* — *A.P.*) should do exactly the same amount of work.

     b. *This year everyone was supposed to bring their spouse, but only MICHAEL brought me (= *his spouse.* — *A.P.*).

[12]It seems that there is some disagreement among the speakers about the intuitions, here and in the next Stokke's example. Without going deep into details, I am just going to report Stokke's judgments.

Just as in the previous case, the sentence is judged to be false.

In spite of this evidence, it might be too hasty to completely abandon the presuppositional treatment of 1st and 2nd person features. One might still be able to come up with examples in which the use of the "wrong" person feature leads to a presupposition failure, rather than to altering the truth value of the sentence. I will briefly discuss one such case below. It concerns the use of a 1st person plural pronoun with a plural DP. For example, I could say:

(36) We Russians are immune to cold.

This sentence roughly means that Russians (in general) are immune to cold and also somehow conveys the fact that I am Russian. Now consider the following scenario.

(37) <u>Scenario</u>: My friend Sam is having a dream in which he is a Russian peasant surviving a long cold winter. When he wakes up, for a moment or two he still thinks he is a Russian peasant, and he murmurs:

a. We Russians are immune to cold.

The intuition is that the sentence uttered by Sam is true to the extent the same sentence uttered by me is true. At the same time, there is a feeling of a presupposition failure in what Sam said, since he is actually not Russian. This indicates that the 1st person feature in *we Russians* conveys a *presupposition* that the speaker is Russian.

1.3   Person features in complex indices

In this section, I review yet another theory of the representation and interpretation of person. This theory is based on the assumption that person features are represented in language as parts of comlex referential indices. The theory was independently developed by Minor (2011) and Sudo (2012) with the primary purpose of giving a principled explanation to the phenomenon of fake indexicality that we discussed. (The idea of having φ-features as features of indices could be traced back to Pollard and Sag 1994 and subsequent work in HPSG (Wechsler and Zlatić 2000, 2003) and LFG (Wechsler 2011), although I don't know of its applications to fake indexicality in HPSG and LFG literature.)

In Minor's and Sudo's theory, the assignment function interprets not just numerical indices, but complex indices that are essentially pairs of a natural number and a person feature[13]. For example, the assignment function could look as follows (① stands for the 1st person feature, ② for the 2nd person, ③ for the 3rd):

(38) $\langle 5, ① \rangle$ $\longrightarrow$ Sasha $\langle 87, ③ \rangle$ $\longrightarrow$ Rafa
       $\langle 55, ② \rangle$ $\longrightarrow$ Natasha $\langle 89, ③ \rangle$ $\longrightarrow$ Liuda etc.

Crucially, the assignment function is the *only* parameter, relevant for the interpretation of person features, and so, person pronouns all have denotations built according to the rule:

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[13]Number features might also be parts of complex indices, see Sudo 2012 for discussion

(39)　For all $i \in \mathbb{N}$, $j \in \{①, ②, ③\}$
　　　$\llbracket \text{pro}_{\langle i,j \rangle} \rrbracket^{c,w,g} = g(\langle i,j \rangle)$

Since there is no direct reliance on context, the assignment function itself has to be constrained in such a way that it maps 1st and 2nd person features (① and ②) to the coordinates of the context:

(40)　*Admissibility Condition for Assignment Functions*
　　　An utterance of a sentence is felicitously evaluated with respect to context c, possible world w and assignment function g, only if g satisfies the following three conditions: for all $i \in \mathbb{N}$,

　　　a.　$g(\langle i, ① \rangle) = s_c$
　　　b.　$g(\langle i, ② \rangle) = h_c$
　　　c.　$g(\langle i, ③ \rangle) \neq s_c$ and $g(\langle i, ③ \rangle) \neq h_c$　　　　　　　　(Sudo 2012: 162)

The admissibility condition on assignment functions is applied *at utterance-level* to ensure that pronouns are interpreted correctly. For example, the assignment function in (38) would be admissible in (41), only if Sasha is the speaker of (38), Natasha is the addressee, and neither Rafa nor Liuda are speakers or addressees:

(41)　$\text{I}_{\langle 5,① \rangle}$ told $\text{you}_{\langle 55,② \rangle}$ that $\text{he}_{\langle 87,③ \rangle}$ shared an office with $\text{her}_{\langle 89,③ \rangle}$.

One big advantage of having complex indices is that bound variable readings of fake indexicals are captured straightforwardly.

A pronominal or non-pronominal DP that undergoes QR is assumed to leave behind a trace that has the same person feature as the moved DP and create a binder index, exactly the same as the one on the trace. If there happens to be a pronoun in the scope of the binder index that has exactly the same index, it will end up being bound, in accordance with the standard rule of Predicate Abstraction. See a derivation below:

(42)　$\llbracket \text{Only I did my homework} \rrbracket^{g,w,c} = 1$ iff
　　　$\{y \in C: y \text{ did } y\text{'s homework in } w\} = \{g(\langle 5, ① \rangle)\} = s_c$
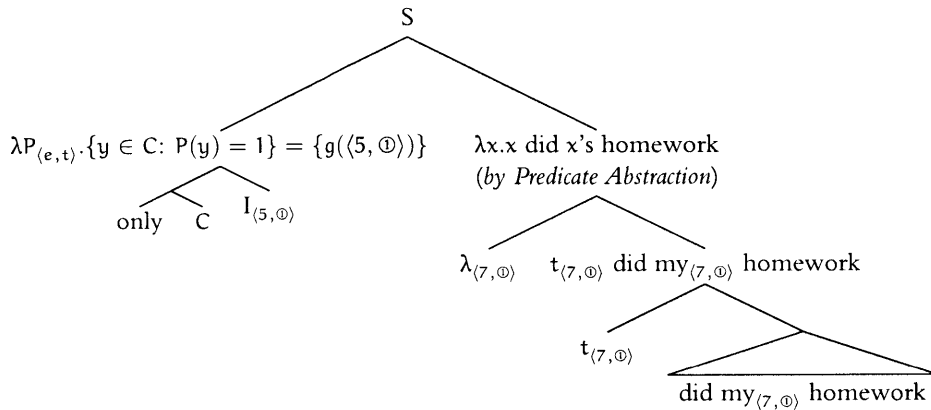
It shouldn't matter that there are some 1st person indices (namely, $\langle 7, ① \rangle$) that are not mapped to the speaker, because by the time the Admissibility Condition applies (which

happens when the derivation is over), those indices have been converted into bound variables by Predicate Abstraction.

This system is also well-designed to deal with *mixed* readings that were problematic for Cable 2005. Since pronouns with a particular person feature can still have distinct complex indices (due to differences in numeric parts), some of them can stay free and some can get bound:

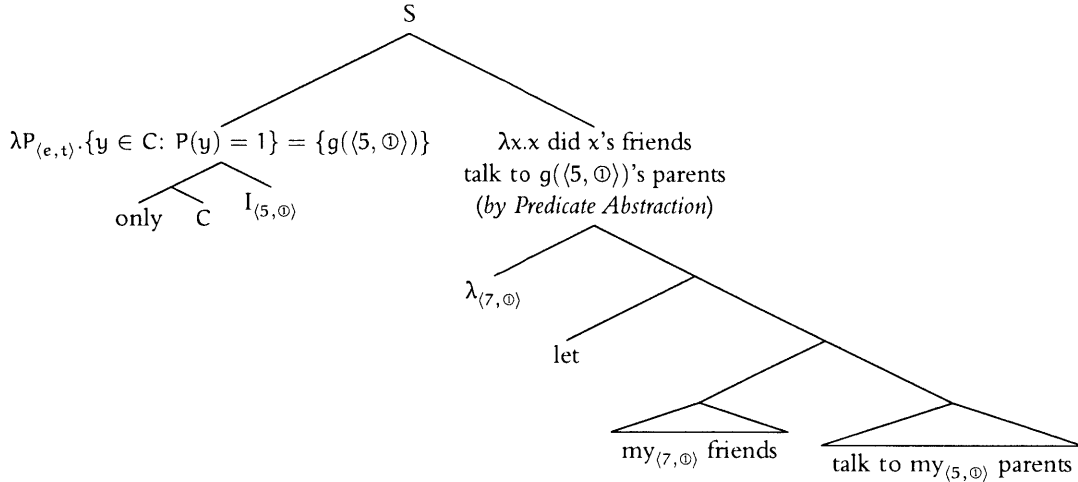(43) $[\![$ Only I let my friends talk to my parents $]\!]^{g,w,c} = 1$ iff

   $\{y \in C: y$ let y's friends talk to s_c's parents$\} = s_c$ (17c)

1.4 Overview

In what follows the ideas about the representation and interpretation of person features will be put to use. Importantly, we will see arguments for having all three kinds of expressions in natural language: Kaplanian indexicals, pronouns with complex indices, and minimal pronouns with presuppositional heads.

I will identify an expression as a Kaplanian indexical, if it refers to the speaker or the hearer coordinate of a given context, and if it cannot be ever interpreted as a variable, so, for example, it cannot ever be semantically bound. In the following Imposters in English and overt personal pronouns in Mishar Tatar will be shown likely candidates for true Kaplanian indexicals.

Presuppositional person ϕ-heads will play an important role in Chapter 2. We will see that plural pronouns in English, at least sometimes, have to be embedded under presuppositional person ϕ-heads, while singular pronouns are, for some reason, incompatible with person ϕ-heads.

Note that having presuppositional person ϕ-heads in the system doesn't exclude the possibility of having complex indices with person features. In fact, in Chapter 2, we will see evidence that the kind of minimal pronouns that these ϕ-heads take as complements have complex indices, and the person feature value of the index may be different from the person feature value of the ϕ-head.

Arguably one of the most important lessons to be learned from this dissertation is that we need complex indices with person features, because, given our current understanding of

possible ways of representing and interpreting person features, its only with person features as parts of complex indices that we can account for *domain-wide semantic processes* that affect *all* pronouns with particular person features in the domain.

One such process is "suppression" of 1st or 2nd person features in the presence of a Speaker-imposter (like *yours truly*) or a Hearer-imposter (like *Madam*). As noted by Collins and Postal, in the presence of an imposter, it sometimes becomes possible for 3rd person pronouns to refer to the speaker or the hearer. But it is not possible for a 3rd person pronoun to refer to the speaker or the hearer if a constituent containing that 3rd person pronoun contains a coreferent 1st or 2nd person pronoun, but doesn't contain a coreferent imposter.

(44)   a.   My$_i$ university agrees that yours truly$_i$'s results support his$_i$ conclusion.

      b.   *Yours truly$_i$'s university agrees that my$_i$ results support his$_i$ conclusion.

How could a 3rd person pronoun have indexical reference? If 3rd person is really an elsewhere case, then it is likely that the 3rd person pronoun in (44a) is used to refer to the speaker, because it is somehow impossible to use a 1st person pronoun. The ungrammaticality of (44b) suggests that 1st person has to be "suppressed" in the *domain* that includes the imposter *yours truly*.

There is a natural way to analyze this "suppression" in a framework with complex indices: we can define a hidden semantic operator that makes the output of the assignment function applied to 1st or 2nd person indices in its scope undefined (and its scope has to include an imposter), so that 3rd person can be used instead. In Chapter 2, I will fully develop the argument, but for now it would be enough to note that no operation with the same effect could be defined, if we stick to the view that person features are directly relativized to the context. Manipulating context coordinates wouldn't give us the desired result. In fact, we can be sure that the the speaker coordinate is not manipulated in (44a), as both *yours truly* and *his* are clearly understood as referring to it.

Another likely case for person-sensitive assignment manipulation is presented in Chapter 3. There, we will deal with indexical shifting in Mishar Tatar, a process by which some (but not all!) personal pronouns can be shifted under attitude verbs to denote the coordinates of embedded contexts. It has been demonstrated in Sudo 2012 that indexical shifting *can* be analyzed in terms of assignment manipulation, if person features are parts of complex indices. I will argue that it has to be the case in Mishar Tatar shiftable pronouns have complex indices and shifting is person-sensitive assignment manipulation, since in this language "shiftability" of a pronoun correlates with its potential to be interpreted as a bound variable. This correlation is predicted in a theory by which only "shiftable" (null) pronouns are interpreted relative to the assignment function, and the *monster operator* (i.e. the operator responsible for shifting) manipulates not the context directly, but rather the assignment function by "resetting" the values of pronouns with particular person features in their referential indices, which makes it look very similar to *imposter operators*. As for "non-shiftable" (overt) person pronouns, their person features will be argued to be not features of indices, but rather standing on their own and interpreted as Kaplanian indexicals.

Chapter 2

Suppressing person: how *imposters* fit in the picture

2.1 Introduction

Imposters, as Collins and Postal (2012: 5) define them, are "notionally 1st person or 2nd person DPs that are grammatically 3rd person". In other words, imposters are 3rd person DPs used to refer to the speaker or the addressee of the utterance. So, these are expressions like the ones that appear on the following non-exhaustive list:

(45)   a. S-imposters ("1st person imposters")

      i. yours truly, your faithful servant, the (present) author(s), the present reviewer(s), the undersigned, the court, the (present) writer(s), this reporter

      ii. personal names

      iii. diminutive kinship terms: Daddy, Mommy, Auntie, Granny, Gramps

      iv. nondiminutive kinship terms plus a personal name: Uncle + *Name*, Aunt + *Name*, Cousin + *Name*, Grampa + *Name*, Granma + *Name*

    b. H-imposters ("2nd person imposters")

      i. Madam, the + *Common Noun denoting ranks in a military organization* (the general/colonel, etc.), the Holy Father, my lord, my lady, baby, darling, dear, dearest, love, sweetheart, sweetie, the reader, the attentive listener, my colleague from South Carolina (legislative context)

      ii. elements of (ii), especially when talking to very small children and pets (*Does Bobby want to go to the movies?*)

      iii. the elements of (iii)

      iv. possibly with some strain, the elements of (iv), (Collins and Postal 2012: 7)

It's easy to note that some of these expressions are just *definite descriptions* that have an option of referring to the speaker or the address (*this reporter, my colleague from South Carolina*), while some others (like *yours truly*) are designated *indexicals*. In the following example (modeled after Kaplan 1977/1989), *the author* may be understood as the speaker of the whole utterance (that would be indexical interpretation), but it can also be understood as *the author of that article* (non-indexical interpretation):

(46)   Whenever someone publishes a new article, the author's critics are aware of it.

However, non-indexical interpretation becomes impossible if an expression like *yours truly* or *the present author*[1] is used instead:

(47) Whenever someone publishes a new article, yours truly's / the present author's critics are aware of it.

Some imposters are non-idiomatic, but others are highly idiomatized. An expression like *your faithful servant* can be interpreted literally, in a non-idiomatic way, but it can also be interpreted as an idiom with indexical reference. In the former case, it is expected that the subparts of *your faithful servant* will be accessible in semantics. For example, the pronoun *your* can be interpreted as a bound variable. In the latter, idiomatic case, the meanings of the subparts of *your faithful servant* are not accessible.

(48) Only you think that your faithful servant is an idiot.
    a. Non-idiomatic
        i. *Strict reading*: 'You think that the person who is your faithful servant is an idiot, and nobody else thinks that that person is an idiot.'
        ii. *Bound reading*: 'You think that the peron who is your faithful servant is an idiot, and nobody else thinks that that person who is his/her faithful servant is an idiot.'
    b. Idiomatic
      Strict reading only: 'You think that the speaker is an idiot, and nobody else thinks that the speaker is an idiot.'

Note that unlike pronouns, imposters themselves cannot be interpreted as bound variables (Collins and Postal 2012: 195):

(49) a. Only I think that I know how to ski well.
        i. *Strict reading*: 'I think that I know how to ski well, and nobody else thinks that I know how to ski well.'
        ii. *Bound reading*: 'I think that I know how to ski well, and nobody else thinks that he or she knows how to ski well.'
    b. Only I think that your faithful servant knows how to ski well.
        i. *Strict reading only*: 'I think that I (y.f.s.) know how to ski well, and nobody else thinks that I (y.f.s.) know how to ski well.' (Collins and Postal 2012: 195)

Similar observations were made by Collins and Postal made in the domain of VP-ellipsis/VP-anaphora, where imposters preclude sloppy identity (Collins and Postal: 198):

(50) a. I think I know how to ski well, and so does Ted.
        i. *Strict identity*: 'Ted thinks I know how to ski well.'
        ii. *Sloppy identity*: 'Ted thinks he knows how to ski well.'

---

[1]In the case of *the present author* it is the indexical element *present* that seems to enforce the indexical interpretation of the whole term.

b. I think that your faithful servant knows how to ski well, and so does Ted.
Strict identity only: 'Ted thinks I (y.f.s.) know how to ski well.'

The fact that bound interpretation is unavaiable for imposters suggests that semantically they should be treated not as variables, but rather as Kaplanian *indexicals*.

(51)   a. $[\![$ your faithful servant$_{imp}$ $]\!]^{c,g} = s_c$.

   b. $[\![$ Madam$_{imp}$ $]\!]^{c,g} = h_c$.

(Let's assume that any context of evaluation c is an n-tuple consisting at least of the speaker coordinate s_c, the hearer coordinate h_c and the world coordinate w_c.)

Perhaps, the most important observation of Collins and Postal is that formally third person DPs that have semantics as in (51) (i.e. DPs used to refer to the speaker or the addressee) demonstrate a number of syntactic properties that set them aside from other third person DPs. Some of these properties are listed below:

(52)   a. Although normally imposters semantically bind 3rd person pronouns, it is sometimes possible for them (especially, for plural imposters) to bind 1st or 2nd person pronouns.

   i. The present author sees himself/*myself as a linguist.

   ii. The present authors see themselves/ourselves as linguists.

   b. In the presence of an imposter, it may become possible for 3rd person pronouns to refer to the speaker or the hearer. But it is not possible for a 3rd person pronoun to refer to the speaker or the hearer if a constituent containing that 3rd person pronoun also contains a coreferent 1st or 2nd person pronoun, but doesn't contain a coreferent imposter.

   i. My$_i$ university agrees that yours truly$_i$'s results support his$_i$ conclusion.

   ii. *Yours truly$_i$'s university agrees that my$_i$ results support his$_i$ conclusion.

   c. Imposters obviate Principle C when they are c-commanded by coreferent pronouns, as long as those pronouns have 1st or 2nd person features.

   i. I$_i$ think that your faithful servant$_i$ knows how to ski well.

   ii. *He$_i$ thinks that your faithful servant$_i$ knows how to ski well.

While I will come back to and discuss each of these properties in some detail, it is enough for now to say that Collins and Postal take them as motivating what they call the *syntactic view* of imposters. According to this view, it is the internal syntax of imposters plus some general properties of anaphora in natural language that give rise to their special behavior. The very fact that imposters denote speakers and addressees also follows from their syntax.

(53) *The syntactic view*

"Imposters are a class of DPs with a distinctive syntax. They have the non-3rd person denotations they do *because of this syntax*. More precisely, they have 1st person and 2nd person denotations because their grammatical structure incorporates inter alia exclusively 1st person or 2nd person forms. Still more precisely, they incorporate exactly the kind of DPs that have such denotations in nonimposter cases, that is [covert] 1st or 2nd person pronominals (see the diagrams below. − *A.P.*). [...]" (Collins and Postal 2012: 9–10).

(54)   a. *S-imposter.*   DP:[3rd]   b. *H-imposter.*   DP:[3rd]
                        ...*pro*:[1st] ...   ...*pro*:[2nd] ...

The syntactic view is countered by what Collins and Postal call the *notional view* of imposters.

(55) *The notional view*

"Imposters are syntactically regular 3rd person DPs with the it semantic/discourse property that they denote either the speaker(s) (in the same sense as 1st person pronouns do) or the addressee(s) (in the same sense as 2nd person pronouns do). Implicit in the notional view is the claim tat as far as their syntax is concerned, imposters are just plain vanilla 3rd person DPs. [...]" (Collins and Postal 2012: 9).

It is worth mentioning that neither the syntactic view nor the notional view by themselves are not sufficient to explain the properties listed in (52). Collins and Postal argue that the syntactic view must be coupled by a very specific theory of anaphora based on the notion of antecedence (an asymmetrical relationship between covalued DPs), whereby every pronoun must be anteceded in syntax.

What I will attempt in this chapter is to explore the notional view. I will propose that the notional view together with a general theory of representation and interpretation of person features is enough to understand why imposters behave the way they do. Specifically, I will show that the distribution of pronouns in presence of imposters provides support for having both person features that are parts of complex indices and person features that in presuppositional ϕ-heads in the system.

Person features as parts of complex indices are needed to be able to postulate hidden semantic operators that make the assignment function undefined for indices with specific person features. These operators account for some properties of imposters, like those in (52b). In turn, person features as presuppositional heads are needed to give an account of how a 3rd person DP could semantically bind a 1st or 2nd person pronoun, as in (52aii), as well as of some puzzles that we are yet to discover.

The chapter is structured as follows. In section 2.2, we will take a look at imposters as semantic binders (cf. (52a)), focusing on singular imposters. In section 2.3, we will consider peculiar configurations with several pronouns (cf. (52b)) and formulate a concrete proposal of how imposters and 3rd person pronouns in their presence come to denote speakers and addressees. Then, in section 2.4, we will see how the facts about plural imposters and plural pronouns (like those in (52aii)) could be integrated into our theory. In the last section, we

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will summarize the main findings and compare the system we developed with the one of (Collins and Postal 2012).

2.2 Imposters as semantic binders

The fact that imposters can semantically bind 3rd person pronouns is not that surprising. As we discussed in the previous chapter, person features on bound pronouns are known to be often uninterpretable or at least interpreted in a non-standard way. So, even if "normally", when unbound, 3rd person pronouns should not refer to speakers or hearers, when a 3rd pronoun is semantically bound, its person features just mimics the feature of its binder. Since imposters are by defintion 3rd person DPs, pronouns that they semantically bind should also be 3rd person.

For illustrative perposes, we can use the theory proposed in Minor 2011 and Sudo 2012. Let's recall how the semantic derivation of "Feature Transmission" works in the Minor-Sudo framework. Person features are represented as parts of referential indices interpreted by an assignment function, which is subject to the following condition.

(56) *Admissibility Condition for Assignment Functions*
An utterance of a sentence is felicitously evaluated with respect to context c, possible world w and assignment function g, only if g satisfies the following three conditions: for all $i \in \mathbb{N}$,

    a. $g(\langle i, ① \rangle) = s_c$

    b. $g(\langle i, ② \rangle) = h_c$

    c. $g(\langle i, ③ \rangle) \neq s_c$ and $g(\langle i, ③ \rangle) \neq h_c$ (Sudo 2012: 162)

In accordance with the rule of Predicate Abstraction (57), lambda-binders responsible for semantic binding must have exactly the same index as the one on pronouns and traces that are to be bound. So, it would be required that the person features on the trace of the nominal binder and the person feature on the bound pronoun are the same. Assuming that a moved DP leaves a trace that has the same person feature as the moved DP, the identity in person features between the binder and the bindee is ensured.

(57) If α is a branching node with daughters β and γ, where β dominates only a binder index $\lambda_{\langle i, ⓚ \rangle}$, then for any assignment function g, $[\![\alpha]\!]^g = \lambda x. [\![\gamma]\!]^{g[\langle i, ⓚ \rangle \to x]}$.

This is how it works in a simple, non-imposter case. The bound reading of the sentence (58) corresponds to an LF in which the complex referential indices (indices including person features) on the trace of the nominal binder *I* and the bound pronoun *my* are indentical (59).

(58) Only I talk to people who criticize my theory.

(59)

S

DP①: only, C, $I_{\langle 5,① \rangle}$

$\lambda x.x$ talks to people who criticize x's theory
(by Predicate Abstraction)

$\lambda_{\langle 7,① \rangle}$

$t_{\langle 7,① \rangle}$

talk to people who criticize $my_{\langle 7,① \rangle}$ theory
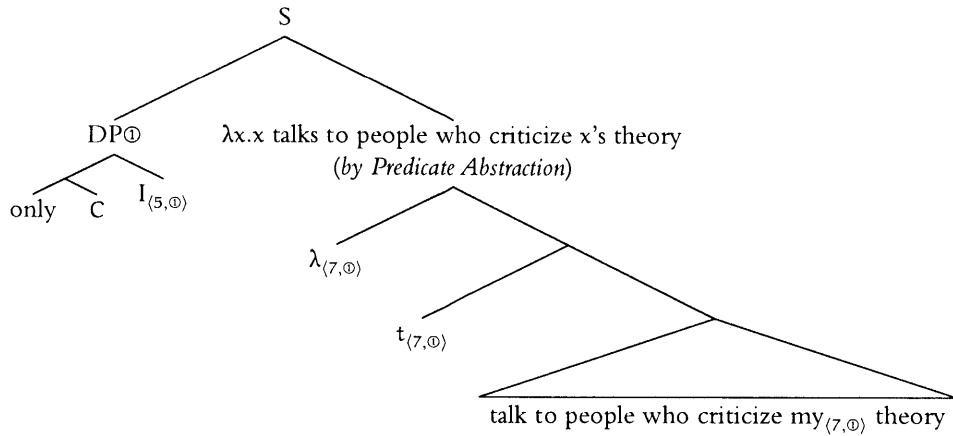
The Admissibility Condition for Assignment Functions applies only at the topmost level, so, in a sense, the indices on bound pronouns are irrelevant for its purposes, since they are fed into a slightly different assignment function, modified via Predicate Abstraction.

Given the semantics of *only* in (60), (59) would have the truth conditions in (61) below.

(60) $[\![$ only $]\!]^{g,w,c} = \lambda C.\lambda x_e.\lambda P_{\langle e,t \rangle}.\{y \in C : P(y) = 1\} = \{x\}$

(61) $[\![S_{(59)}]\!]^{g,w,c} = 1$ iff $\{y \in C : y$ criticizes y's theory$\} = \{g(\langle 5,① \rangle)\}$

This indeed captures the bound reading of (58).

Now, assuming that imposters are 3rd person expressions that, once moved, leave traces that also have 3rd person features, bound readings for 3rd person pronouns are predicted, given the chance that the complex index on the pronoun is exactly the same as the complex on the lambda binder. For example, the sentence in (62) is predicted to have a bound reading when it has an LF in (63).

(62)   Only yours truly talks to people who criticize his theory.

(63)

S

DP③: only, C, yours truly

$\lambda x.x$ talks to people who criticize x's theory
(by Predicate Abstraction)

$\lambda_{\langle 8,③ \rangle}$

$t_{\langle 8,③ \rangle}$

talk to people who criticize $his_{\langle 8,③ \rangle}$ theory
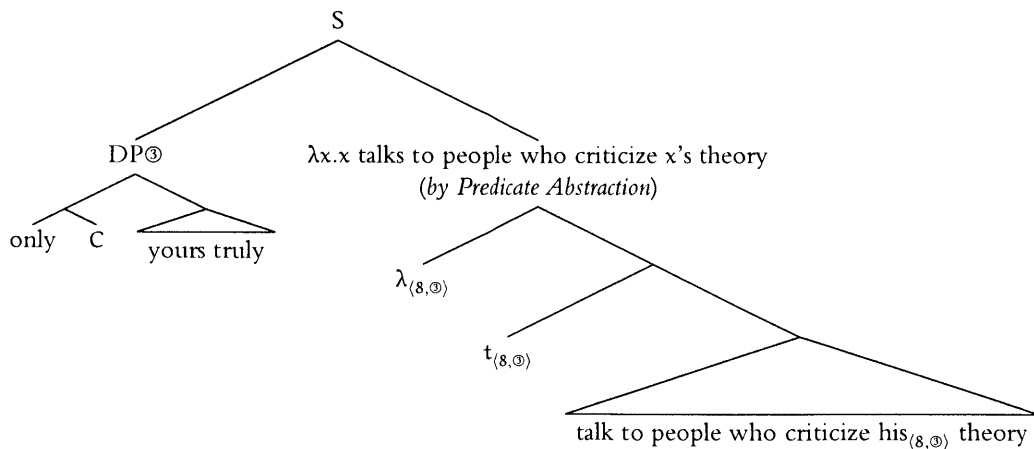
The truth conditions of (63) are given in (64).

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(64) $[\![\, S_{(63)}\,]\!]^{g,w,c} = 1$ iff $\{y \in C : y$ criticizes y's theory$\} = \{s_c\}$

Thus, we make a correct prediction that 3rd person pronouns can be semantically bound by imposters. Another prediction is that 1st or 2nd person pronouns cannot be semantically bound by imposters. That would require formal identity in complex indices between the lambda binder and the bound pronoun, but since their person features features are different, this identity is impossible.

(65)   Only yours truly talks to people who criticize my theory.

(66)
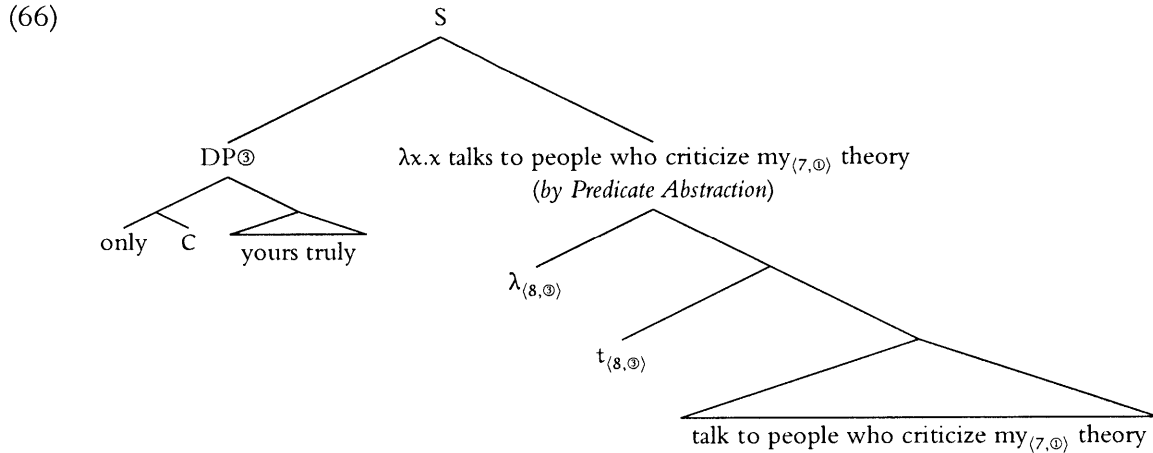
(67) $[\![\, S_{(66)}\,]\!]^{g,w,c} = 1$ iff $\{y \in C : y$ criticizes $g(\langle 7,①\rangle)$'s theory$\} = \{g(\langle 7,①\rangle)\}$

The truth conditions in (67) correspond to the strict reading, the only reading available for (65).

Unfortunately, the last prediction, though seemingly correct for (65), fails in some other cases. Collins and Postal (2012) note that plural imposters, in contrast to singular imposters, *can* bind 1st person pronouns. The sentence in (68) allows for a bound variable interpretation (along with a strict interpretation).

(68)   Only the present authors think we know how to do syntax. (Collins and Postal 2012: 253)

Note that in principle it is not inconceivable that the DP *the present authors* may carry a 1st person feature, just like conjunctions like *my co-author and I* do in French or Russian (see 2.4.2.1 for details). Due to morphological peculiarities of English, it is really hard to tell, say, from verbal agreement. If the imposter in (68) does have a 1st person feature[2], then the bound reading is predicted.

I will argue, however, that the possibility of semantic binding in (68) arises not because there is something special about plural imposters, but because there is something special about plural pronouns. This can be demonstrated with the help of examples in which *a singular imposter binds into a plural pronoun*, such as (69) below.

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[2]We would need to change our defintion of imposters, so that it doesn't make reference to 3rd person features, making it something along the following lines: imposters are non-pronominal DP used to refer to the speakers and the addressees of utterances.

(69) Of all of your$_{\langle 2, ②\rangle}$ ex-husbands, [only yours faithful servant] $\lambda_{\langle 1, ③\rangle}$ thinks that our$_{\{\langle 2, ②\rangle, \langle 1, ③\rangle\}}$ marriage was successful.

What is peculiar about (69) is the fact that the plural pronoun surfaces with the 1st person feature. Where could this feature come from? Arguably, not from its non-binding antecedent, *you*, which is 2nd person, but it also hardly could be from the semantic binder, *yours truly*, which is 3rd person. A conclusion that seems inevitable is that the mechanism by which the plural pronoun in (69) gets its person feature is different from what we have seen for singular pronouns. We will return to person features of plurals in section 2.4, but for now it is important to emphasize that here we are taking the view according to which *singular* pronouns represent, in a sense, a more basic case of pronouns anteceded by imposters. With singulars, we can stick to the Minor-Sudo analysis, where person features are parts of complex indices.

In the following section, we will look at what seems to be a more complicated case than an imposter semantically binding a 3rd person pronoun. As Collins and Postal note, in the presence of imposters, 3rd person pronouns, while not being semantically bound by imposters, can denote speakers and hearers. For example, the sentence (62) has a strict reading, on a par with the bound one, discussed above.

(70) Only yours truly talks to people who criticize his theory.

The strict reading of (70) is not predicted in our current system, since according to the Admissibility Condition for Assignment Functions, the 3rd person pronoun cannot refer to the speaker. The necessary amendments will be discussed shortly.

2.3 Impostrous domains

In this section, I propose a mechanism by which 3rd person expressions (like imposters and pronouns coreferent with them) can come to denote speakers or hearers, in the presence of imposters. The mechanism essentially amounts to certain manipulations with the assignment function. The implementation involves postulating operators in syntax that do the job by making indices with 1st or 2nd person features uninterpretable and thus allowing indices with 3rd features to step in instead. As a consequence, it should be impossible to find 1st/2nd person pronouns in the scope of such operators.

2.3.1 Imposters and "pretense"

We can start with an intuition. When the speaker utters a sentence containing an S-imposter like *yours truly*, it may signal that he or she "pretends" that he or she doesn't identify himself/herself as the author of the utterance. Similarly when the speaker uses an H-imposter like *Madam* to refer to the hearer, it may signal that the speaker "pretends" to not identify that person as his/her addressee. If so, the use of third person pronouns to refer to speakers or addressees in sentences with imposters is justified.

But now, where does one start pretending, and where does one stop? Here it seems like the grammar has its way of constraining *domains of pretense*. For example, as Collins and Postal observed, any constituent that contains a 3rd person pronoun, coreferent with

an imposter, but doesn't contain the imposter itself, cannot contain a coreferent 1st or 2nd person pronoun. Consider a paradigm, modeled after one in (Collins and Postal 2012):

(71) a. My_i university agrees that [your faithful $servant_i$'s results support his_i conclusion].

   b. (?)My_i university agrees that [his_i results support your faithful $servant_i$'s conclusion].

   c. *Your faithful $servant_i$'s university agrees that his_i results support my_i conclusion.

   d. *Your faithful $servant_i$'s university agrees that my_i results support his_i conclusion.

In our "intuitive" terms, we could say that the *domain of pretense* has to manifest itself as a syntactic constituent that contains both the imposter and the coreferent pronoun. Such a consituent can be identified in (a) and (b), but not in (c) or (d). In both (a) and (b) we can single out constituents that contain the imposter and the coreferent 3rd person pronoun, such that the 1st person pronoun would lie outside this *domain of pretense*. In (c) and (d), however, any consituent that contains the imposter and the coreferent 3rd person pronoun also contains a coreferent 1st person pronoun that signals that the speaker is **not** pretending.

2.3.2   Imposter operators

How can we capture these syntactic domain-wide effects? One possibility would be to introduce a silent operator in the structure, such that the effect is limited to its scope. At least a part of what that operator should do is "suppress" the use of 1st or 2nd person pronouns, in the presence of S-imposters or H-imposters, respectively. It is important to note that these "suppression" operations can be explicitly formulated only if 1st and 2nd person features pronouns are parts of with complex indices. These operators would modify the assignment function so that it becomes undefined for all 1st or 2nd person indices. It would be just impossible to formulate operators that would achieve the same effect, if 1st and 2nd person pronouns were Kaplanian indexicals or minimal pronouns with simple numerical indices and indexical presuppositions that we discussed in Chapter 1.

Here is how assignment-manipulating *imposter operators*, dubbed ⊕ and ⊛, could be defined.

(72) a. $[\![\oplus \phi]\!]^g = [\![\phi]\!]^{g'}$,
      where g' differs from g in that for all $i \in \mathbb{N}$,
      $g(\langle i, ① \rangle)$ is undefined.

   b. $[\![\circledast \phi]\!]^g = [\![\phi]\!]^{g'}$,
      where g' differs from g in that for all $i \in \mathbb{N}$,
      $g(\langle i, ② \rangle)$ is undefined.

But this cannot be enough. It must be the case that it becomes possible for 3rd person pronouns to refer to speakers/hearers in the scope of such operators. We can achieve this

by removing the clause about 3rd person features from the Admissibility Condition for Assignment Functions:

(73) *Admissibility Condition for Assignment Functions*: Revised
An utterance of a sentence is felicitously evaluated with respect to context c, possible world w and assignment function g, only if g satisfies the following three conditions: for all $i \in \mathbb{N}$,

   a. $g(\langle i, \text{①}\rangle) = s_c$
   b. $g(\langle i, \text{②}\rangle) = h_c$

The referents of 3rd person pronouns are not constrained by (73), they are not prevented from picking speakers and and addressees as their referents. However, it should be possible only in the scope of an imposter operator. We would need some principle that makes the use of 3rd person pronouns an "elsewhere case", like the one below:

(74) *Elsewhere 3rd person Principle*
For all $i, j, k \in \mathbb{N}$, a complex index with the 3rd person feature $\langle i, \text{③}\rangle$ is not licensed in a position P of a sentence S, if there is an alternative sentence S', different from S at most in that $\langle i, \text{③}\rangle$ in P is replaced by $\langle i, \text{①}\rangle$ or $\langle i, \text{②}\rangle$), such that $[\![S]\!]^g = [\![S']\!]^g$.[3]

Now the possible referents for 3rd person pronouns are required to be different from the referents of 1st and 2nd person pronouns, but only in those environments where it is possible to meaningfully use those pronouns. When an imposter operators renders the pronouns with 1st or 2nd person features undefined, 3rd person pronouns will become able to refer to what 1st and 2nd person pronouns normally refer to: speakers and addressees.

Let's take the sentence (71a) and see how it works.

(75) My$_i$ university agrees that [your faithful servant$_i$'s results support his$_i$ conclusion].

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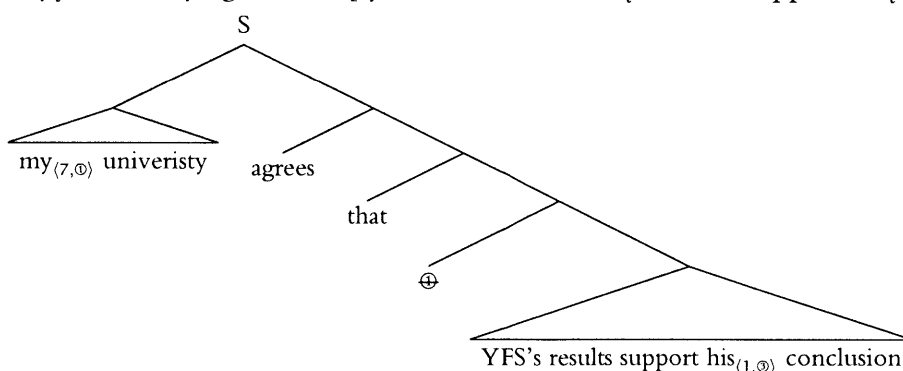
[3]It is worth noting that the proposed principle bears close resemblance to the ideas of Percus (2006) and Sauerland (2008) for whom the fact that 3rd person pronouns cannot refer to speakers and addresses is a pragmatic effect of *Maximize Presupposition*. Here, however, we don't treat person features as presuppositional, so Maximize Presupposition shouldn't play a role. Though I won't speculate at length about the nature of the proposed principle, it could be related to the Elsewhere Principle in morphology (cf. Anderson 1969, Kiparsky 1973, Halle and Marantz 1993 and others). What I have been calling complex indices with 3rd person might actually be indices without any person features (the domain of the assignment function would then include both simplex and complex indices), and then, all other things being equal, simplex indices should systematically loose competition to complex indices (i.e. indices with 1st or 2nd person features) whenever those could be used. This could be a direction to pursue.

Since the 3rd person pronoun appears in the scope of the imposter operator ⊕, it is possible to interpret as referring to the speaker.

But now, if this operator can be inserted in the structure freely, we would make a wrong prediction that a sentence like (71c) would be acceptable on the following parse:

(76) Your faithful servant's$_i$ university agrees that [his$_i$ results] support my$_i$ conclusion].

S
YFS's univeristy
agrees
that
⊕
his$_{(1,⊕)}$ results   support my$_{(7,⊕)}$ conclusion
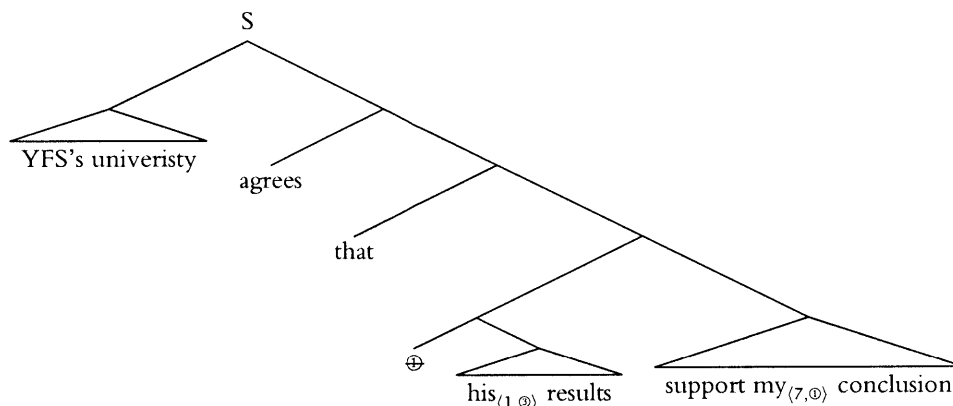
In a response to this wrong prediction one can stipulate that the scope of an imposter operator must include an imposter. If so, the parse in (76) would not be possible: both the imposter and the coreferent 3rd person pronoun would have to be in its scope. But then, the scope of the imposter operator would also have to include the 1st person pronoun and won't be possible to interpet it, given the defintion of the ⊕-operator[4]. The requirement for ⊕-operators to contain S-imposters in their scope and for ⊛ to contain H-imposters in theirs could be a processing effect: an imposter provides a cue to the presence of a silent operator. In absence of such a cue, there would be a preference to go with a simpler parse that wouldn't include this silent operator. Alternatively, it could be an *agreement* phenomenon, supposing that an imposter operator needs to syntactically agree with a particular feature in its c-command domain, a feature that only a corresponding imposter would have.

Collins and Postal observe that it is not possible for 3rd person pronouns to refer to speakers/hearers when there is no corresponding imposter around, in their terms, 3rd person pronouns referring to the participants have to be *anteceded* by imposters. Here is one of the contrasts they discuss:

(77) a. Because Daddy$_i$ was thirsty, he$_i$ drank a Coke. (≈ Because I was thirsty, I drank a Coke.)

      b. He drank a Coke. (≠ I drank a Coke.) (Collins and Postal 2012: 100)

Indeed, it seems that when one utters (b) "out of the blue", it is overwhelmingly more likely to be understood as saying something about some male person *distinct from the speaker*.

---

[4]It might be tempting to say that imposters themselves carry a complex index that is intepreted via an assignment function in accordance with (73), and thus an imposter operator is the only means by which imposter DPs can refer to speakers or hearers. But that is probably a move we wouldn't want to take, since, unlike pronouns, imposters never denote variables (see section 2.1).

From our perspective, it is because there is no cue to the presence of the ⊕-operator[5]

According to a processing account, imposter operators can indeed be inserted freely, but there should be cues that they are there in the structure. An overt imposter is just the most obvious of such cues, and when a sentence like (71a) is taken in isolation, a parse with one imposter operator taking scope of the imposter and the coreferent 3rd person pronoun (75) will be preferred to the one that has, say, two imposter operators, like below:

(78) My_i university agrees that your faithful $servant_i$'s results support his_i conclusion.
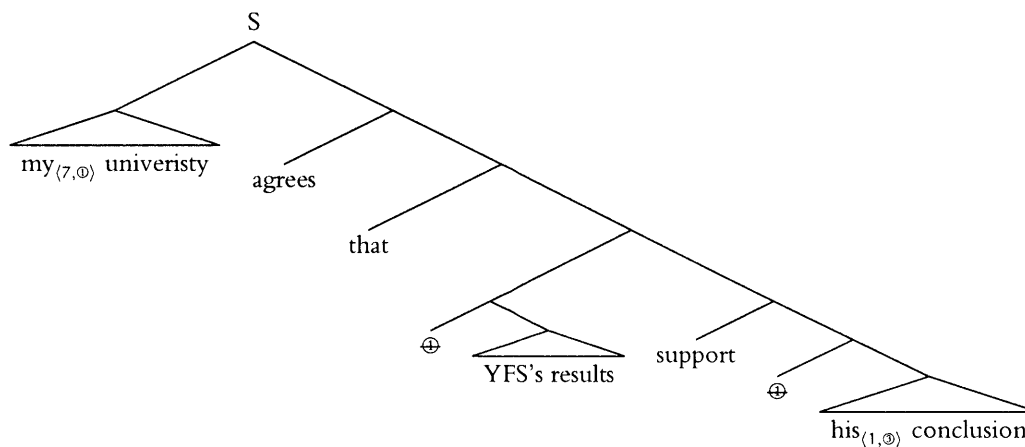
2.3.3 New predictions

So far, the introduction of imposter operators has helped us to understand some structural conditions on the use of pronouns in the presence of imposters. Namely, we became able to explain Collins's and Postal's generalization: any constituent that contains a 3rd person pronoun, coreferent with an imposter, but doesn't contain the imposter itself, cannot contain a coreferent 1st or 2nd person pronoun. However, the prediction we can now make is actually stronger: the minimal constituent including an imposter and all coreferent 3rd person pronouns cannot include any coreferent non-3rd person pronoun. Indeed, the minimal constituent including an imposter and all coreferent 3rd person pronouns would be the

---

[5]It is not impossible to come up with a context in which a 3rd person pronoun is used to refer to the speaker, while no imposter is present in the structure.

Consider the following scenario (due to David Pesetsky, p.c.). I have a birthday, and my wife and my friends are organizing a surprise party for me. They gather at our place, get everything ready and wait for me. I am, however, very late. When I finally arrive, I see my friends having cake, drinking and enjoying themselves. I immediately realize that this was meant to be a surprise party for me, and my friends were so tired waiting that they decided to start without me. They don't even notice my arrival. To make myself spotted, I announce:

(i)   Well, my friends, he's finally here!

The speaker uses the pronoun *he* to refer to himself. Does it mean that there is an ⊕-operator in the structure?

Not necessarily. The scenario is set up in a way that the sentence in i could be just an answer to the question speaker thinks everybody has been asking, namely *Where the hell is he?* This is probably the best explanation. If it indeed were the case that there is an imposter operator, then why doesn't it occur without imposters in less convoluted scenarios? If it is just a matter of the shift of the perspective (say, the speaker takes his guests' perspective on himself as 'the birthday boy'), they why cannot he say 'Our best friend is finally here!' or 'You are finally here!'? (Sabine Iatridou, p.c.)

lowest possible attachment site for an imposter operator, at least that constituent would have to be in its scope, and that would preclude the occurence of coreferent 1st or 2nd person pronouns in that constituent.

Thus, in the following paradigm, coreference is bad not only in (79c,d), but also in (79e,f).

(79)　a.　My$_i$ university agrees that [your faithful servant$_i$'s results support his$_i$ conclusion].

　　　b.　(?)My$_i$ university agrees that [his$_i$ results support your faithful servant$_i$'s conclusion].

　　　c.　*Your faithful servant$_i$'s university agrees that his$_i$ results support my$_i$ conclusion.

　　　d.　*Your faithful servant$_i$'s university agrees that my$_i$ results support his$_i$ conclusion.

　　　e.　*His$_i$s university agrees that your faithful servant$_i$'s results support my$_i$ conclusion.

　　　f.　*His$_i$ university agrees that my$_i$ results support your faithful servant$_i$'s conclusion.

There are at least two other important predictions.

First, we must note that singular 3rd person pronouns semantically bound by imposters are licensed even in the absence of c-commanding imposter operators. Thus, we can predict, for example, that a 1st person pronoun *coreferent* with an imposter can occur with a 3rd person pronoun *bound* by this imposter in a constituent that doesn't include the imposter. The prediction is borne out.

(80)　a.　Only your faithful servant $\lambda_{\langle 7,③\rangle}$ thinks that my$_{\langle 5,①\rangle}$ results support his$_{\langle 7,③\rangle}$ conclusion.

　　　b.　Only your faithful servant $\lambda_{\langle 7,③\rangle}$ thinks that his$_{\langle 7,③\rangle}$ results support my$_{\langle 5,①\rangle}$ conclusion.

The two sentences above have readings in which the 3rd person pronouns are semantically bound by *only your faithful servant* and the 1st person pronouns are free. 3rd person pronouns are licensed here as a direct consequence of (74), since substituting them for 1st person pronouns would alter the truth conditions (all 1st person pronouns would have to be non-bound, because their indices are different from that of the lambda-binder).

The second prediction is also about semantic binding. While imposter operators manipulate the assignment function by making either 1st person or 2nd person indices undefined, it is not entirely impossible to have a 1st person pronoun in the scope of the ⊕-operator or a 2nd person pronoun in the scope of the ⊜-operator, so long as the pronouns are intepreted as variables, bound by free pronouns positioned above the operators.

For example, the sentence in (81) has a bound reading, but not the strict reading:

(81)　Only I$_i$ think that yours truly$_i$ should introduce his$_i$ friends to my parents.

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a. *Bound reading*: I think that I should introduce my friends to my parents, and nobody else thinks that I should introduce my friends to his or her parents.

b. *Strict reading*: #I think that I should introduce my friends to my parents, and nobody else thinks that I should introduce my friends to my parents.

The absense of the strict reading, in which the pronoun *my* is interpreted as a free variable, is a consequence of the fact there should be a ⊕-operator at least as high as at the embedded TP level. Its presence would be required to "license" the imposter *yours truly* and the coreferent 3rd person pronoun. The 1st person pronoun *my*, however, bears a complex index with the 1st person feature, that is made undefined by the operator.

The bound reading is available on the following parse of the sentence:

(82)
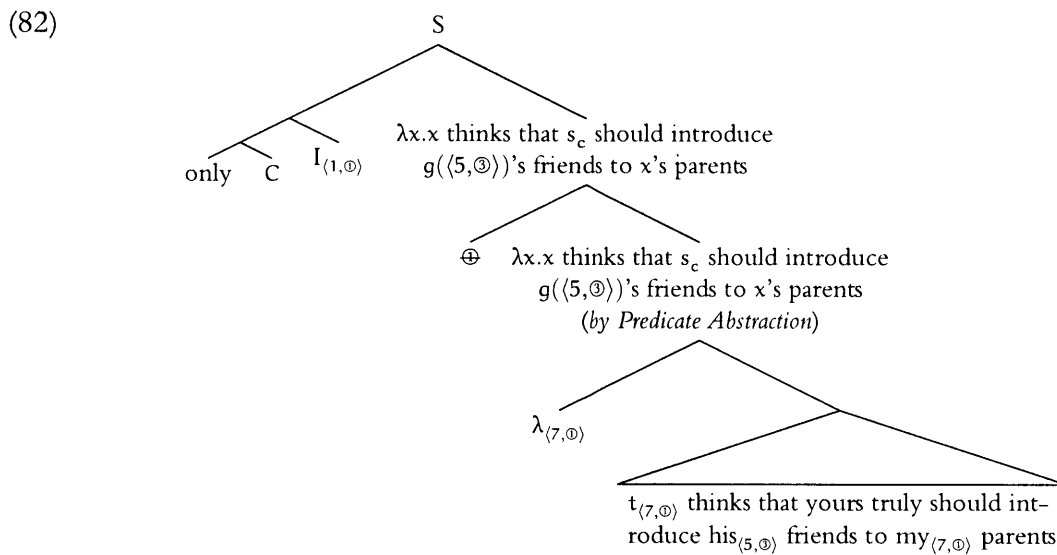
Provided that the value of $g(\langle 5,\text{③}\rangle)$ is the speaker,

(83) $[\![\ S_{(82)}\ ]\!]^{g,w,c} = 1$ iff $\{y \in C : y$ thinks that s_c should introduce s_c's friends to y's parents$\} = \{g(\langle 1,\text{①}\rangle)\}$

The application of ⊕ in this case doesn't affect the 1st person pronoun in its scope. This is because that 1st person pronoun is already semantically bound, and ⊕ applies to the predicate $\lambda x.x$ thinks that s_c should introduce s_c 's friends to x's parents. Modifying the assignment function by making 1st person indices undefined doesn't make a difference at this point. Thus, a crucial issue is the ordering of the ⊕-operator and the lambda-binder. If their order were reversed, the structure would be uninterpretable because $g(\langle 7,\text{①}\rangle)$ would be undefined[6]:

---

[6]Note than in a system in which person features on a bound pronoun are not interpreted at LF (Feature Transmission, see Heim 2008b, Kratzer 2009, a.o.), the ordering won't even matter.

42

(84)

$\cdots$

$\lambda_{\langle 7,\circledcirc \rangle}$ *undefined!*

$\oplus$ $g(\langle 7,\circledcirc \rangle)$ thinks that s_c should introduce s_c's friends to $g(\langle 7,\circledcirc \rangle)$'s parents

$t_{\langle 7,\circledcirc \rangle}$ thinks that yours truly should introduce $his_{\langle 5,\circledS \rangle}$ friends to $my_{\langle 7,\circledcirc \rangle}$ parents
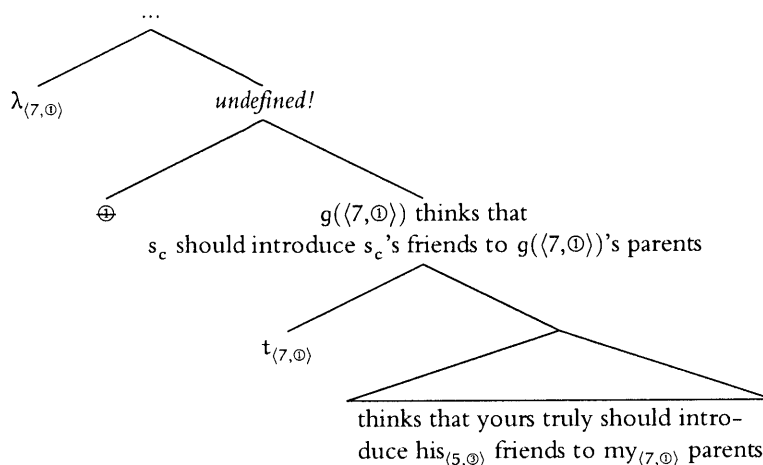
2.4 Plural imposters and plural pronouns

Up to this point, we have been mainly focused on singular imposters and singular pronouns. It has been pointed out in Collins and Postal 2012 note that plural imposters have different properties. Specifically, as Collins and Postal note, plural imposters, unlike singular imposters, appear to be able to bind 1st or 2nd person pronouns, as in the examples below

(85)   a. The present authors consider themselves / ourselves to be linguists.

       b. The present author considers himself / *myself to be a linguist.

       c. Mommy and Daddy enjoyed themselves / ourselves on vacation.

       d. Mommy enjoyed herself / *myself on vacation.

       e. Only your faithful servants think that their / our book will sell well. (bound reading available)

       f. Only your faithful servant thinks that my book will sell well. (bound reading unavailable)

Unlike Collins and Postal, I am going to argue to that this is actually not a special property of plural imposters, but rather a special property of plural pronouns. Roughly, the idea is that plural pronouns can be spelled out with 1st/2nd person features if the denotation of the pronoun includes the speaker or (just) the hearer. I am going to develop the argument below.

2.4.1 Partially bound pronouns

The primary piece of evidence that plural pronouns are special in what kind of person features they can have comes from plural pronouns with multiple indices. First let's consider partially bound pronouns of the kind discussed in Rullmann 2004, Heim 2008b and Sudo 2012 (among others), like the one in the example below:

(86)   Of all of Mary's ex-husbands, only I think our marriage was a success.

The reading we should be after is the one in which *only I* binds into the plural pronoun *our*. A standard way to analyze such cases would be to say that this pronoun has a *set index*, i.e. a set consisting of several (in the example above, two) indices, one of which corresponds to *Mary*, and the other one is bound by *only I*. Thus, the sentence asserts that the speaker thinks that Mary's marriage with him was a success and that other ex-husbands don't think her marriage to them was.

(87) $[\![\, S \,]\!]^{g[\langle 7,\text{①}\rangle \to s_c, \langle 9,\text{③}\rangle \to \text{Mary}], w, c} = 1$ iff
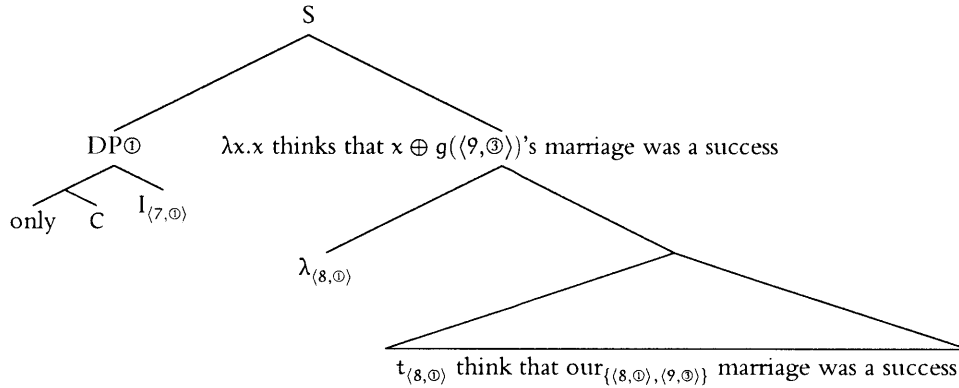
$\{x \in C_{\text{Mary's ex-husbands}} : x \text{ thinks that } x \oplus \text{Mary's marriage was a success}\} = \{s_c\}$

$$
\begin{array}{c}
\text{S} \\
\diagup \qquad \diagdown \\
\text{DP①} \qquad \lambda x.x \text{ thinks that } x \oplus g(\langle 9,\text{③}\rangle)\text{'s marriage was a success} \\
\diagup \diagdown \qquad \qquad \diagup \diagdown \\
\text{only} \quad \text{C} \quad \text{I}_{\langle 7,\text{①}\rangle} \qquad \lambda_{\langle 8,\text{①}\rangle} \\
\\
t_{\langle 8,\text{①}\rangle} \text{ think that } \text{our}_{\{\langle 8,\text{①}\rangle, \langle 9,\text{③}\rangle\}} \text{ marriage was a success}
\end{array}
$$

Quite strikingly, if the pronoun *I* in this example is replaced by an imposter like *yours truly*, this bound reading is still available.

(88) Of all of Mary's ex-husbands, [only yours truly] $\lambda_{\langle 8,\text{③}\rangle} t_{\langle 8,\text{③}\rangle}$ thinks $\text{our}_{\{\langle 8,\text{③}\rangle, \langle 9,\text{③}\rangle\}}$ marriage was a success.

But where would the 1st person feature on *our* come from? We have already established that singular 3rd person imposters can only bind 3rd person indices. So, both indices on the pronoun would have 3rd person, yet it is spelled out as the 1st person pronoun *our*. We are forced to conclude that in this case the person feature on the partially-bound pronoun is not determined by the person features of the indices in the set. Note that the same reading could be obtained with a 3rd person plural pronoun *their* (89). This is much less surprising: for instance, one could assume some syntactic mechanism, by which the pronoun is spelled out as 3rd person if all of its indices are 3rd person.

(89) Of all of Mary's ex-husbands, [only yours truly] $\lambda_{\langle 8,\text{③}\rangle} t_{\langle 8,\text{③}\rangle}$ thinks $\text{their}_{\{\langle 8,\text{③}\rangle, \langle 9,\text{③}\rangle\}}$ marriage was a success.

The "unexpected" person feature on a partially-bound pronoun pops up in other cases as well. For example, the bound reading of (90) is only available if the partially bound pronoun is 1st person (*our*), although, arguably, neither of the indices in the set has 1st person: one has 3rd person and the other has 2nd person.

(90) Of all of $\text{your}_{\langle 9,\text{②}\rangle}$ ex-husbands, [only yours truly] $\lambda_{\langle 8,\text{③}\rangle} t_{\langle 8,\text{③}\rangle}$ thinks $\text{our}_{\{\langle 8,\text{③}\rangle, \langle 9,\text{②}\rangle\}}$ / *$\text{their}_{\{\langle 8,\text{③}\rangle, \langle 9,\text{②}\rangle\}}$ marriage was a success.

The data about person features of pronouns *partially bound by imposters* can be summarized in the following table:

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Table 2.1: Features of pronouns partially bound by imposters

Binder	Set Index {bound index, free index}	Person Feature of the pronoun with the set index	ex.
S–imposter	{⟨i,③⟩, ⟨j,③⟩}	1st or 3rd	(88–89)
	{⟨i,③⟩, ⟨j,②⟩}	1st	(90)
H–imposter	{⟨i,③⟩, ⟨j,③⟩}	2nd or 3rd	(91)
	{⟨i,③⟩, ⟨j,①⟩}	1st	(92)

(91) Of all of John's ex-wives, [only Your Majesty] $\lambda_{\langle 8,③\rangle} t_{\langle 8,③\rangle}$ thinks your$_{\{\langle 8,③\rangle,\langle 9,③\rangle\}}$ / their$_{\{\langle 8,③\rangle,\langle 9,③\rangle\}}$ marriage was a success.

(92) Of all of my$_{\langle 9,①\rangle}$ ex-wives, [only Your Majesty] $\lambda_{\langle 8,③\rangle} t_{\langle 8,③\rangle}$ thinks our$_{\{\langle 8,③\rangle,\langle 9,①\rangle\}}$ / *your$_{\{\langle 8,③\rangle,\langle 9,①\rangle\}}$ / *their$_{\{\langle 8,③\rangle,\langle 9,①\rangle\}}$ marriage was a success.

It looks like there are two strategies potentially available for computing the person feature of a pronoun partially anteceded by an imposter: one is *syntactic*: to use the 3rd person features if all the indices in the set are 3rd person (from now on, *the syntactic strategy*); the other is semantic, to use a feature determined by the denotation of the pronoun, regardless of the individual indices in the set. Specifically, this semantic strategy can be characterized as follows:

(93) *Semantic strategy for person features of plural pronouns partially bound by imposters*
Use the 1st person feature on the plural pronoun P, if $[\![P]\!]^c$ contains s_c;
Use the 2nd person feature on the plural pronoun P, if $[\![P]\!]^c$ contains h_c, but not s_c.

It is very important that this strategy is not a computation based on the features of the indices in the set. This sets it apart from, say, the mechanism proposed in Sudo 2012 for pronouns with set indices:

(94) A pronoun with a set index I is
a. a 1st person plural pronoun, if there is some index ⟨i,①⟩ ∈ I;
b. a 2nd person plural pronoun, if there is no index ⟨i,①⟩ ∈ I and there is some index ⟨j,②⟩ ∈ I;
c. a 3rd person plural pronoun otherwise. (after Sudo 2012: 185)

Sudo's mechanism fails to work precisely in cases of pronouns partially bound by imposters, where it is possible to have a 1st or 2nd person plural pronouns that don't have indices with corresponding person features in their sets, as in our examples (88), (90), (91) and (92). Instead, the semantic strategy in (93) is more reminiscent of the presuppositional analysis of person features that we discussed in Chapter 1: person features are viewed as special heads taking pronominal and non-pronominal DPs as complements, and triggering indexical presuppositions.

(95) a. $[\![$ 1st $]\!]^{c,w,g} = \lambda x\colon x$ contains s_c.

    b. $[\![$ 2nd $]\!]^{c,w,g} = \lambda x\colon x$ contains h_c, but not s_c.

    c. $[\![$ 3rd $]\!]^{c,w,g} = \lambda x\colon x$ doesn't contain either s_c or h_c

Of course, 3rd person shouldn't be always semantically interpreted. For example, the 3rd person feature assigned by *the syntactic strategy* in (89) is not interpreted as in (95), its semantic input is vacuous.

2.4.1.1 More on the presuppositional theory

Collins and Postal (2012) argue against the presuppositional theory of person features. The variant of the presuppositional theory that they criticize has the following denotations for person features:

(96) a. $[\![$ 1st $]\!]\,(x)$ is only defined, if the speaker is a part of x;
       $[\![$ 1st $]\!]\,(x) = x$, where defined.

    b. $[\![$ 2nd $]\!]\,(x)$ is only defined, if the participants overlap with x;
       $[\![$ 2nd $]\!]\,(x) = x$, where defined.

    c. $[\![$ 3rd $]\!]\,(x) = x$.   cf. Sauerland 2008

The choice of a particular person feature is determined by the principle of Maximize Presupposition:

(97) *Maximize Presupposition*
     Presuppose as much as possible in your contribution to the conversation.

As Collins and Postal note, the principle as it is, coupled with presuppositional semantics for person features in (96), seems to make incorrect predictions for imposter cases (Collins and Postal 2012: 38). Most importantly, there is no way to account for variablity in phi-features of pronouns in sentences like (85a), (85c), (85e), (88-89) or (91). According to (97) and (96), we should expect that only 3rd person pronouns will fail to be licensed in those cases, because they would "lose" to more "presuppositionally loaded" 1st and 2nd person pronouns.

However, *Maximize Presupposition* could be rescued if we suppose that it is applicable only in those cases that concern a *semantically interpretable* feature. Let's see how this works, for example, in (88), repeated below:

(98) Of all of Mary's ex-husbands, [only yours truly] $\lambda_{\langle 8,③\rangle}\, t_{\langle 8,③\rangle}$ thinks our$_{\{\langle 8,③\rangle,\langle 9,③\rangle\}}$ marriage was a success.

Our starts out as minimal pronoun with a set index $\{\langle 8,③\rangle, \langle 9,③\rangle\}$, then this pronoun is taken as a complement by the semantically interpretable person φ-head (*semantic strategy*):

(99)

                                   φP

                        iφ:[1st]

                            pro$_{\{\langle 8,③\rangle,\langle 9,③\rangle\}}$

The whole structure is spelled as *our*[7]. Alternatively (89), the pronoun with the set index $\{\langle 8,③\rangle, \langle 9,③\rangle\}$ may become a complement of the semantically uninterpretable person ϕ-head, that is going to *agree* with both person features in the set in 3rd person (*syntactic strategy*):

(100)

$$\phi P$$

uϕ:[3rd]　　pro$_{\{\langle 8,③\rangle,\langle 9,③\rangle\}}$
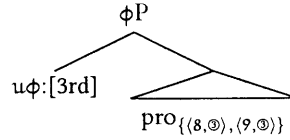
There is a more obvious problem with claiming that the person feature of a partially bound pronoun is presuppositional. It is a part of a broader problem that we discussed in Chapter 1. If no special arrangements are made, the presuppositions of the pronoun would project in such a way that the truth conditions will come out wrong.

(101)　　　　1 iff $\{y \in C_{\text{Mary's ex-husbands}},\ y \oplus \text{Mary contains } s_c:$
　　　　　　y thinks that $y \oplus$ Mary's marriage was a success$\} = \{s_c\}$

DP　　　　$\lambda x : x \oplus g(\langle 9,③\rangle)$ contains s_c. x thinks that
　　　　　　　　$x \oplus g(\langle 9,③\rangle)$'s marriage was a success

only　C　yours truly

$\lambda_{\langle 8,①\rangle}$

$t_{\langle 8,①\rangle}$ thinks that our$_{\{\langle 8,①\rangle,\langle 9,③\rangle\}}$ marriage was a success
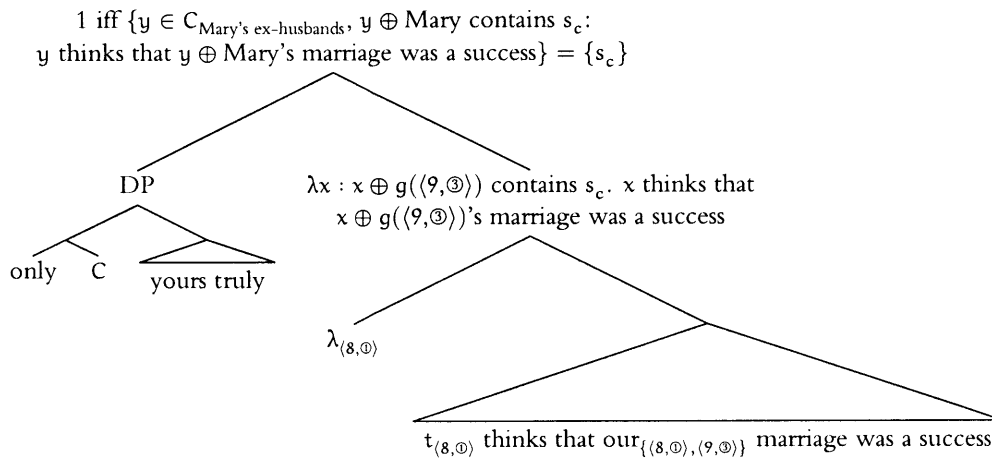
The meaning becomes trivialized, because essentially the 1st person presupposition excludes from the *only*-alternatives everybody except the speaker. Thus, imagining, for example, that the set of Mary's ex-husbands includes a certain individual John, different from the speaker, the sentence is not predicted to deny that John thinks that his marriage with Mary was a success. However, this is exactly what the bound reading implies.

A way around this problem that we discussed in Chapter 1 is to separate the semantic computation of presuppositions from the computation of assertions to make sure that the indexical presupposition doesn't enter into the second argument of *only*. As was proposed in 1.2.2, *only* is vacuous on the presupposition tier, so that the presupposition set of *only* DP is equivalent to the presupposition set of that DP, see also the compositional rules for two-tiered computations in (25) and (26).

---

[7]If this analysis is on the right track, then it is obvious that our initial intuitions about "domains of pretense" in section 2.3.1 were misleading. Indeed, if the speaker pretended to not identify himself as the author of the utterance, he probably wouldn't use the presuppositional 1st person feature in (98).

(102)

$$A: 1 \text{ iff } \{y \in C_{\text{Mary's ex-husbands}}: y \text{ thinks that } y \oplus \text{Mary's}$$
$$\text{marriage was a success}\} = \{s_c\}$$
$$P: \{y \in C_{\text{Mary's ex-husbands}}: y \oplus \text{Mary contains } s_c\} = \{s_c\}$$

$$A: \lambda P.\{y \in C_{\text{Mary's ex-husbands}}: P(y) = 1\} = \{s_c\}$$
$$P: \varnothing$$

$$A: \lambda x. \, x \text{ thinks that } x \oplus g(\langle 9,\text{③}\rangle)\text{'s}$$
$$\text{marriage was a success}$$
$$P: \lambda x.x \oplus g(\langle 9,\text{③}\rangle) \text{ contains } s_c$$

$$A: \lambda x.\lambda P.\{y \in C_{\text{Mary's ex-husbands}}: P(y) = 1\} = \{x\}$$
$$P: \varnothing$$
$$|$$
$$\text{only}_C$$

yours truly

$$\lambda_{\langle 8,\text{①}\rangle} \, t_{\langle 8,\text{①}\rangle} \text{ thinks that}$$
$$\text{our}_{\{\langle 8,\text{①}\rangle,\langle 9,\text{③}\rangle\}} \text{ mar-}$$
$$\text{riage was a success}$$
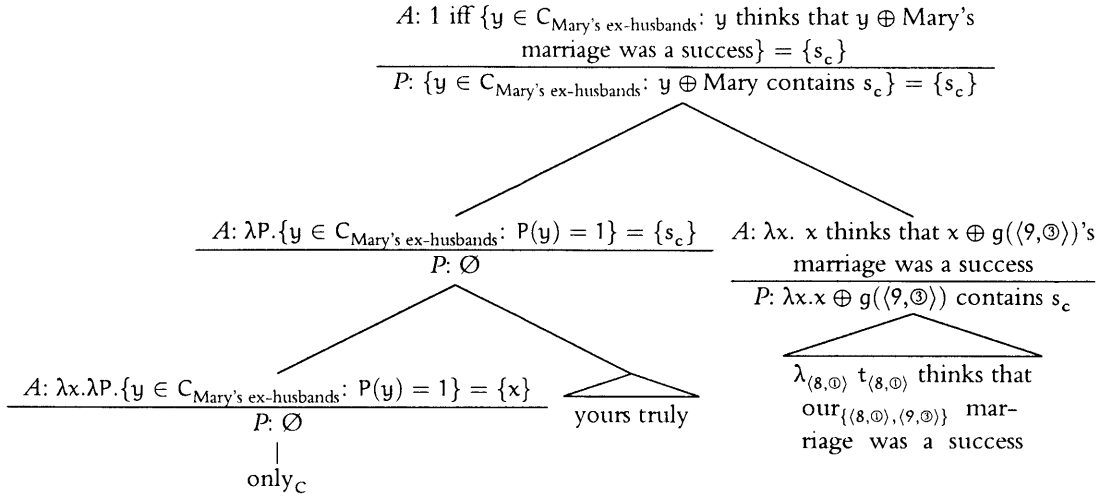
This way, we'll be able to get the desired meanings of sentences with operators like *only*.

Importantly, presuppositional 1st/2nd person features must be restricted to plural pronouns, so that we don't overgenerate bound readings in sentences with singular pronouns like the following (we have already discussed such cases):

(103)   Only yours truly talks to people who criticize my theory.

Overall, we now have a system with two kinds of person features: *index person features*, which are parts of complex referential indices, and *presuppositional person features*, which are hosted by ϕ-heads and which, for some reason, can only occur with plural pronouns. One prediction that we can already make is that presuppositional person features should be insensitive to *impostrous domains*, i.e. it should in principle be possible to have presuppositional 1st person features in the scope of the ⊕-operator or, likewise, presuppositional 2nd person features in the scope of the ⊛-operator. In what follows, this prediction will be tested.

2.4.2   Pronouns with split-antecedents inside and outside of impostrous domains

The imposter operators ⊕ and ⊛ that we postulated in 2.3.2 create domains in which free 1st person or 2nd person indices are undefined, and thus it becomes possible for 3rd person indices to have participant reference. We can illustrate this phenomenon with a following example:

(104)   ⊕ [Yours truly told Mary that his$_{\langle 1,\text{③}\rangle}$ mother doesn't approve of his$_{\langle 1,\text{③}\rangle}$ / *my$_{\langle 3,\text{①}\rangle}$ marriage].

In (104), a silent imposter operator ⊕ takes scope over the whole sentence, making $\langle 3,\text{①}\rangle$, the index of *my* undefined. Since it is not possible to use 1st person indices, the 3rd person index $\langle 1,\text{③}\rangle$, the index of *his* become able to refer to the speaker.

Presuppositional features of the kind we have just discussed are predicted to not be affected by imposter operators, since these features don't have anything to do with the assignment function that imposter operators manipulate. We can test this prediction in a fairly straightforward way: by placing a 1st/2nd person plural pronoun inside a syntactic domain that includes an imposter and a coreferent 3rd person pronoun (the domain would necessarily be in the scope of an imposter operator). The prediction is borne out.

48

(105) a. $\oplus$ [Yours truly$_{[=g(\langle 1,③\rangle)]}$ told Mary$_{[=g(\langle 3,③\rangle)]}$ that his$_{\langle 1,③\rangle}$ mother doesn't approve of their$_{\{\langle 1,③\rangle,\langle 3,③\rangle\}}$ marriage].

b. $\oplus$ [Yours truly$_{[=g(\langle 1,③\rangle)]}$ told Mary$_{[=g(\langle 3,③\rangle)]}$ that his$_{\langle 1,③\rangle}$ mother doesn't approve of our$_{\{\langle 1,③\rangle,\langle 3,③\rangle\}}$ marriage].

In the example above plural pronouns have split antecedents: they refer to the sum of the speaker and Mary. In (105a) the plural pronoun has a set index consisting of a 3rd person index $\langle 3,③\rangle$, corresponding to Mary and another 3rd person index $\langle 3,③\rangle$ that corresponds to the speaker. The latter index is licensed because it lies within the scope of the imposter operator $\oplus$. The plural pronoun has a 3rd person feature in accordance with the *syntactic strategy*: since both indices in the set are 3rd person, it is possible to for the ϕ-head to host an uninterpretable 3rd person feature that agrees with both indices in the set.

(106)

ϕP

uϕ:[3rd]   pro$_{\{\langle 1,③\rangle,\langle 3,③\rangle\}}$
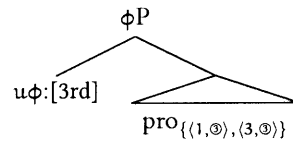
A more interesting case is (105b). There, again, we can assume that the set index of the plural pronoun looks exactly the same as in (105a): both indices in the set are 3rd person. However, in this case, the *semantic strategy* is chosen. The ϕ-head hosts an interpretable 1st person feature that is picked in accordance with *Maximize Presupposition*, since the referent of the plural pronoun includes the speaker.

(107)

ϕP

iϕ:[1st]   pro$_{\{\langle 1,③\rangle,\langle 3,③\rangle\}}$
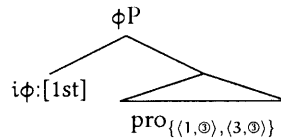
The grammaticality ((105b)) confirms our prediction that presuppositional 1st person feature should be licensed in the scope of the $\oplus$-operator. More generally, presuppositional 1st person features are licensed in the scope of $\oplus$, and presuppositional 2nd person features are licensed in the scope of $\oplus$.

Table 2.2: Features of pronouns partially anteceded by imposters

Split antecedents	Set Index {bound index, free index}	Person Feature of the plural pronoun	ex.
S-Imposter③ + DP③	{⟨i,③⟩, ⟨j,③⟩}	1st or 3rd	(105)
S-Imposter③ + you⟨j,②⟩	{⟨i,③⟩, ⟨j,②⟩}	1st	(108)
H-Imposter③ + DP③	{⟨i,③⟩, ⟨j,③⟩}	2nd or 3rd	(109)
H-Imposter③ + I⟨j,①⟩	{⟨i,③⟩, ⟨j,①⟩}	1st	(110)
S-Imposter③ + H-imposter③	{⟨i,③⟩, ⟨j,③⟩}	1st or 3rd	(111)

In (108), the plural pronoun inside an impostrous domain is anteceded by a S-imposter *yours truly* and a 2nd person pronoun *you*, the plural pronoun, thus, has a set index consisting of a 3rd person index and a 2nd person index. The syntactic strategy is unavailable, because the indices in the set have different person values. The semantic strategy in this case favors the 1st person feature:

(108) ⊕ [Yours truly$_{[=g(⟨1,③⟩)]}$ told you$_{⟨2,②⟩}$ that his$_{⟨1,③⟩}$ mother doesn't approve of our$_{\{⟨1,③⟩,⟨2,②⟩\}}$ / *their$_{\{⟨1,③⟩,⟨2,②⟩\}}$ marriage].

In (109) and (110), the impostrous domain is defined by the presence of a H-imposter *Your Majesty* and ⊕-operators. The pronoun in (109) refers to the sum of the addressee and Mary, so the semantic strategy would favor the 2nd person feature. At the same time the syntactic strategy is also available in this case, so the variant with the 3rd person is grammatical as well. In (110) the syntactic strategy is unavailable, and the semantically intepretable 1st person feature is licensed because the pronoun refers to yhe sum of the speaker and the addressee.

(109) ⊕ [Your Majesty$_{[=g(⟨2,③⟩)]}$ told Mary$_{[=g(⟨3,③⟩)]}$ that his$_{⟨2,③⟩}$ mother doesn't approve of their$_{\{⟨2,③⟩,⟨3,③⟩\}}$ / your$_{\{⟨2,③⟩,⟨3,③⟩\}}$ marriage].

(110) ⊕ [Your Majesty$_{[=g(⟨2,③⟩)]}$ told me$_{⟨1,①⟩}$ that his$_{⟨2,③⟩}$ mother doesn't approve of our$_{\{⟨2,③⟩,⟨1,①⟩\}}$ / *your$_{\{⟨2,③⟩,⟨1,①⟩\}}$ / *their$_{\{⟨2,③⟩,⟨1,①⟩\}}$ marriage].

In case the pronoun is anteceded by two imposters, there is a parse with two imposter operators[8]. The pronoun in that parse would have two 3rd person indices in the set. Hence, both syntactic strategy (3rd person feature) and semantic strategy (1st person feature) would be available.

(111) ⊕ [⊕ [Yours truly$_{[=g(⟨1,③⟩)]}$ told Your Majesty$_{[=g(⟨2,③⟩)]}$ that his$_{⟨1,③⟩}$ mother doesn't approve of their$_{\{⟨1,③⟩,⟨2,③⟩\}}$ / our$_{\{⟨1,③⟩,⟨2,③⟩\}}$ / *your$_{\{⟨1,③⟩,⟨2,③⟩\}}$ marriage]].

---

[8]Alternatively, this sentence could have a parse in which there is only one imposter operator, ⊕. In that case the plural pronoun would have exactly the same characteristics as in (108) and would have to have the 1st person feature.

Yet another prediction is that plural pronouns that are partially coreferent with an imposter would be able to have the uninterpretable 3rd person feature *only* within the scope of imposter operators. Indeed, in our system a plural pronoun referring to a group that includes the speaker or the addressee can have the 3rd person feature only if all of the indices in its set index are 3rd person (by our *syntactic strategy*). But that would require an imposter operator scoping over the free pronoun, since it is only in that kind of environment that indices referring to participants can be 3rd person.

Thus, if we make sure that there is no imposter operator, plural pronouns one of whose indices corresponds to the speaker or the addressee will never be 3rd person. Again, the prediction is borne out.

(112)   Yours truly told Mary$_{[=g(\langle 3,\circledcirc\rangle)]}$ that my$_{\langle 1,\circledcirc\rangle}$ mother doesn't approve of our$_{\{\langle 1,\circledcirc\rangle,\langle 3,\circledcirc\rangle\}}$ / *their$_{\{\langle 1,\circledcirc\rangle,\langle 3,\circledcirc\rangle\}}$ marriage.

(113)   Your Majesty told Mary$_{[=g(\langle 3,\circledcirc\rangle)]}$ that your$_{\langle 2,\circledcirc\rangle}$ mother doesn't approve of our$_{\{\langle 2,\circledcirc\rangle,\langle 3,\circledcirc\rangle\}}$ / *their$_{\{\langle 2,\circledcirc\rangle,\langle 3,\circledcirc\rangle\}}$ marriage.

It is quite remarkable that person features on pronouns with split-antecedents appear to be the same regardless of whether those pronouns are partially bound (cf. table 2.1) or absolutely free (cf. tables 2.2). Another place in grammar where the same kind of person features clearly show up is coordinations involving imposters, which we are going to look into next.

2.4.2.1 Coordinations with imposters

If you conjoin an imposter with some other DP, what person feature will be borne on the coordination as a whole? It is not straightforward to answer this question if we only look at a language like English where coordinations don't agree with the verb in person, due to the fact that they have a plural number feature, and English verbal morphology doesn't distinguish persons in the plural. However, if we take into consideration languages with person distinctions in verbal plural morphology like Russian or French, we'll be able to see a familiar pattern.

In Russian, imposters themselves always agree with verbs in 3rd person (114). However, if an imposter is conjoined with a 3rd person DP, it becomes possible to have 1st person plural agreement, on a par with 3rd person plural (115)[9]

(114)   a. Vaš   pokornyj sluga   sčitaj-et/*u   čto èta teorija zasluživaet vnimanija.
              your obedient servant believe-3SG/*1SG that this theory deserves   attention
              'Your faithful servant believes that his theory deserves attention.'

---

[9]Collins and Postal report similar judgments for French:

(i)   Votre serviteur et   quelques amis   {nous sommes / se   sont} acharnés   à   faire cela.
      your servant and a.few   friends us   are.1PL   / self are.3PL worked.furiously to do   that.
      'Your faithful servant and a few friends worked furiously to do that.' (Collins and Postal 2012: 125)

b. Vaš-i   pokorny-e   slug-i   sčitaj-ut/*-em   čto èta teorija zasluživaet vnimanija.
   your-PL obedient-PL servant-PL believe-3PL/*1PL that this theory deserves   attention
   'Your faithful servants believe that this theory deserves attention.'

(115) Katja, Maša i   vaš pokornyj sluga sčitaj-ut/em   čto èta teorija zasluživaet
       Katya Masha and your obedient servant believe-3PL/1PL that this theory deserves
       vnimanija.
       attention
       'Katya, Masha and your faithful servant believe that this theory deserves attention.'

1st person verbal agreement must be a reflex of the 1st person feature of the coordination. This feature is clearly not computed based on the person features of the conjuncts, since all of them are 3rd person. I would like to propose that this is the same kind of presuppositional feature that we saw on plural pronouns with split antecedents. The 3rd person alternative reflects an uninterpretable 3rd person feature of the coordination, computed syntactically, based on the fact that the conjuncts are 3rd person.

If it is really true that the principles of person assignment are the same for pronouns with split antecedents and coordinations, then we should expect that the person features of coordinations would pattern with those of pronouns with split antecedents. This is exactly what happens.

If the conjuncts are a 2nd person pronoun and a S-imposter, the only option is the 1st person feature on the coordination:

(116) Vy i   vaš pokornyj sluga sčitaj-em/*ete/*ut   čto èta teorija zasluživaet
       You and your obedient servant believe-1PL/*2PL/*3PL that this theory deserves
       vnimanija.
       attention
       'You and your faithful servant believe that this theory deserves attention.'

If the conjuncts are a 3rd person DP and a H-imposter, the coordination can have either 3rd person (by the syntactic strategy) or 2nd person (by the semantic strategy):

(117) Katja, Maša i   Vaše Veličestvo sčitaj-ut/ete   čto èta teorija zasluživaet vnimanija.
       Katya Masha and Your Majesty   believe-3PL/1PL that this theory deserves   attention
       'Katya, Masha and Your Majesty believe that this theory deserves attention.'

If the conjuncts are a H-imposter and a 1st person pronoun, only 1st person is available.

(118) Vaše Veličestvo i   ja sčitaj-em/*ut   čto èta teorija zasluživaet vnimanija.
       Your Majesty   and I believe-1PL/*3PL that this theory deserves   attention
       'Your Majesty and I believe that this theory deserves attention.'

Finally, if we coordinate a H-imposter and a S-imposter, there is again a variability: the coordination is either 3rd person or 1st person.

(119) Vaše Veličestvo i   vaš pokornyj sluga   sčitaj-em/ut/*ete   čto èta teorija
Your Majesty   and your obedient servant believe-1PL/3PL/*2PL that this theory
zasluživaet vnimanija.
deserves   attention
'Katya, Masha and your faithful servant believe that this theory deserves attention.'

Table 2.3: Features of pronouns partially bound by imposters

Conjuncts	Person Feature of the coordination	ex.
S-Imposter③ & DP③	1st or 3rd	(115)
S-Imposter③ & you$_{(j,②)}$	1st	(116)
H-Imposter③ & DP③	2nd or 3rd	(117)
H-Imposter③ & I$_{(j,①)}$	1st	(118)
S-Imposter③ & H-imposter③	1st or 3rd	(119)

The pattern is exactly the same that we saw with pronouns with split antecedents (to a certain extent this parallelism was noted in Collins and Postal 2012). This shouldn't be too surprising if the semantic and syntactic strategies for person feature computation of plurals are uniform across different constructions. Basically, these strategies are blind to what kind of elements are there in the plural form: whether these are indices with person features or conjoined DPs with person features, doesn't make a difference. If a plural DP (pronominal or non-pronominal) immediately dominates several elements with person features, the system either assigns an interpretable person feature based on *Maximize Presupposition*, or an uninterpretable 3rd person feature (but only if all of the elements dominated by the DP are 3rd person).

It is predicted then, that just as it was the case with pronouns with split antecedents, the interpretable person feature of coordinations should not be sensitive to impostrous domains, i.e. it a coordination containing an imposter should be able to have an interpretable 1st or 2nd person feature even if the coordination as a whole is dominated by an imposter operator,⊕ or ⊖. The prediction is borne out.

(120) Vy i   vaš pokornyj sluga$_i$ bud-em ždat' pisem ot   ego$_i$ rukovoditelja.
you and your obedient servant will-1PL wait letters from his   supervisor.
'You and your faithful servant will wait for letters from his supervisor.'

In (120) the imposter and the coreferent 3rd person pronoun must be in the scope of the same ⊖-operator. This operator would of course also have to take scope over the coordination as a whole. So, just as it was the case with multiply-anteceded plural pronouns, the presuppositional 1st person person feature would be licensed in a domain that precludes free 1st person indices:

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(121)

S
- ⊕
- φP
  - ιφ:[1st]
  - &P
    - $vy_{\langle 2, \oslash \rangle}$
    - &
    - $DP_{\oslash, =g(\langle 1, \oslash \rangle)}$
      - vaš pokornyj sluga
- budem ždat' pisem ot $ego_{\langle 1, \oslash \rangle}$ rukovoditelja
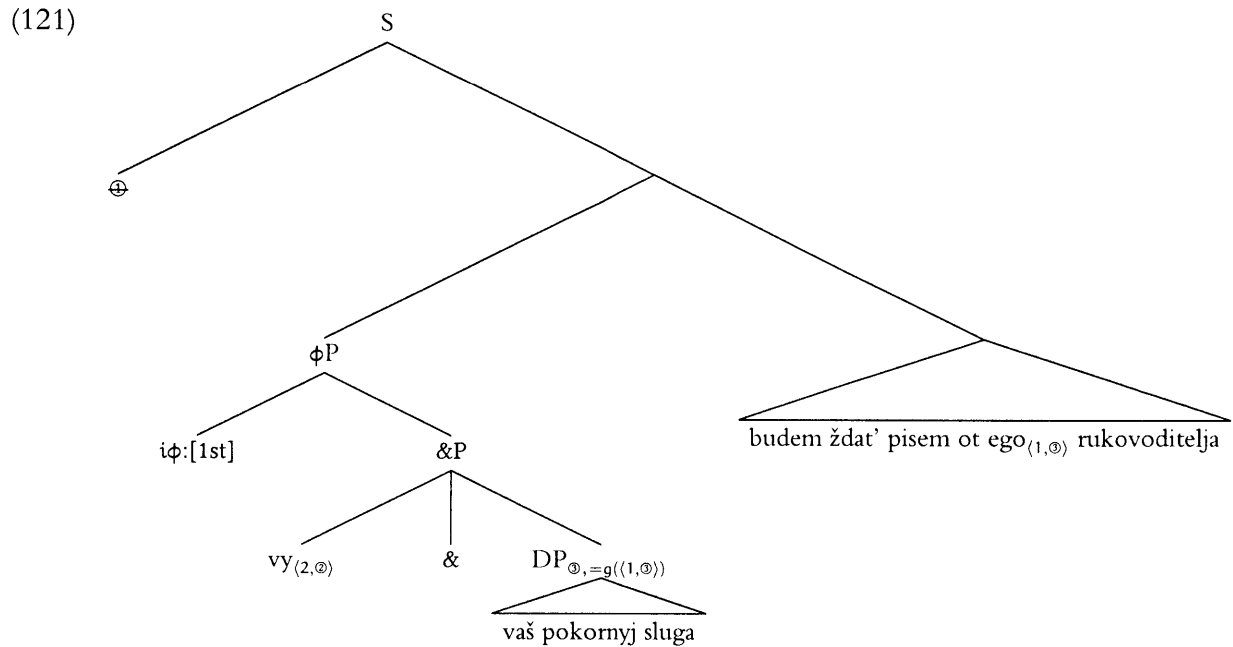
Now that we have established quite firmly the distinction between *index* person features and *head* person features, we are almost ready to deal with the problem we started with: why plural imposters, unlike singular imposters, are able to bind 1st and 2nd person pronouns.

2.4.3 Plural pronouns exhaustively bound by plural imposters

The step we are going to make now is straighforward. Having analyzed plurals "hosting" multiple elements with different person features, we can apply essentially the same analysis to plurals hosting a single element with a person feature. Basically, the idea would be that a 1st or 2nd plural pronoun exhaustively bound by a S-imposter or a H-imposter is actually a pronoun with a 3rd person index (that gets semantically bound) and an interpretable person feature head on top (for some reason, this strategy is only not available for singular pronouns, we will return to this issue towards the end of the section).

Before we get to discuss this proposal in greater detail, one more property of these interpretable presuppositional person features has to be acknowledged. It is the "*pervasiveness*" of these features. That is, the semantic strategy is chosen and an interpretable presuppositional person feature is used, it has to be used everywhere in the sentence it can be used, even in places where the use of the syntactic strategy would yield uniterpretable 3rd person features.

(122)   *Presuppositional Feature Pervasiveness*
         If a numeration for a sentence S contains an interpretable presuppositional feature F, F should be used wherever possible within S.

This implies that if in a sentence there are, say, two coreferent pronouns with split antecedents, they would have to agree in their person features, like in the example below:

(123)   a.   *Two pronouns with* ιφ: [3rd]
              Yours $truly_i$ told his $wife_j$ that $their_{i+j}$ son should look after $their_{i+j}$ baby daughter.

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b. *Two pronouns with* iφ: [1st]
   Yours truly$_i$ told his$_j$ wife that our$_{i+j}$ son should look after our$_{i+j}$ baby daughter.

c. iφ: [1st] *and* uφ: [3rd]
   *Yours truly$_i$ told his$_j$ wife that our$_{i+j}$ son should look after their$_{i+j}$ baby daughter.

d. uφ: [3rd] *and* iφ: [1st]
   *Yours truly$_i$ told his$_j$ wife that their$_{i+j}$ son should look after our$_{i+j}$ baby daughter.

It is important to emphasize that the unacceptability of (123c) and (123d) is not an effect of the presence of imposter operators, since we have established that person φ-heads are unaffected by them. Rather, (123c) and (123d) are violations of *Presuppositional Feature Pervasiveness*: if the 1st person pronoun *our* is once used to refer to the sum of the speaker and Mary, they cannot be collectively referred to by the 3rd pronoun *their*, even within the scope of the ⊕-operator.

Now let's look at an example with pronouns exhaustively anteceded by a plural imposter.

(124)   Only the present authors$_i$ shared our$_i$ idea with their$_i$ supervisor.

Consider two hypothesis: (I) the 1st person feature of *our* is an index feature; (II) it is a presuppositional φ-head. If it were an index feature, then we would expect a reading where *our* is semantically bound by the imposter and *their* is free (125), but this reading is not available.

(125)
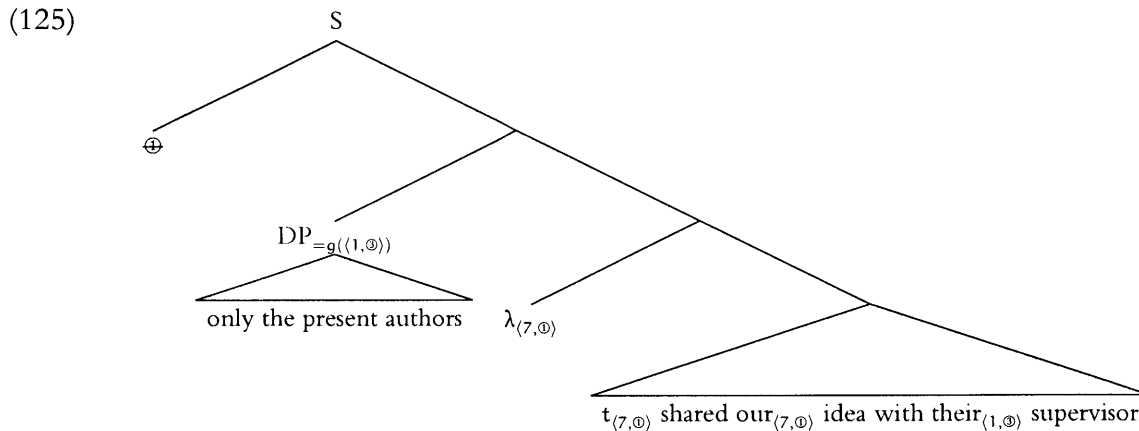
Our current theory predicts that it would be fine to have a pronoun with a bound 1st person index within the scope ⊕, so it must be the case that the person feature of the pronoun *our* in the reading we are after is not an index feature, but rather an interpretable presuppositional φ-head feature. Since this kind of person features is *pervasive*, it will only be possible to have *our* semantically bound by the present authors, only if the other pronoun is also *our*. This seems to be the case indeed.

(126)   Only the present authors shared our idea with our supervisor.

The sentence above can have the interpretation that we were after, namely, the one in which the first occurence of *our* is semantically bound and the other occurence is free. It also

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important to notice that it may have other readings as well: the first occurence of *our* may be free, and the second bound, it could also be the case that both occurences are bound or both occurences are free. The conclusion should be that the 1st person feature on a plural pronoun exhaustively bound by a plural imposter is a presuppositional φ-head feature and not an index feature. The pervasiveness of that feature is assured regardless of whether it is used with a bound pronoun or a free one.

But what would the index feature of plural pronouns bound by plural imposters then be? The simplest answer is probably the correct one: the index phi-feature on all kinds of pronouns bound by (3rd person) imposters is ③. The LF corresponding to the bound reading of a sentence like (85e), repeated below, would be as in (129)

(127)   Only your faithful servants think that our book will sell well.

(128)
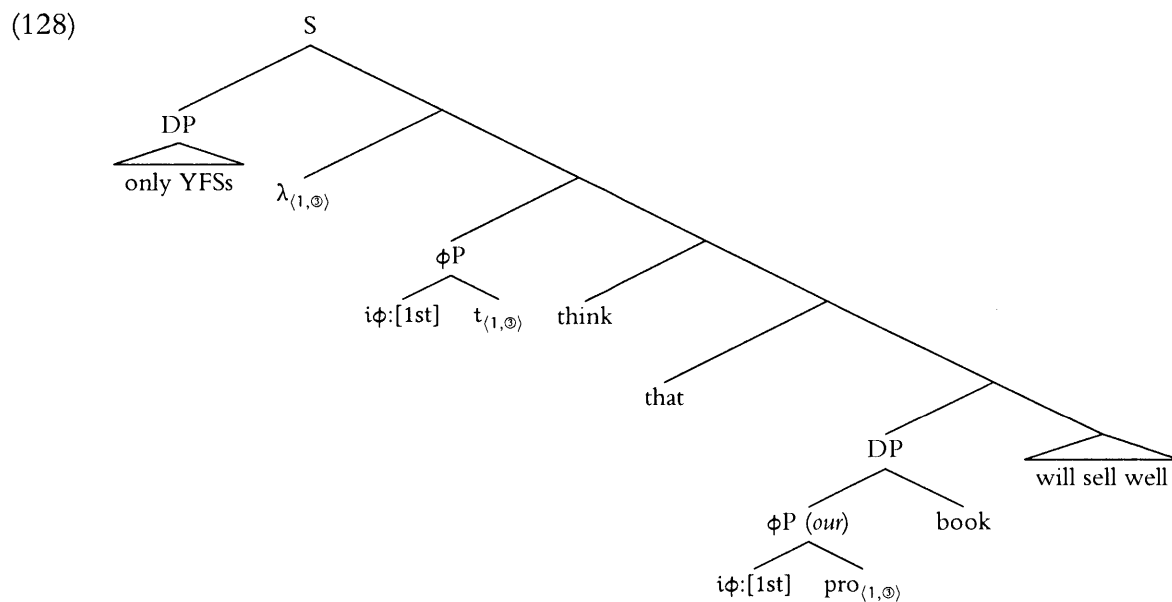
There are several problems this kind of a structure could raise. Let's discuss them in turn.

1) How is this structure interpreted? Wouldn't the postulation of interpretable 1st person features make incorrect predictions about the availability of the bound reading?

We already have the necessary machinery to make bound readings available with interpretable presuppositional feature. We have seen how it works with partially bound pronouns (2.4.1). Essentially, presuppositions and assertions would have to be computed on different tiers (we can assume again that *only* is vacuous on the presuppositional tier).

(129)

A: 1 iff $\{y \in C$: y think that y's book will sell well$\} = \{s_c\}$

P: $\{y \in C$: y contains $s_c\} = \{s_c\}$

A: $\lambda P.\{y \in C : P(y) = 1\} = \{s_c\}$

P: $\varnothing$

only$_C$ YFSs

A: λx. x think that x's book will sell well

P: λx. x contains s_c

$\lambda_{\langle 1, ③ \rangle}$

ϕP

iϕ:[1st] $t_{\langle 1, ③ \rangle}$ think

that

DP

ϕP (*our*) book

iϕ:[1st] pro$_{\langle 1, ③ \rangle}$

will sell well
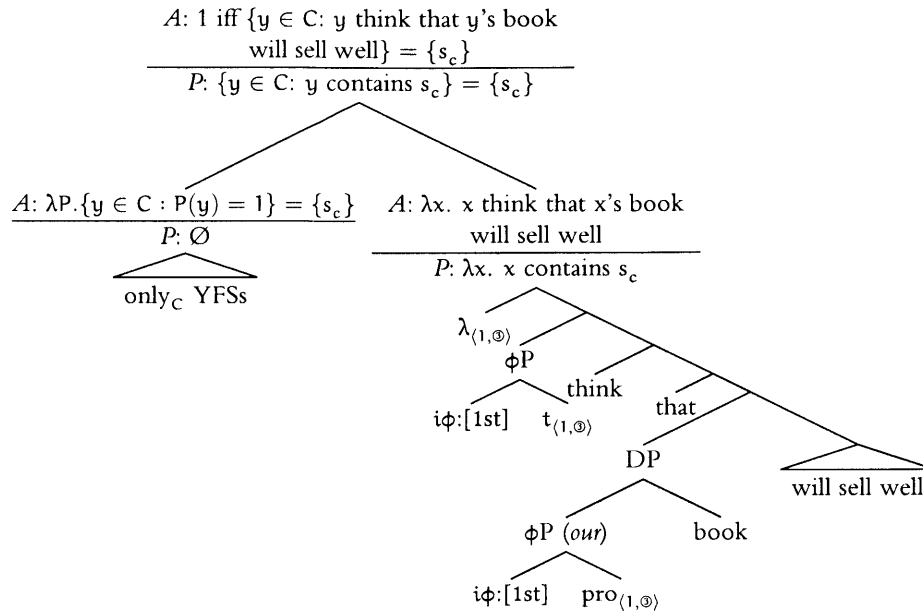
2) The plural imposter would have to move (QR) stranding the ϕ-head. Why should it be so?

I don't have a completely satisfactory answer to this question. It could be that it is generally unconstrained whether it is the ϕP or the DP contained in the ϕP that QRs, but there are language-specific filters on what kind of person features a DP could surface with. For example, in English (and Russian, for that matter) plural pronouns and &Ps can surface with presuppositional person features, but full plural DPs can't.

Coordinations containing imposters can actually be used to demonstrate that ϕ-heads do not have to be stranded.

(130) Tol'ko Katja, Masa i   vas pokornyj sluga   sobiraj=ut=sa, kogda nam   /
       only   Katya Masha and your obedient servant gather=3PL   when we.DAT /
       im   est' cto obsudit'.
       they.DAT is   what discuss.
       Only Katya, Masha and your faithful servant gather when we / they have something
       to discuss.

The pronouns in the sentence above can be interpreted as variables semantically bound by the &P. The variant with the 1st person pronoun (*nam*) corresponds to a derivation in which the &P QRed stranding presuppositional ϕ-heads. The variant with the 3rd person pronoun corresponds to a derivation in which presuppositional ϕ-features were not at all projected (*syntactic strategy*).

Now consider a similar sentence in which the &P is 1st person:

(131) Tol'ko Katja, Masa i   vas pokornyj sluga   sobiraj=em=sa, kogda nam   /
       only   Katya Masha and your obedient servant gather=1PL   when we.DAT /
       *im   est' cto obsudit'.
       *they.DAT is   what discuss.
       Only Katya, Masha and your faithful servant gather when we / they have something
       to discuss.

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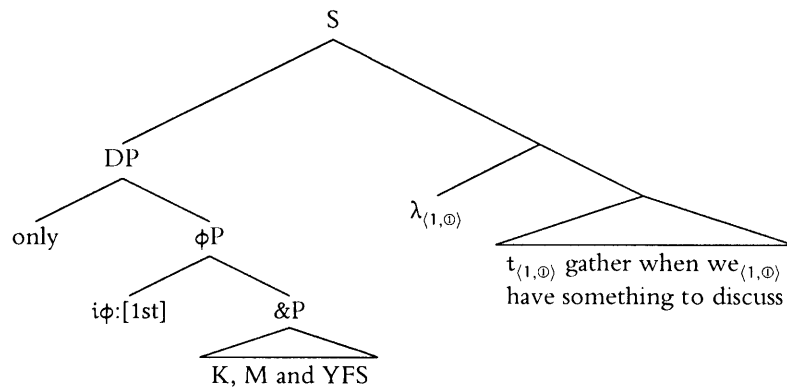This sentence also has a bound variable reading. From the fact that the verbal agreement is 1st person we can infer that it was the whole φP that moved, not just a &P. Since the φP is a 1st person expression it will leave behind a trace with a 1st person index, and if there is a pronoun with exactly the same index it will end up semantically bound.

(132)

```
                                  S
                    ┌─────────────┴──────────────┐
                   DP                              \
              ┌─────┴──────┐            λ⟨1,⓪⟩      \
            only          φP                 ┌────────┴────────┐
                     ┌─────┴─────┐        t⟨1,⓪⟩ gather when we⟨1,⓪⟩
                  iφ:[1st]       &P          have something to discuss
                             ┌────┴────┐
                           K, M and YFS
```

The variant with a 3rd person bound pronoun is not available in this case because there is no way a 1st person expression would leave a 3rd person trace.

The filters on possible person features of elements of different syntactic types vary across languages. For example, Dudley (2013) observes that Spanish allows for plural imposters carrying the 1st person feature. Collins (2013) notes some typological regularities in this domain: for instance, if a language has 1st person plural imposters it will also have 1st person coordinations where an imposter is one of the conjuncts. Why it should be so is an important question that we still need to answer.

3) Can the analysis be extended to reflexives bound by plural imposters and to reflexive verbs that Collins and Postal discuss (see our examples (85a) and (85c))?

I believe that the answer is yes, it can. For reflexive pronouns, the story could be quite similar to the one we have for bound pronominals: plural pronouns may be embedded in φPs headed by φ-heads hosting an interpretable person feature. This feature projects a presupposition about the binder of the relfexive:

(133)   The present authors consider ourselves to be linguists.

$$A: 1 \text{ iff } s_c \text{ consider } s_c \text{ to be linguists}$$
$$P: s_c \text{ contains } s_c$$

```
                        ┌──────────────┴───────────────┐
                       DP            A: λx. x consider x to be linguists
                  ┌─────┴─────┐        P: λx. x contains s_c
               the present authors           ┌────┴─────────┐
                                        λ⟨1,③⟩               \
                                              ┌───────────────┴────┐
                                             φP                     \
                                        ┌─────┴─────┐                \
                                     iφ:[1st]    t⟨1,③⟩   consider     \
                                                              ┌─────────┴──────┐
                                                          φP(ourselves)         \
                                                          ┌────┴────┐      to be linguists
                                                       iφ:[1st]  pro⟨1,③⟩
```
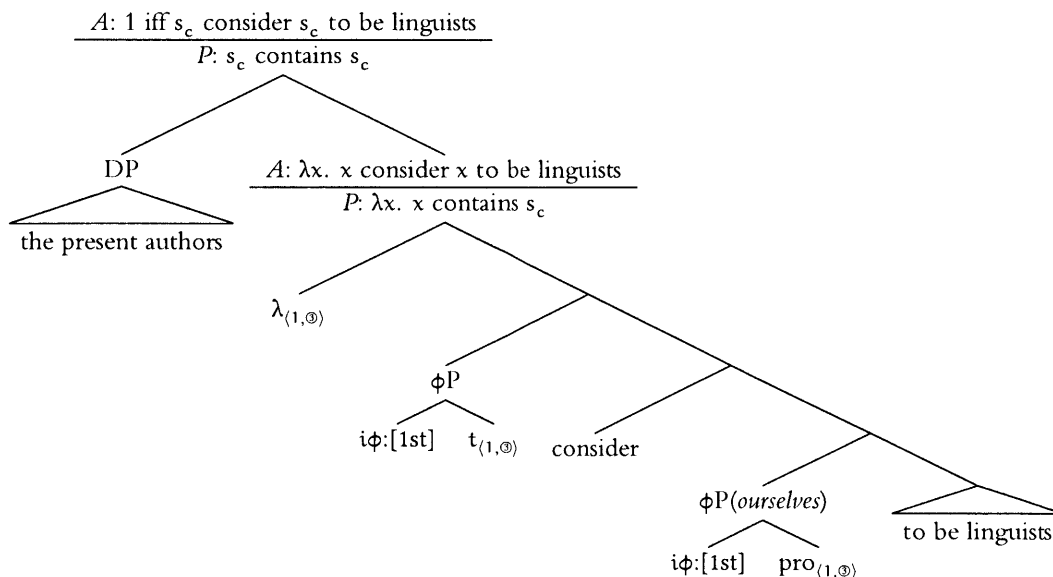
For reflexive verbs like *enjoy oneself* (cf. (85c) repeated below) the story could be a little more complicated. As Collins and Postal correctly note, the reflexive objects of such verbs "do not correspond to logical arguments" (Collins and Postal 2012: 19)[10]. Still, with a few stipulations, the properties of reflexive verbs can be accommodated in our theory. Given VP-internal subject hypothesis that we have been assuming, subjects of reflexive verbs move to Spec,TP leaving a trace behind. This trace could embedded in ϕP headed by an interpretable presuppositional ϕ-head that is going to project.

(134)   Mommy and Daddy will enjoy ourselves on vacation.
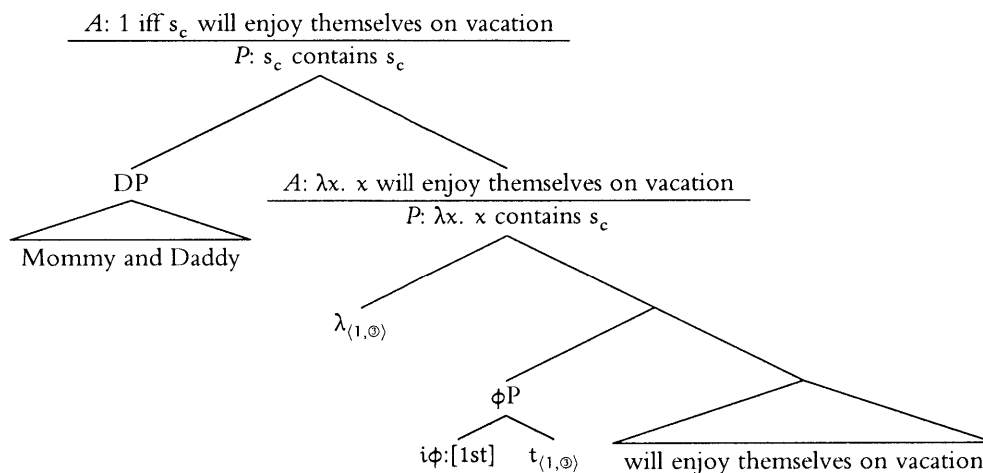
Suppose now that some high verbal head, call it v^*, associated with reflexive verbs has unvalued ϕ-features. It would search for the value in its c–command domain and find the stranded ϕ-head hosting a person feature it will agree with. The ϕ-features of v^* will be spelled out as a reflexive.

(135)

This way, the case of reflexive verbs can be made not so different from the case of reflexive pronouns or sem–bound pronominals.
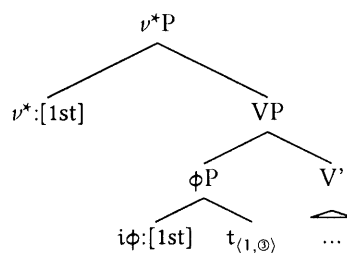
2.5   Conclusions

In this section, I will summarize the main details of our analysis of imposters and pronouns they antecede.

---

[10]Collins and Postal make it into a strong argument against "the Notional View" of imposters: "Even if one were willing to adopt the Notional View and to claim that argumental reflexives get their ϕ-features by virtue of their denotations, such a view makes no sense for inherent reflexives. Since these do not have denotations, the relation between antecedent and reflexive in such cases is exclusively syntactic" (Collins and Postal 2012: 19). As we will see, the argument could be made obsolete in a particular theory of the syntax of reflexive verbs that I am about to introduce

2.5.1 Two kinds of person features

The analysis adopted here rests on a version what Collins and Postal call the *notional view* of imposters: "Imposters are syntactically regular 3rd person DPs with the it semantic/discourse property that they denote either the speaker(s) (in the same sense as 1st person pronouns do) or the addressee(s) (in the same sense as 2nd person pronouns do)" (Collins and Postal 2012: 9, see also (55) in 2.1). The "special" *anaphoric properties* of imposters are not so special, given general principles governing representation and interpretation of person features, and the possibility of manipulating the assignment function in the scope of silent *imposter operators*.

Various pieces of data on imposters motivate a view according to which person features come in at least two varieties that we may call *index features* and *head features*. Index person features are parts of complex referential indices that are interpreted as variables. 1st and 2nd index person features constrain the assignment function so that it complies with the following condition (modified from Minor 2011 and Sudo 2012):

(136)   *Admissibility Condition for Assignment Functions*: Revised
        An utterance of a sentence is felicitously evaluated with respect to context c, possible world w and assignment function g, only if g satisfies the following three conditions: for all $i \in \mathbb{N}$,

        a. $g(\langle i, \text{①} \rangle) = s_c$

        b. $g(\langle i, \text{②} \rangle) = h_c$

3rd index person features are used only in those cases in which it would be impossible to use 1st or 2nd index person features with the same interpretation:

(137)   *Elsewhere 3rd person Principle*
        For all $i, j, k \in \mathbb{N}$, a complex index with the 3rd person feature $\langle i, \text{③} \rangle$ is not licensed in a position P of a sentence S, if there is an alternative sentence S', different from S at most in that $\langle i, \text{③} \rangle$ in P is replaced by $\langle i, \text{①} \rangle$ or $\langle i, \text{②} \rangle$), such that $[\![S]\!]^g = [\![S']\!]^g$.

Crucially, index person features are always semantically interpretable. However, there are silent operators in syntax that manipulate the assignment function in a way that values of indices with 1st or 2nd person features become undefined.

(138)   *Imposter operators*

        a. $[\![\oplus \phi]\!]^g = [\![\phi]\!]^{g'}$,
             where g' differs from g in that for all $i \in \mathbb{N}$,
             $g(\langle i, \text{①} \rangle)$ is undefined.

        b. $[\![\circledast \phi]\!]^g = [\![\phi]\!]^{g'}$,
             where g' differs from g in that for all $i \in \mathbb{N}$,
             $g(\langle i, \text{②} \rangle)$ is undefined.

It is stipulated that imposter operators must have "corresponding" imposters in their scope. This can be viewed either as a processing requirement or a syntactic agreement phenomenon.

In presence of imposter operators it becomes possible for 3rd person indices to correspond to speakers or addressees. Moreover, we can observe the effect of *impostrous domains*:

(139) It is not possible for a pronoun with a 3rd person index to refer to the speaker or the hearer, if the constituent containing that 3rd person pronoun also contains a coreferent 1st or 2nd person pronoun, but doesn't contain a coreferent imposter.

Indeed, a free pronoun with a 3rd person index referring to the speaker or the addressee must be in the scope of an imposter operator, i.e. inside a syntactic constituent that includes a coreferent imposter, but doesn't include any coreferent 1st or 2nd person pronouns.

Importantly, only free instances of 1st and 2nd person indices are banned from impostrous domains. Such indices can be bound inside the scope of a corresponding imposter operator. We have explored this novel prediction at some length (see 2.3.3) and can conclude that that it is borne out.

As for 3rd person pronouns that are semantically bound by imposters, they don't have to be in the scope of imposter operators. What is required for semantic binding is featural identity between the nominal binder and the bound index It should then be surprising to see 1st and 2nd person plural pronouns that are partially or exhaustively bound by S–imposters or H–imposters (see 2.4.1). As I have argued, in all such cases 1st and 2nd person features are not index features but rather *head features*.

Head person features are hosted not by indices, but by designated φ-heads. The distribution of person φ-heads is not limited to pronouns, they can be attached to plural DPs in general, albeit with some surface restrictions (2.4.3). Head person features can be semantically interpretable or uninterpretable. Whether an intepretable or uninterpretable head person feature is chosen is a matter of free variation; provided that the necessary conditions are met, either semantic or syntactic strategy is chosen.

(140) *Semantic strategy for person features of plurals*
Assign a semantically interpretable person feature to a φ-head that takes a plural DP as a complement. Semantically interpretable head person features are presuppositional:

   a. $[\![\text{ 1st }]\!]^{c,w,g} = \lambda x: x$ contains s_c.

   b. $[\![\text{ 2nd }]\!]^{c,w,g} = \lambda x: x$ contains h_c, but not s_c.

   c. $[\![\text{ 3rd }]\!]^{c,w,g} = \lambda x: x$ doesn't contain either s_c or h_c.

(141) *Syntactic strategy for person features of plurals*

   a. An uninterpretable person feature hosted by a φ-head that takes a plural DP X as a complement is valued by *available* person feature(s) of X (If X is a coordination of two DPs, than the features of both those DPs are available; if X has a *set index* S, then the features of all the indices in S are available; if X has a sole person feature, then that feature is available).

   b. If the available features of X do not match each other, the uninterpretable person feature cannot be valued, which leads to a crash.

It is crucial that a semantically interpretable person 1st or 2nd person feature can be assigned to a pronoun even if its index is 3rd person. This way, plural imposters can appear to be binding 1st or 2nd person plural pronouns, while actually it is a 3rd person index that is getting semantically bound (see 2.4.3).

Another important fact is that a semantically interpretable 1st or 2nd person feature can be assigned to a pronoun with a set index, while neither index in the set is 1st or 2nd person. Thus, 1st person plural pronouns would be licensed in the scope of the ⊕-operator, and 2nd person plural pronouns would be licensed in the scope of the ⊛-operator (see 2.4.2). Also, 1st and 2nd person plural pronouns can appear to be partially bound by singular S-imposters or H-imposters, respectively, while actually, in both cases it is, again, a 3rd person index that gets semantically bound.

Overall, the system with *imposter operators* and these two kinds of person features, *index features* and *head features* makes a number of new predictions about the distribution of free and bound pronouns anteced by imposters. The anaphoric properties of imposters in this system do not stem from any special syntactic properties of imposters themselves, which makes the account very different from the *syntactic view* of imposters that Collins and Postal (2012) advocate and to which I will turn next.

2.5.2 Notional view vs. Syntactic view again

For Collins and Postal (2012), imposters are a special kind of DPs, namely, they are 3rd person DPs that embed silent 1st or 2nd person pronouns. Here are, roughly, the structures they propose for S-imposters and H-imposters (see Collins and Postal 2012: 46-70):

(142)   a.   *S-imposter:* DP_1:[3rd] / DP_2:[1st]   b.   *H-imposter:* DP_1:[3rd] / DP_2:[2nd]   [11]

Anoher crucial ingredient of the analysis is that every pronoun gets its value by virtue of being uniquely *anteceded* by some (null or overt) DP.

2.5.2.1 Basic antecedence properties of imposters

Antecedence is understood to by an asymmetric relationship. Pronouns can be anteceded by other pronouns, but *ultimately* there has to be a non-pronominal antecedent. The *ultimate antecedents* of 1st and 2nd person pronouns are null AUTHOR and ADDRESSEE DPs that have 1st and 2nd person features, respectively. This can be viewed as a version of Ross's (1970) *Performative Hypothesis*, by which every sentence is embedded under a null performative verb taking an author subject and an addressee object.

(143)
S
AUTHOR:[1st]   VP
ADDRESSEE:[2nd] V_{perf} CP

---
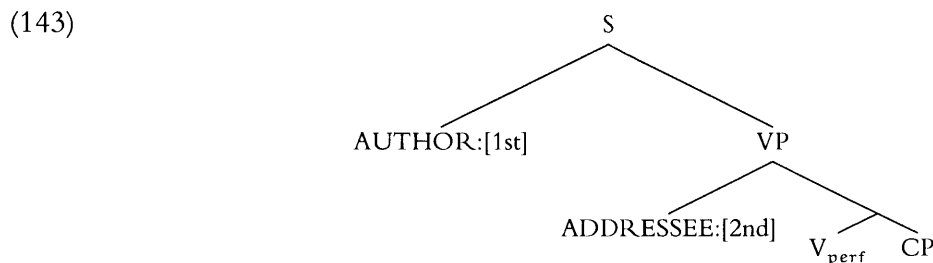
[11] Imposters are hypothesized to be syntactically derived from so-called *precursors* like *I, your faithful servant* or *you, Madam*. For the technical details of the analysis see Collins and Postal 2012: 48-56.

Alternatively, the AUTHOR and the ADDRESSEE are hosted by designated functional projections at the left periphery of every sentence (see, e.g. Baker 2008: 125–126 for a version of the proposal):

(144)

```
                         Prt₁P
                    ╱            ╲
            AUTHOR:[1st]         Prt₁'
                            ╱          ╲
                         Prt₁          Prt₂P
                                   ╱          ╲
                          ADDRESSEE:[2nd]     Prt₂'
                                           ╱      ╲
                                        Prt₂       TP
```
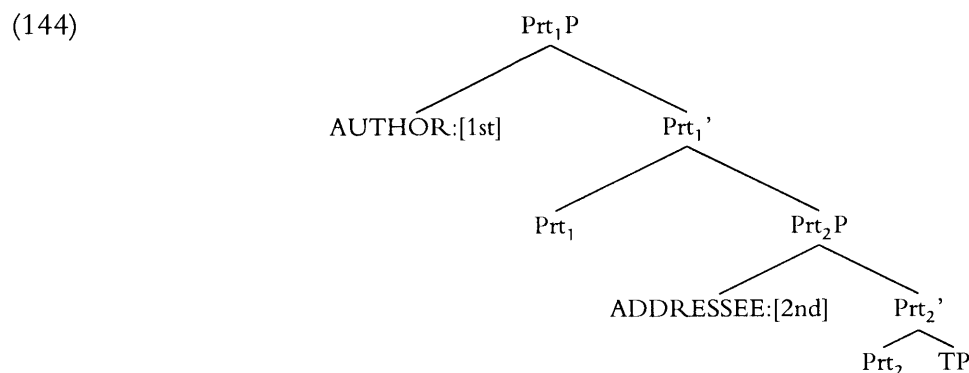
Null pronouns inside imposters are not unlike other 1st and 2nd person pronoun in that they are ultimately anteceded by AUTHOR or ADDRESSEE. Crucially, the same 3rd person "shell" imposter DPs are also thought to be anteceded by AUTHOR and ADDRESSEE:

(145)   AUTHOR [$_{DP:[3rd]}$ Your faithful servant pro:[1st]] is here.[12]

The free variation between 3rd person and 1st person pronouns in an example like the following arises because the reflexive pronoun can agree with its immediate antecedent (the 3rd person imposter DP), or its ultimate antecedent (the 1st person AUTHOR DP):

(146)   a.   AUTHOR [$_{DP:[3rd]}$ Mommy and Daddy pro:[1st]] respect themselves ...

         b.   AUTHOR [$_{DP:[3rd]}$ Mommy and Daddy pro:[1st]] respect ourselves ...
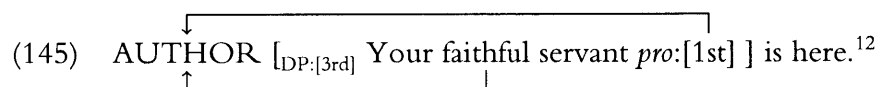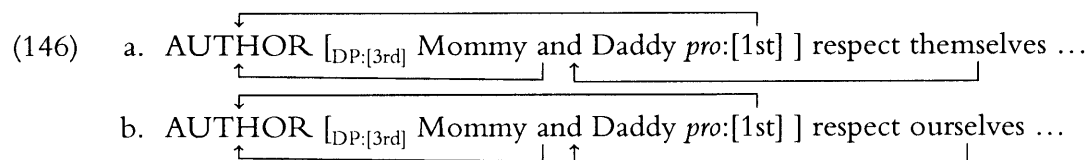
We could consider another theory, by which in (146a) the null 1st person pronoun inside the imposter serves as the immediate antecedent of the pronoun and the pronoun agrees with it (and not with the ultimate AUTHOR antecedent). Collins and Postal argue that this is not an option. Allowing for "core" pronouns of imposters to antecede pronouns external to imposters causes problems for the principles of Binding Theory. As indexation and co-indexation, in their view, play no role in grammar, the principles of Binding Theory are *antecedence-based*:

(147)   a.   *Antecedence-based Principle A*
               If a pronominal P is a reflexive, then P has a c–commanding antecedent in its local domain.
         b.   *Antecedence-based Principle B*
               If a pronominal P is not a reflexive, then P does not have a c–commanding antecedent in its local domain.

---

[12]From now on DP₁ ⟵ DP₂ is to be understood as "DP₁ immediately antecedes DP₂".

c. *Antecedence-based Principle C*
   If a DP Q is an antecedent of a pronominal P, then P does not c-command Q.
   (Collins and Postal 2012: 41)

If "core" pronouns of imposters could be antecedents, then it would be predicted that the overt pronoun in (146a) should be not a reflexive, since its local antecedent is not c-commanding it, pretty much as in (148b).

(148)   a. *... [Mommy and Daddy *pro*:[1st]] respect us.

   b.   ... [our [Mommy and Daddy]] respect us.

Since pronouns that are locally bound by imposters have to be reflexives, it is stipulated that "core" pronouns inside imposters cannot antecede pronouns external to those imposters[13].

The fact that plural imposters can antecede reflexives (and, as we have also seen, semantically bound pronominals), while singular imposters cannot remains a problem for Collins' and Postal's account. In the theory that we have developped throughout this chapter, the contrast is also unexplained. In our theory, only *plural* imposters, at least at earlier stages of the derivation, can be embedded under φPs headed by null 1st or 2nd person heads (see the discussion in 2.4.3), and that explains their properties as binders. In a sense, this view might be not so distinct from Collins' and Postal's, where plural imposters contain null 1st or 2nd pronouns. It is crucial, however, that we have empirical motivation that the contrast is not only between singular and plural imposters, but also, more importantly, between singular and plural pronouns (see 2.4.1). The reason why only *plural* imposters can be embedded under φPs before they move out of them is quite likely related to the fact that it only only *plural* pronouns (and, by hypothesis, traces) that can be embedded in this way. The principles of projecting φPs are quite general, and in that respect, plural imposters are not very different from "regular DPs".

2.5.2.2 Homogeneity

Another critical difference between my system and that of Collins and Postal is in the analysis of consituent structure effects on the distribution of pronouns coreferent with imposters. In my system those effects are attributed to the presence of silent *imposter operators* (see 2.3.2), while in Collins' and Postal's view similar effects are captured by *constraints on antecedence chains*.

The prediction of the system with imposter operators was that the minimal constituent including an imposter and all coreferent 3rd person pronouns cannot include any coreferent non-3rd person pronouns, see the pattern below:

(149)   a. My$_i$ university agrees that [your faithful servant$_i$'s results support his$_i$ conclusion].

---

[13]More generally, any DP X dominated by a DP Y cannot antecede externally to Y, if X and Y have the same *lexical basis*, see Collins and Postal 2012:58-59 for relevant definitions

b. (?)My$_i$ university agrees that [his$_i$ results support your faithful servant$_i$'s conclusion].

c. *Your faithful servant$_i$'s university agrees that his$_i$ results support my$_i$ conclusion.

d. *Your faithful servant$_i$'s university agrees that my$_i$ results support his$_i$ conclusion.

e. *His$_i$ university agrees that your faithful servant$_i$'s results support my$_i$ conclusion.

f. *His$_i$ university agrees that my$_i$ results support your faithful servant$_i$'s conclusion.

Collins' and Postal's system is more permissive. It only predicts is that if there is a constituent that contains two pronouns but doesn't contain an imposter, the pronouns have to agree in their person features. Thus, while they capture the grammaticality patterns in (149a-d), they fail to do so for (149e,f).

Here is, roughly, how their account works. Pronouns and full DPs can form *immediate antecedence chains*:

(150) Defintion: *Immediate antecedence chain*
A sequence of constituents [D$_1$, ..., D$_n$] is an immediate-antecedence chain if and only if for all i, $1 \leq i \leq n$, D$_i$ is an immediate antecedent of D$_{i+1}$. (Collins and Postal 2012: 143)

For example, in the example below, [[$_{DP1}$ AUTHOR], [$_{DP2}$ my], [$_{DP3}$ I]] is an immediate antecedence chain:

(151) [$_S$ AUTHOR [$_{TP}$ my children respect me]].

A question worth contemplating is whether the nominals in (151) *must* form an immediate antecedence chain. Could it be, for example, that AUTHOR is simultaneously the immediate and ultimate antecedent for both *my* and *me*? Collins and Postal stipulate that the answer is no. AUTHOR cannot be the immediate antecedent for both I and my, because that would violate the following constraint:

(152) *The Immediate-Antecedence Chain Condition*
For any constituent C, the maximal set of available DPs dominated by C with ultimate antecedent U form an immediate-antecedence chain, called U-availability chain in C.

a. Defintion: *sealed* A DP α is sealed (by β) in constituent C if and only if β is the immediate antecedent of α and C is the minimal constituent dominating both α and β.
b. Defintion: *available* A DP γ is available in a constituent C if and only if γ is not sealed in any subconstituent of C. (Collins and Postal 2012: 143)

In our case in (151), both *my* and *me* will be available in TP, since it is not possible to identify any subconstituent of TP in which *my* or *me* would be sealed (trivially, since no

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subconstituent of TP contains more than one pronoun). Thus, by (152), they would have to form an immediate atecedence (U-availablity) chain, i.e. one of the pronouns would have to immediately antecede the other, they cannot be both immediately anteceded by AUTHOR.

In the general case, it follows from the provided definitions that if C is a minimal constituent dominating coreferent pronouns α and β and there is no other DPs coreferent with α and β in C, then both α and β will be available in C, since there would be no subconstituent of C where either α or β would be sealed. According to the Immediate-Antecedence Chain Condition in (152), α and β must form a U-availability chain.

The restriction on disagreeing corefernet pronouns in a constituent that doesn't include a coreferent imposters follows from the *Homogeneity Principle*.

(153)   *The Homogeneity Principle*
         If α and β are pronominal members of some U-availability chain, then α and β agree.
         (Collins and Postal 2012: 145)[14]

The Homogeneity Principle automatically rules out coreference in cases like (149c) and (149d), repeated below), where we can identify a constituent that contains non-homogenous pronouns (necessarily forming a U-availability chain, subject to Homogeneity), but no imposter.

(154)   a. *YFS$_i$'s university agrees that [his$_i$ results support my$_i$ conclusion].

         b. *YFS$_i$'s university agrees that [my$_i$ results support his$_i$ conclusion].

In (149a) and (149b), repeated as (155) below, non-homogenous pronouns don't have to form a U-availability chain (in each sentence, the immediate antecedent for the 3rd pronoun would be the imposter, and the immediate antecedent for the 1st person pronoun would be AUTHOR).

(155)   a. AUTHOR [My$_i$ university agrees that [YFS$_i$'s results support his$_i$ conclusion]].

         b. AUTHOR [My$_i$ university agrees that [his$_i$ results support YFS$_i$'s conclusion]].

However, there is no principled way to rule out coreference in (149e) and (149f), (156a,b) below, i.e. those cases where there is a constituent that includes the imposter and the 1st/2nd person pronoun, but doesn't include the 3rd person pronoun ([[Imposter ... pronoun:[1st/2nd]] ... pronoun:[3rd] ...]):

(156)   a. *AUTHOR [His$_i$ university agrees that [YFS$_i$'s results support my$_i$ conclusion]].

         b. *AUTHOR [His$_i$ university agrees that [my$_i$ results support YFS$_i$'s conclusion]].

---

[14]Collins and Postal later slightly revise this principle, in ways that are irrelevant for our discussion here (see Collins and Postal 2012: 213–215).

Collins' and Postal's system wrongly predicts that person mismatches in configurations like those in 156 should be tolerated. The key factor is that an imposter could immediately antecede both the 1st/2nd person pronoun and the 3rd person pronoun. In this case, the pronouns wouldn't be available in S, wouldn't form a U-availability chain, and thus so they would be allowed to be "non-homogenous".

All this said, it might be not quite fair to use this particular data point to illustrate the difference in predictions between the imposter operators-based theory and the Homogeneity-based theory. Both pronouns in (156a) and (156b) are singular, and as Collins and Postal note, singular imposters, unlike plural imposters, for some reason cannot immediately antecede 1st person pronouns. Since the 1st person pronoun *my* is singular in (156a), it may not be anteceded by the imposter *your faithful servant*. But since t*your faithful servant* and *my* are available in the embedded TP they will have to form a U-availability chain in which *my* immediately antecedes *your faithful servant*. Now *my* and *his* will be available in S, forming a U-availability chain that would be ruled out by Homogeneity:

(157) a. *AUTHOR [His$_i$ university agrees that [YFS$_i$'s results support my$_i$ conclusion]].

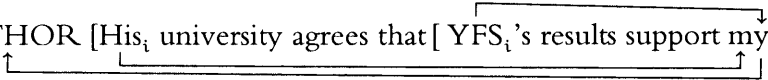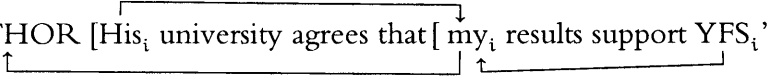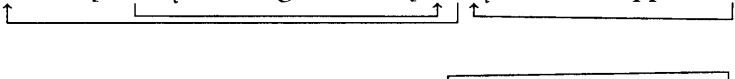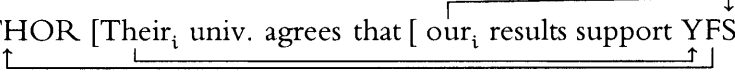   b. *AUTHOR [His$_i$ university agrees that [my$_i$ results support YFS$_i$'s conclusion]].

However, following this logic, we would expect that plural pronouns, as in the examples below, would behave differently. In (25), the plural imposters (*your faithful servants*) would be able to immediately antecede both 3rd person and 1st person pronouns, preventing them from forming U-availability chains. This expectation is not borne out[15].

(158) a. *AUTHOR [Their$_i$ univ. agrees that [YFS$_i$s' results support our$_i$ conclusion]].

      b. *AUTHOR [Their$_i$ univ. agrees that [our$_i$ results support YFS$_i$s' conclusion]].

Another important prediction of an imposter operators-based theory was that 1st/2nd person pronouns that are semantically bound by *only*-phrases would be licensed inside respective impostrous domains, as long as their nominal binder is outside of the domain, and the lambda-binder is inside (see 2.3.3). Collins and Postal (2012) do not discuss such cases, but I believe that we can make this prediction work in their system. The key would be to assume that these semantically bound pronouns are anteceded not by pronouns per se, but by *only*-phrases.

Consider the example (81), repeated below:

(159) Only I$_i$ think that yours truly$_i$ should introduce his$_i$ friends to my parents.

      a. *Bound reading*: I think that I should introduce my friends to my parents, and nobody else thinks that I should introduce my friends to his or her parents.

---

[15]In my system, the ungrammaticality of the examples in (158) is due to the presence of imposter operators.

b. *Strict reading*: #I think that I should introduce my friends to my parents, and nobody else thinks that I should introduce my friends to my parents.

In Collins' and Postal's system, one could say that the immediate antecedent of *my* is the DP *only I*.

(160)   AUTHOR [Only I_i] think that YT_i should [$_{VP}$ introduce his$_i$ friends to my parents].
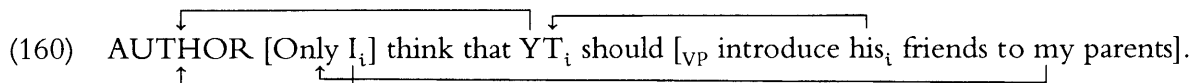
The pronouns *his* and *my* inside the VP have different ultimate antecedents, *AUTHOR* and *only I*, respectively. Hence, they don't form a U-availability chain, they are not subject to Homogeneity, so they are allowed to have different person features.

At the same time, Collins' an Postal's system is not suited to capture the *de se/de re* effects in dream reports that we observe and try to reduce to semantic binding in Appendix. Getting these effects right would require at least a better understanding of how antecedence is interpreted in semantics, and perhaps some complications of the syntax of the constructions in question as well.

2.5.2.3 Sources of agreement for coordinations

In developing our theory of imposters we have talked at length about the properties of pronouns with split antecedents and the parallelism between these pronouns and coordinations involving imposters (see sections 2.4.1 and 2.4.2). The parallelism was noted by Collins and Postal (Collins and Postal 2012: 121–123), and in fact their system is designed to capture the facts we discussed. However, antecedence relations appear to be insufficent here, and Collins and Postal acknowledge that "sources" of ϕ-features that are not inherently valued are not only antecedents.

(161)   *Pronominal Agreement Condition*
        If P is a non-expletive pronominal, then for all ϕ-features F of P for which P is not inherently valued, P agrees in F with some *source*. (Collins and Postal 2012: 222)

Sources come in many varieties. Here we will only discuss so-called *primary sources*[16], defined as follows:

(162)   Defintion: *primary source*
        A is a primary source for B if and only if:

        a. A antecedes B; or

        b. A is a key conjunct of B; or

        c. A shares a lexical basis with B. (Collins and Postal 2012: 188)

The clause (162c) is to ensure that a DP like *only I* in (160) has a 1st person feature inheretited from *I* (*I* shares a lexical basis[17] with *only I*, hence it a source for *only I*).

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[16]*Secondary sources* play an important role in Collins' and Postal's system, but we are not going to discuss them here as it will , as it would bring us well beyond the scope of this dissertation.

[17]See the defintion of *lexical basis* in Collins and Postal 2012: 59

Of more interest for our purposes is the clause (162c), since it is about conjunctions and pronouns with split antecedents that Collins and Postal analyze as conjunctions of pronouns. For Collins and Postal, a conjunction like *you and I* would have a 1st person feature as a matter of agreement with the source that in this case is one of the conjuncts, namely the pronoun *I*. In general, the *key conjunct* is the one that has the highest person feature, given the hierarchy 1 > 2 > 3. Crucially, for the purposes of key conjunct computation, S-imposters count as being 1st person and H-imposters as being 2nd person. This is because H-imposters are anteceded by the 1st person AUTHOR, and H-imposters by the 2nd person ADDRESSEE (see the formal defintions allowing for this in Collins and Postal 2012: 112). It also important that a conjunction can agree not only with the person feature of its key conjunct, but also *with the person feature of its ultimate antecedent*. This means that if an imposter is a source for a conjunction, both its 3rd person feature and the 1st or 2nd person feature of its ultimate antecedent are "visible", the conjunction can agree with either one of them.

For example, if a S-imposter is conjoined with an 3rd person DP, whether it is a regular DP or a H-imposter, the S-imposter would be the key conjunct. The conjunction would agree either with its 3rd person feature or with the 1st person feature of its ultimate antecedent (AUTHOR). We have seen this free variation with Russian conjunctions (section 2.4.2.1), while Collins and Postal observe similar effects in English, looking at the form that reflexive pronouns bound by conjunctions would take:

(163)   a. Jerome and your faithful correspondent were enjoying ourselves/themselves on the beach.

b. Madam and her faithful servant will enjoy ourselves/themselves on the beach. (Collins and Postal 2012: 114–115)

If a H-imposter is conjoined with a non-imposter 3rd person DP, the H-imposter would be the key conjunct. This time, the conjunction would either agree with the imposter in 3rd person or with its ultimate ADDRESSEE antecedent in 2nd person:

(164)   Madam and her visitors will enjoy themselves/yourselves on the beach. (Collins and Postal 2012: 115)

If a H-imposter is conjoined with a 1st person pronoun, the pronoun will be the key conjunct, so the only option for the conjunction would be to have the 1st person feature:

(165)   (ADDRESSEE) Madam and I will enjoy {our/*your/*them}selves on the beach. (Collins and Postal 2012: 115)

A problem arises for coordinations of S-imposters with 2nd person pronouns. The facts are that in these cases, only 1st person is available for the coordination, even though the key conjunct in this case is the imposter:

(166)   You and your faithful correspondent will enjoy {our/*your/*them}selves on the beach. (Collins and Postal 2012: 115)

Given what was said above, the prediction would be that the 3rd person (given an imposter as a source) would also be an option for the conjunction. To get the observed pattern right, Collins and Postal introduce the following filter:

(167) *The illegal coordinate person value assignment condition*
   If C is a conjunctive coordinate DP, then no conjunct of C outranks C. (Collins and Postal: 117)

It is precisely this condition that would be violated if the conjunction in (166) is 3rd person, since this value would be outranked by the person feature value of one of the conjuncts, the 2nd person pronoun *you*.

At this point, we could compare this system with the one that we had. Recall that in our system, it was the availability of a *syntactic strategy* (roughly, agree with both conjuncts, if there is no conflict) and a *semantic strategy* (assign an appropriate presuppositional ϕ-feature) that was responsible for the variation in the likes of the examples above (see 2.4.2.1). Collins and Postal don't capitalize on the surface generalization that was very important for my account, namely that the possibility of 3rd person agreement for conjunctions arises only in cases when all of the conjuncts are 3rd person. It is precisely those cases that the *syntactic strategy* was devised for (the semantic strategy being universally available). Thus, we didn't have to stipulate any condition like the one in (167), although the syntactic strategy itself could be viewed as stipulative.

The *semantic strategy*, in turn, can be regarded as an equivalent of Collins' and Postal's agreement with the ultimate antecedent of the key conjunct. In a system where antecedence doesn't play a role, the semantic strategy is helpful since it can be shown to apply not only to conjunctions, but also to plural pronouns, whether they have split antecedents or not.

Collins' and Postal's account of conjunctions extends quite straightforwardly only to those pronouns that have split antecedents. Such pronouns are represented by conjunctions of uniquely anteceded pronouns in syntax. The same principles apply. Take, for instance, the example (105), repeated below:

(168) Yours truly$_i$ told Mary$_j$ that his$_i$ mother doesn't approve of their$_{i+j}$/our$_{i+j}$ marriage.

For Collins and Postal, in the underlying structure of this sentence the plural pronoun would be represented as a conjunction of two singular 3rd person pronouns:

(169) Yours truly$_i$ told Mary$_j$ that his$_i$ mother doesn't approve of [his$_i$ and her$_j$] marriage.

The person feature of this conjunction would be determined by the key conjunct, the imposter-anteceded pronoun *his*. The conjunction can either agree with its 3rd person feature, in which case it will be spelled out as *their*, or with the 1st person feature of its ultimate antecedent, AUTHOR, in which case it will be *our*.

2.5.2.4 Principle C effects

Up till now, we haven't yet examined one of the striking properties of imposters that was mentioned in the beginning of the chapter, namely the fact that imposters obviate Binding Principle C when they are c-commanded by coreferent pronouns, but only if those pronouns have 1st or 2nd person features (52c). For instance, in the following example, the S-imposter *your faithful sevant* can be c-commanded by the coreferent 1st person pronoun *I* (170a), but not by the corweferent 3rd person pronoun *he*.

(170)   a. I_i think that your faithful servant$_i$ knows how to ski well.

   b.   *He_i thinks that your faithful servant$_i$ knows how to ski well.

Collins and Postal's antacedence-based theory allows to deal with this problem in an elegant way. Recall that in their system Binding-theoretic principles, including Principle C, are antecedence-based (see (147)):

(171)   *Antecedence-based Principle C*
   If a DP Q is an antecedent of a pronominal P, then P does not c-command Q. (Collins and Postal 2012: 131)

With this formulation of Principle C, the job is now to demonstrate that the imposter antecedes the c-commanding pronoun in (170b), but not necessarily in (170a).

In (170b), the pronoun *he* would have to get its person feature value from some source. The only available source of 3rd person in this case is the imposter *your faithful servant*, and the only possibility for *your faithful servant* to be the source for the pronoun *he* is by being its immediate antecedent. Thus, in (170b), the imposter must be the antecedent for the c-commanding pronoun, triggering a Principle C violation.

(172)   *AUTHOR:[1st] he think that your faithful servant knows how to ski well.

On the contrary, (170a) allows for a parse in which it is not the imposter that immediately antecedes the c-commanding pronoun, but, conversely, it is the 1st person pronoun *I* that immediately antecedes the imposter (much in the same way that the 1st person AUTHOR immediately antecedes *your faithful servant* in (170b), see also 2.5.2.1). The pronoun *I* is in turn anteceded by the 1st person AUTHOR. No violations of any binding principles here:

(173)   AUTHOR:[1st] I think that your faithful servant knows how to ski well.

It is not trivial to replicate these results in a system in which antecedence doesn't play a role. It is, however, important to note that the two sentences in (170) have different syntactic representations in our system as well. The difference is in the position of the imposter operator ⊕.

In (170b), the imposter operator takes scope over the whole sentence. This is the only way the 3rd person pronoun coreferent with the imposter can be licensed.

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(174) * ⊕ [He⟨1,③⟩ thinks that your faithful servant=g(⟨1,③⟩) knows how to ski well]].

In (170a), on the other hand, the imposter operator, if present at all, would have to c-command the imposter, but not the pronoun. Otherwise, if the pronoun *I* were included in its scope, as in (174), it wouldn't be possible to interpret it.

(175) I⟨1,③⟩ ⊕ [think that your faithful servant knows how to ski well].

Given these structural differences, there are several ways in which the effect can be explained.

One possibility is that Principle C is to be reformulated so that it cares about the referential indices of pronouns (which can be affected by imposter operators) more than about their actual values. For example, we could try the following formulation:

(176) A pronominal DP α cannot c-command a non-pronominal DP β if at LF, all other things being equal, β can be replaced with α's index without changing the overall meaning.

To apply this principle to (175) means to ask a question whether at LF ⟨1, ①⟩ can replace *your faithful servant*, without meaning differences. The answer is that it cannot: if you try doing that, a 1st person index ⟨1, ①⟩ would fall in the scope of the ⊕-operator, and hence, it couldn't be interpreted. Thus, no violation of Principle C is induced.

No similar problem would arise in (174). Since both the pronoun and the imposter are in the scope of the same operator ⊕, the assignment function interpreting these expressions is also the same. The question whether ⟨1, ③⟩ can replace *your faithful servant* without altering the meaning has to be answered positively in this case. So, we get a Principle C violation.[18]

Another possibility is that Principle C is more "standard" (e.g., as in (177)), but imposter operators, for some reason that is still unclear, define *islands* for Principle C (178).

(177) A non-pronominal DP cannot be covalued with any DP c-commanding it.

(178) For any two covalued DPs, α and β, if α c-commands β in violation of Principle C, this violation doesn't lead to ungrammaticality, if there is an imposter operator ω such that ω c-commands β but doesn't c-command α.

Now the acceptability of (170a)/(175) and unacceptability of (170b)/(174) is that there is an impostrous domain boundary between the pronoun and the coreferent DP in the former case, but not in the latter.

Under this view, it is expected that the Principle C effects will be overridden not only by imposters themselves but also by any other DPs that happen to be contained inside the scope of an imposter operator. This expectation seems to be corroborated by the data, at least for some English speakers. Consider the contrasts below:

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[18]It might be possible to reformulate this account in terms of an obligatory *pronominalization* transformation (cf. Lees and Klima 1963, Ross 1967, Langacker 1969, Postal 1970) that would take place given a structural description where a pronoun with a particular set of valued φ-features c-commands a coindexed DP bearing the same φ-features. Thus, the transformation would have to apply in the case (170b)/(174), since the φ-features of the pronoun and the DP c-commanded by it are the same, but not in the case of (170a)/(175), where the φ-features are different.

(179)   a. She$_i$ asked me to introduce my parents to Mary$_i$'s.

           b. *She$_i$ asked [⊕ [yours truly]] to introduce my parents to Mary$_i$'s.

           c. (?)She$_i$ asked [⊕ [yours truly$_j$ to introduce his$_j$ parents to Mary$_i$'s]].

The sentence in (179a) is a clear example of Principle C violation, There is no imposter there, so no special effects are predicted.

In (179b) there is an imposter, *yours truly*, but even if there is an imposter operator, the DP *Mary* cannot be included in its scope. If the scope of the ⊕-operator included *Mary*, it would also have to include the 1st person pronoun *my*, coreferent with the imposter, which would then be undefined.

Finally, in (179c), the impostrous domain, i.e. the scope of ⊕, has to be large enough to include *Mary*, since it has to include at least the imposter and the coreferent 3rd person pronoun *his*. *Mary* would also fall into the impostrous domain, while the coreferent pronoun *she* may well be outside. Thus, (179c) is a configuration where the presence of an impostrous domain may effect the availability of coreference between *she* and *Mary*.

The proposed islandhood of impostrous domains with respect to Principle C is supported by the fact that Principle C effects still hold for any two DPs as long as they both are inside the same impostrous domain, i.e. inside the scope of the same imposter operator, as in the example below:

(180)   * ⊕ [Yours truly$_i$ asked her$_j$ to introduce his$_i$ parents to Mary's$_j$].

The contrasts above cannot be captured in Collins' and Postal's antecedence-based system without additional stipulations. And while we still have to *explain* the islandhood of impostrous domains, the very existence of these contrasts can serve as another argument for silent operators that define these domains.

2.5.2.5 Cross-sentential anaphora with imposters

Antecedence relations in Collins' and Postal's theory may hold between noun phrases belonging to different sentences, as in the sequence below:

(181)   Daddy$_i$ bought a coke. He$_i$ was thirsty.

The use of the 3rd person pronoun in the second sentence is justified in Collins' and Postal's system, since the pronoun is anteceded by the imposter in the preceding sentence.

In our theory with imposters there are basically two ways to deal with cases like (181). One way is to assume that syntactic and semantic computation operates on multi-sentential structures, and there is an imposter operator c-commanding the imposter and the pronoun.

While we don't need to delve deep into the matters of constituency in discourse, we can make at least the following simple prediction: if some two sentences are included in the impostrous domain, then any sentence that is situated linearly between those two should also enter into the domain. This prediction seems to be borne out:

(182)   ⊕ [Daddy$_i$ bought a coke. He$_i$/*I$_i$ was thirsty. He$_i$ was very tired too].

Sometimes, an imposter operator inside one sentence can take scope into a different sentence licensing the use of 3rd person pronouns with indexical reference. For example, in

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(183), the second sentence is clearly interpreted in the scope of the attitude verb from the first sentence, so, at LF we may have a representation in which the imposter operator from the first sentence also take scope into the second[19]:

(183)   [I believe [that ⊕ [yours truly$_i$ is right. His$_i$ theory makes various interesting predictions.]].

Alternatively, the 3rd person pronoun in contexts like (181) is a kind of a pronoun of laziness standing for a full imposter. In that case, no imposter operator has to be postulated. This analytic option is preferable in some cases, like the one below:

(184)   I$_i$ believe that yours truly$_i$ is right. I$_i$ think that his$_i$ (= *yours truly's*) theory makes various interesting predictions.

I don't have too much to say at this point about the distribution of these pronouns of laziness, but most likely it is not limited to cross-sentential cases, cf. the example below:

(185)   When I$_i$ said that yours truly$_i$ was sick, I$_i$ didn't mean that he$_i$ was dying.

2.5.3   Loose ends and new threads

I need to acknowledge that I haven't considered several phenomena that Collins and Postal (2012) discuss, including, but perhaps not limited to the special behavior the so-called *camouflage DPs* like *Your Majesty* in *Your Majesty enjoyed yourself* (for our purposes, we regarded those as "normal" H-imposters), partitives (*Each one of us thinks he is the best/we are the best*) and predicate nominals (*I am an experienced teacher who takes care of himself/myself*). It remains to be seen if the account I have developed can provide us with an insight into these cases. Overall, the intention was not offer a better explanation of all the phenomena discovered by Collins and Postal, but rather to present a viable alternative that can be used to analyze at least some of them in a semantically oriented way, while presupposing very little about their syntax. In doing so, we made two important discoveries: first, that we seem to need at least two ways of analyzing person features (*index features* vs. *head features*) both of which have been independently argued for, and, second, this one being an innovation, that we also seem to need silent operators manipulating the assignment function by targeting specific index person features (*imposter operators*).

In the next chapter I will present an independent case for similar assignment manipulators. This time their job will be modify the assignment in a way that will produce an effect of indexical shifting in attitude reports in Mishar Tatar. This is not the most standard way of analyzing indexical shifting (usually, indexical are taken to be assignment-idependent, and the monster operator manipulates the context parameter), but there are good reasons to adopt this analysis for Mishar Tatar.

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[19]Cf. licensing of logophors in Ewe (Clements 1975). See examples in (223).

Not all person pronouns can be shifted in this language. I will take shiftable pronouns be like person pronouns in English: they have complex indices with person features, which makes them potentially affected by assignment manipulators. The non-shiftable pronouns are more like imposters in English in that they denote contextual constants. The assignment parameter is irrelevant for their interpretation, and so the assignment manipulators do not have an effect on them.

Appendix: Imposters and person pronouns in dream reports

1st and 2nd person pronouns in impostrous domains inside dream reports

We have seen that 1st or 2nd person pronouns can occur in corresponding impostrous domains, if these pronouns are semantically bound. Here, I would like to take a few pages to discuss another class of cases in which 1st person pronouns may occur in an impostrous domain, specifically, *dream reports*. With a help of a theory of *de se*-attitudes along the lines of Percus and Sauerland 2003b, it is possible to reduce those cases to cases of semantic binding we discussed.

Consider the following sentence:

(186)   Last night I dreamed I was Brigitte Bardot and yours truly was showing me his pictures of me.

The only sensible interpretation of 186 is the one according to which in the dream the *actual self*, the speaker, was showing to the *dream self*, Brigitte Bardot, his pictures of her. That is, *yours truly* and *he* can only be interpeted *de re*, while the pronoun *I* and the two occurences of *me* can only be *de se*. The line of the argument will be the following: the *de se* interpretation of pronouns in dream reports results from moving one of these pronouns at LF and binding the trace and other *de se* pronouns (Percus and Sauerland 2003b); in sentences like (186) this would allow for the two occurences of *me* to be impervious to the presence of the imposter operator ⊕, in the same fashion as in (81).

Let us now carefully walk through the argument.

As Percus and Sauerland have argued, the *de se* (*dream-self*) interpretation of a pronoun in dream-reports arises when it moves (covertly) to create a property (a function from individuals to propositions), much in the same way relative pronouns create predicates. The moved pronoun is not interpreted in its derived position.

(187)   John dreamt [$_{CP}$ he got an Academy Award].

$\lambda x.\lambda w.x$ got an Academy Award in w

he* $\lambda x.\lambda w.x$ got an Academy Award in w
          (*by Predicate Abstraction*)

$\lambda\langle 3,③\rangle$ $t_{\langle 3,③\rangle}$ got an Academy Award in w

$t_{\langle 3,③\rangle}$ $\lambda x.\lambda w.x$ got an Academy Award in w
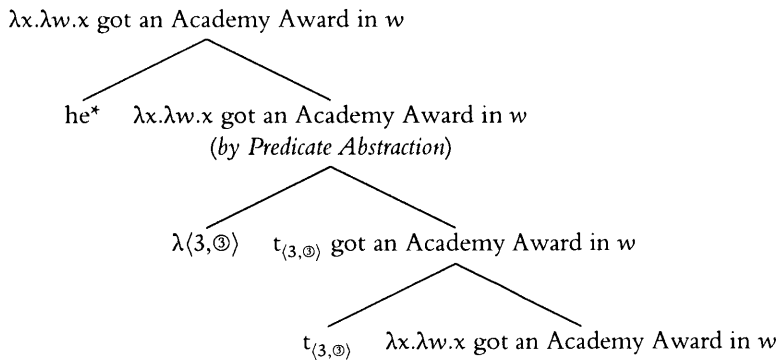
An attitude verb like *dream* takes a property as its first argument:

(188)   ⟦ dream ⟧^{g} = $\lambda P.\lambda x.\lambda w.$ For all $\langle y, w'\rangle$ in DREAM$_{x,w}$, $P(y)(w') = 1$.

(DREAM$_{x,w}$ stands for the set of pairs $\langle y, w'\rangle$ such that w' is a world compatible with x's dream in w, and y is the individual in w' who x, in w, identifies as himself.)

This semantics of *dream* ensures that its complement is going to be interpreted *de se*.

(189)   John dreamt he got an Academy Award.

$\lambda w.$ For all $\langle y, w' \rangle$ in $\mathrm{DREAM}_{John, w}$, y got an Academy Award in w'

        John $\lambda x. \lambda w.$ For all $\langle y, w' \rangle$ in $\mathrm{DREAM}_{x, w}$, y got an Academy Award in w'

                            dream $\lambda x. \lambda w. x$ got an Academy Award in w
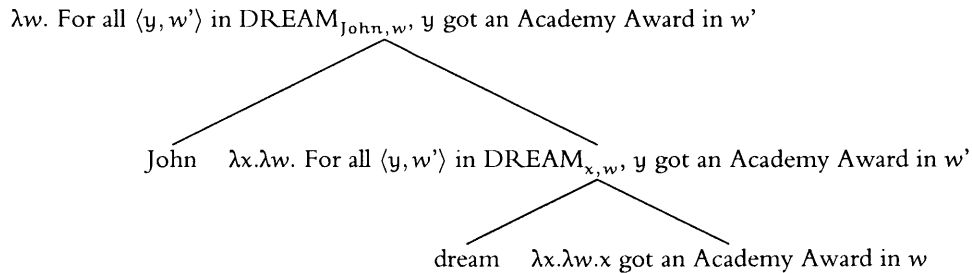
Thus, the sentence means that John had a dream in which his dream-self got an Academy Award. For example it could be a dream in which John's dream-self is Brigitte Bardot.

In this example the moved pronoun is 3rd person, but nothing prevents it from having different person features. Since the mechanism involved is semantic binding via Predicate Abstraction, those person features don't actually make much difference. We could derive a meaning for a sentence with a 1st person dreamer in a similar way:

(190)   I dreamt I got an Academy Award.

$\lambda w.$ For all $\langle y, w' \rangle$ in $\mathrm{DREAM}_{g(\langle 1, \mathbb{O} \rangle), w}$,
      y got an AA in w'

     $\mathrm{I}_{\langle 1, \mathbb{O} \rangle}$ $\lambda x. \lambda w.$ For all $\langle y, w' \rangle$ in $\mathrm{DREAM}_{x, w}$,
                           y got an AA in w'

               dream $\lambda x. \lambda w. x$ got an AA in w

                      I^* $\lambda x. \lambda w. x$ got an AA in w
                             (*by Predicate Abstraction*)

                       $\lambda \langle 5, \mathbb{O} \rangle$ $t_{\langle 5, \mathbb{O} \rangle}$ got an AA in w

                            $t_{\langle 5, \mathbb{O} \rangle}$ $\lambda x. \lambda w. x$ got an AA in w
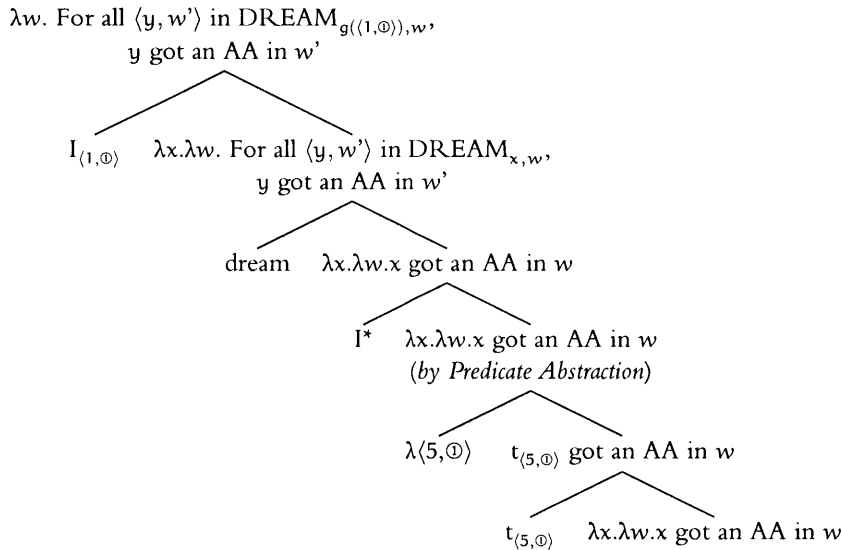
Now, returning to our example (186), repeated below, the interpretation we are after is the one in which the 1st person pronouns correspon to the dream-self, while the imposter and the coreferent pronoun *his* corresponds to the actual self. The dream-self (*de se*) interpretation of 1st person pronouns would be achieved by moving one of the pronouns at LF binding its own trace and the other pronouns. We also need to introduce an imposter operator for the 3rd person pronoun to be interpreted correctly:

(191) Last night I dreamed [I was Brigitte Bardot and yours truly was showing me his pictures of me].[20]

$$\ldots$$

$I_{\langle 7,\textcircled{\tiny ?}\rangle}{}^{*}$

$\oplus$ $\lambda x.\lambda w.x$ was $B.B.$ and s_c was showing x $g(\langle 5,\textcircled{\tiny ?}\rangle)$'s pictures of x (where $g(\langle 5,\textcircled{\tiny ?}\rangle) = s_c$)

$\lambda_{\langle 7,\textcircled{\tiny ?}\rangle}$

$t_{\langle 7,\textcircled{\tiny ?}\rangle}$ was Brigitte Bardot   **and**   *y. t.* was showing $\text{me}_{\langle 7,\textcircled{\tiny ?}\rangle}$ $\text{his}_{\langle 5,\textcircled{\tiny ?}\rangle}$ pictures of $\text{me}_{\langle 7,\textcircled{\tiny ?}\rangle}$
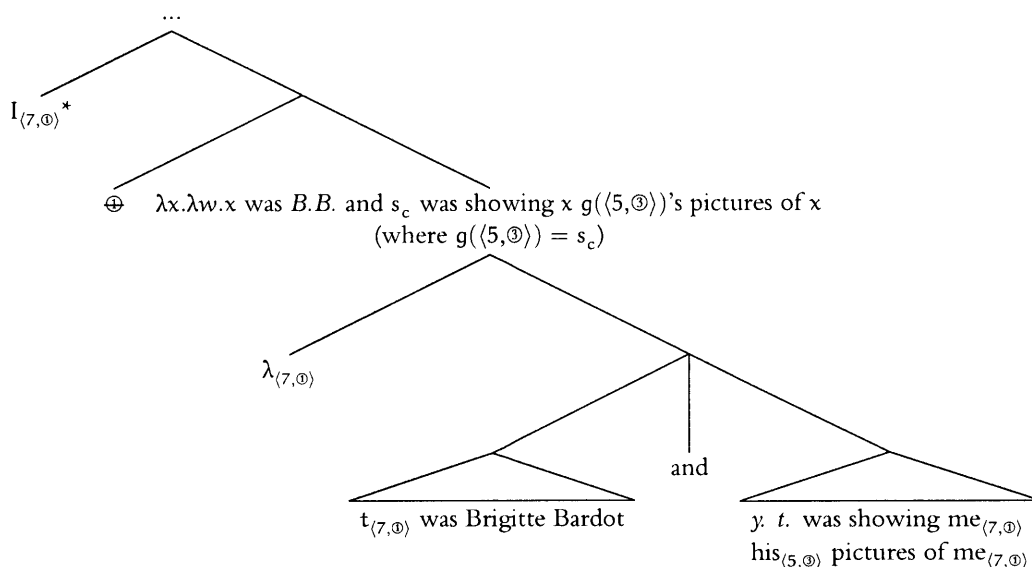
As long as the imposter operator $\oplus$ is introduced above the lambda-binder of 1st person expressions, there is no problem in interpreting the structure, as $\oplus$ applies to a term that doesn't contain any 1st person indices: $\lambda x.\lambda w.x$ was $B.B.$ and s_c was showing x $g(\langle 5,\textcircled{\tiny ?}\rangle)$'s pictures of x. The case reduces to a more general case of semantic binding. The mechanism of getting *de se* readings from (Percus and Sauerland 2003b) allows us to systematically predict *de se*-readings of 1st/2nd person pronouns in the scope of $\oplus$ or $\textcircled{\oplus}$.

Are person features of moved pronouns interpretable?

The person feature of the moved pronoun in Percus's and Sauerland's system is uninterpretable. They propose a morphosyntactic constraint requiring *agreement* in phi-features between the subject of the matrix sentence and the moved pronoun. Although it works for cases that they discuss, it becomes more complicated when imposters are taken into consideration.

Consider the following sequence of sentences:

(192) Recently, yours truly has had a recurring dream of him being Brigitte Bardot. For example, last night yours truly dreamt that I got an Academy Award.

In the second sentence, the pronoun *I* can be understtof as the dream-self. Its 1st person feature is clearly interpreted. For example, it cannot be substituted by the 2nd person feature, without changing the meaning:

(193) Recently, yours truly has had a recurring dream of him being Brigitte Bardot. #For example, last night yours truly dreamt that you got an Academy Award.

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[20]Note that the example could be potentially problematic for Percus and Sauerland 2003b, since pronoun movement here violates the Coordinate Structure Constraint.

At the same time, it is unlikely that the 1st person feature in (192) is a part of a complex referential index, since such 1st person pronouns are licensed even inside impostrous domains:

(194)   Recently, yours truly has had a recurring dream of him being Brigitte Bardot. For example, last night ⊕ [yours truly$_i$ dreamt that I kissed him$_i$].

In our current system, the 1st person feature of the moved *de se*-pronoun would be licensed in an impostrous domain, if it this feature an indexical presuppositional trigger. It would have to somehow convey the presupposition about the *dreamer*. I will leave a full compositional account for future research.

Chapter 3

Shifting the indices: a case study in Mishar Tatar attitude reports

As we just saw in the case of imposters, with person features as parts of complex referential indices, we can define operators that are manipulating the assignment function in a way that only indices with particular person features are affected. In this chapter, I provide evidence that the same powerful tool may be at work in indexical shifting of person pronouns. Focusing on the novel data from attitude reports in Mishar Tatar[1]. We will see that there are two kinds of indexical pronouns in this language: those that can be interpreted relative to the embedded context in finite CPs and those that cannot. Interestingly, the "shiftability" of a pronoun correlates with its potential to be interpreted as a bound variable. I will propose that the correlation holds because only shiftable pronouns are interpreted relative to the assignment function, and the operator responsible for shifting manipulates not the context directly, but rather the assignment function – by "resetting" values of pronouns with particular person features in their referential indices, which makes it look very similar to the imposter operators discussed in the previous chapter. Non-shiftable pronouns in Mishar Tatar also cannot be interpreted as bound variables, which I take as evidence that they are true Kaplanian indexicals, much like *yours truly* and similar imposters in English. They cannot be affected by the proposed shifting operator, since they do not have complex indices with person features that are targeted by it.

We proceed as follows. First, in section 3.1, we will look at the at the basic indexical shifting paradigm of Mishar Tatar. In section 3.2, I will introduce indexical shifting from theoretical and typological perspectives. Having obtained the necessary analytical tools, in section 3.3, I will provide an account of indexical shifting in Mishar Tatar and study its predictions. In section 3.4, I will conclude the chapter with a discussion of the consequences of the analysis for the theory of person features.

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[1] The Mishar Tatar data used in the chapter was collected during two field trips to Bol'shoe Rybushkino, a.k.a. *Rbiščä*, in Nizhegorodskaya oblast', Russia (with the exception of Khanina's (2007) and Pazelskaya's and Shluinsky's (2007) data from Tatarsky Eltan, Tatarstan, Russia and Podobryaev's (2013) data from Kutlushkino, Tatarstan, Russia).

3.1 The basics of shifting in Mishar Tatar

3.1.1 Mishar Tatar

Mishar Tatar shares many of the well-known properties of Turkic languages. It has a rich morphological case system with differential accusative marking. It is head-final, the basic word order is SOV, although this pattern can be often obscured by scrambling:

(195) a. Marat Alsu-ga   kitap(-nɤ)   bir-de.
         Marat Alsu-DAT book(-ACC) give-PST
         'Marat gave a/the book to Alsu.'

      b. Alsu-ga Marat kitap(-nɤ) bir-de.
      c. kitap*(-nɤ) Marat Alsu-ga bir-de.[2]
         ...

Main verbs morphologically agree with nominative subjects in person and number:

(196) a. Min ɤzba   sal-dɤ-m.   b. Bez ɤzba   sal-dɤ-k.
         I   house put-PST-1SG   we house put-PST-1PL
         'I built a house.'   'We built a house.'

Within the noun phrase, head nouns agree with possessors:

(197) a. minem ɤzba-m   b. bez-neŋ ɤzba-bɤz
         I.GEN   house-1SG   we-GEN house-1PL
         'my house'   'our house'[3]

Plural number agreement with 3rd person plural DPs is optional. Agreement with singular 3rd person DPs is null:

(198) a. Malaj-lar ɤzba   sal-dɤ(-lar).
         boy-PL   house put-PST(-3PL)
         'The boys built a house.'
      b. malaj-lar-nɤŋ ɤzba-sɤ / ɤzba-lar-ɤ.
         boy-PL-GEN   house-3 / house-PL-3
         'the boys' house'

For the purposes of this chapter, the most important fact about Mishar Tatar grammar is that noun phrases can be *pro-dropped*, as long as they are agreed with:

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[2]Unmarked objects cannot be scrambled, see a discussion in Podobryaev 2013.

[3]Possessors are either marked genitive or unmarked, see (Grashchenkov 2007) for factors affecting the choice. If a possessor is a person pronoun, it cannot be unmarked (Grashchenkov 2007). Similarly person pronouns are never unmarked in the direct object position

(199)   a.   *pro* ɤzba   sal-dɤ-m.   c.   *pro* ɤzba   sal-dɤ*(-lar).
           house put-PST-1SG   house put-PST*(-3PL)
           'I built a house.'   'They built a house.'
     b.   *pro* ɤzba-m   d.   *pro* ɤzba-lar-ɤ / *ɤzba-sɤ.
           house-1SG   house-PL-3 / *house-3
           'my house'   'their house'[4]

3.1.2   Null vs. overt pronouns

The basic generalization is as follows: in attitude reports *null pronouns* may be shifted to refer to the coordinates of the context supplied by the attitude, but overt pronouns never can. This fact can be obscured due to the availability of *quotational* embedding. However, once this factor is controlled for, the contrast between null and overt pronouns becomes very clear.

3.1.2.1   Quotation/shifting ambiguity

Consider an example below:

(200)   Alsu [*pro* šäxär-gä   kit-te-m   diep] at'-tɤ.
         Alsu   *pro* city-DAT go.out-PST-1SG C   say-PST
         a. 'Alsu said that I went to the city.'
         b. 'Alsu$_i$ said that she$_i$ went to the city.'

The sentence in (200) is ambiguous: the null 1st person pronoun in the subject position of the embedded clause can be interpreted as referring either to the speaker of the whole utterance (200a), or to the attitude holder, Alsu (200b). The second option could be an instance of indexical shifting: the 1st person would still correspond to the speaker coordinate, although not in the context of the whole utterance, but in the context of Alsu's talking.

However, there is another possibility. It could be that the embedded clause in the parse corresponding to the reading (200b) is a direct quotation of Alsu's words (*Alsu said: "I went to the city"*). If such a parse is available, we should not expect any difference between null and overt pronouns here: there is no reason why overt pronouns wouldn't be licensed in a quotation. The following example, a minimal pair to (200) with an overt 1st person pronoun, shows that indeed, the same two interpretations obtain:

(201)   Alsu [min šäxär-gä   kit-te-m   diep] at'-tɤ.
         Alsu   I   city-DAT go.out-PST-1SG C   say-PST
         a. 'Alsu said that I went to the city.'
         b. 'Alsu$_i$ said that she$_i$ went to the city.'

I argue that in fact both (200) and (201) allow for quotational parses, but it is only in (200) that the second reading (200) *can* be an instance of true indexical shifting. The arguments will rely on evidence from sentences in which quotational parses can be effectively excluded.

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[4]If forms that are unmarked for plural are chosen in (199c) and (199d), *pros* would have to be singular, and the meanings would be different: '*(S)he built a house*' and '*her/his house*', respectively.

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3.1.2.2 Unambiguous shifting

To exclude quotational readings, we will examine sentences with long-distance grammatical dependencies that cross over the boundary between the matrix clause and the embedded clause, since such dependencies cannot relate the material inside the quotation to the material outside of it (cf. tests for non-quotations used in Schlenker 2003, Anand and Nevins 2004, Deal to appear, and Shklovsky and Sudo to appear).

For example, consider long-distance *wh*-questions. Mishar Tatar has *wh-in-situ*, so despite the surface position of the *wh*-phrase in the embedded clause, it takes matrix scope, as in (202):

(202)   Alsu [*pro* kaja   kit-te-m   diep] at'-tɤ?
        Alsu *pro* where go.out-PST-1SG C   say-PST
        'Which place did Alsu$_i$ say I$_j$ went?'
        'Which place did Alsu$_i$ say she$_i$ went?'

Again, crucial for us is the interpretation of the 1st person null subject in the embedded clause. It can be interpreted as referring to the speaker, the person who asks the question (the *non-shifted* reading), but it can also be understood as referring to the attitude holder, Alsu. The latter reading is the *shifted* one. The example cannot be an instance of quotation. If it were, the *wh*-phrase would take matrix scope from inside the embedded quotation, which is not an option (cf. **Which place$_i$ did Alsu say: "I went t$_i$"?*).

If an overt pronoun is used instead of a null one, the shifted reading disappears. The overt pronoun in the embedded clause that the *wh*-phrase comes from can only refer to the speaker of the utterance:

(203)   Alsu [min kaja   kit-te-m   diep] at'-tɤ?
        Alsu   I   where go.out-PST-1SG C   say-PST
        'Which place did Alsu$_i$ say I$_j$ went?'   (non-shifted)
        #'Which place did Alsu$_i$ say she$_i$ went?'   (shited: *unavailable!*)

So, there is really a big difference between null and overt pronouns: null pronouns are *shiftable*, while overt pronouns aren't, although sentences parsable as quotations might look (misleadingly) like counterexamples to this generalization.

The same point can be made if we consider possible answers to long-distance *wh*-questions. The question in (204), with a null 1st person pronoun in the embedded clause, is, again, ambiguous. We can be sure that it is since it can be coherently answered in two different ways: the answer would be either involve a 2nd person pronoun ((205a), which corresponds to the non-shifted reading of the question), or a 1st person pronoun ((205b),which corresponds to the shifted reading of the question).

(204)   — Sin irtäge   [kaja   kit-er-men   diep] at'-tɤ-ŋ?
          you yesterday   where go.out-POT-1SG C   say-PST-ŋ
        — 'Which place did you say yesterday I would go to?'   (non-shifted)
        — 'Which place did you say yesterday you would go to?'   (shifted)

(205) a. Min [(in) Nižnij-ge   kit-er-sen   diep] at-'ty-m.
       I   you Nizhny-DAT go.out-POT-1SG C   say-PST-1SG
       'I said you would go to Nizhny (Novgorod).'

       b. Min [(min) Nižnij-ge   kit-er-men   diep] at-'ty-m.
       I   I   Nizhny-DAT go.out-POT-1SG C   say-PST-1SG
       'I said I would go to Nizhny (Novgorod).'

But if the question employs an overt 1st person pronoun, the question is unambiguous (the 1st person pronoun refers to the asker of the question), and it's impossible to answer as in (205b), while (205a) would still be a coherent answer.

Another test that can demonstrate that overt pronouns are *non-shiftable* employs *n-phrases* which are licensed by *local* negation in Mishar Tatar:

(206) a. Marat (*ber*) *kem-ne*   *dä*   kür-*(mä)-de.
       Marat (one) who-ACC *n*PCL see-*(NEG)-PST
       'Marat didn't see anyone.'

       b. * Marat [$_{CP}$ Alsu (*ber*) *kem-ne*   *dä*   kür-de diep] at'-ma-dɤ.
       Marat   Alsu (one) who-ACC *n*PCL see-PST C   tell-NEG-PST
       Intended: 'Marat didn't say that Alsu saw anyone.'

N-phrases licensed by negation in the embedded clause can occur as *accusative proleptic objects*[5]:

(207) Min (*ber*) *kem-ne*   *dä*   kil-mä-s   diep kurk-a-m.
       I   one who-ACC *n*PCL come-NEG-POT C   fear-ST.IPFV-1SG
       'I am afraid that nobody would come.'

Obviously, accusative proleptic objects cannot be a part of a quotation. Moreover, it shouldn't be the case that negation *inside* a quotation would license proleptic *n*-phrases *outside* of a quotation. Thus, a sentence like the one below cannot involve quotation:

(208) Alsu *kem-ne*   *dä*   miŋa bag-m-a-s   diep kurk-a.
       Alsu who-ACC *n*PCL I.DAT look.at-NEG-ST-POT C   fear-ST.IPFV
       'Alsu is afraid that nobody would look at me.'

The 1st person pronoun *miŋa* in (208) can be interpreted as referring to the speaker, but not Alsu. This gives support to our claim that overt pronouns never shift.

If the *n*-phrase is in nominative case, it is not a proleptic object and it can be a part of a quotation. We can predict that in this case, the overt 1st pronoun would be able refer to the attitude holder, on a quotational parse. The prediction is borne out:

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[5]I call these accusative noun phrases "accusative proleptic objects" for the lack of a better term. These accusative noun phrases are neither arguments of matrix verbs, nor arguments of embedded main verbs. They express, roughly, what/who the embedded clause is about and they are positioned in the left periphery of the embedded clause, in close vicinity of the complementizer (as far I can tell, "proleptic" objects discussed in). See Appendix for more information on prolepsis in Mishar Tatar. See also Salzmann 2013 for a general discussion of prolepsis.

(209) Alsu *kem dä* miŋa bag-m-a-s   diep kurk-a.
       Alsu who *n*PCL I.DAT look.at-NEG-ST-POT C   fear-ST.IPFV
       'Alsu is afraid that nobody would look at me.'   (non-quotation)
       'Alsu is afraid: "Nobody will look at me".'   (quotation)

3.1.2.3 Shifted and non-shifted pronouns together

Null pronouns and overt pronouns can naturally co-occur within one embedded clause. Since null pronouns are shiftable and overt ones are not, an embedded clause can contain overt and null pronouns whose person features correspond to the participant coordinates of *different contexts*. For example, there can be a shifted null 1st person pronoun together with an non-shifted overt 1st person pronoun, as in the example below:

(210) Alsu [*pro ber kajčan da*   miŋa bag-m-a-s-mɤn   diep] bel-ä.
       Alsu   one when *n*PCL I.DAT look.at-NEG-ST-POT-1SG C   know-ST.IPFV
       'Alsu knows that she would never look at me.'

Similarly, there can be two 2nd person pronouns with different reference. For example, below we have a shifted null 2nd person subject referring to the addressee of the described speech act, *Marat*, and a non-shifted overt 2nd person pronoun referring to the addressee of the actual speech act, *you*.

(211) — Alsu, min Marat-ka   [*pro ber kajčan da*   sine   kür-m-ä-s-seŋ   diep]
       Alsu I   Marat-DAT   one when *n*PCL you.ACC see-NEG-ST-POT-2SG C
       at'-tɤ-m.
       say-PST-1SG
       — 'Alsu, I told Marat that he would never see you.'

The two examples above are unambiguous. The null pronouns in them *have to be shifted*. If they were not, we would have got Principle B violations on either quotational or non-shifted reading, just as we get these violations in non-embedded sentences:

(212) a. * *pro ber kajčan da*   miŋa bag-m-a-s-mɤn.
           one when *n*PCL I.DAT look.at-NEG-ST-POT-1SG

       b. * *pro ber kajčan da*   sine   kür-m-ä-s-seŋ
           one when *n*PCL you.ACC see-NEG-ST-POT-2SG

If no independent factors such as Principle B exclude the non-shifted reading of a null pronoun, it may also be understood as shifted even in the presence of overt pronouns within the same clause. For example, below we have a sentence with a null 1st person nominal possessor and a an overt 1st person direct object that is three-way ambiguous between a quotational, non-shifted and shifted readings.

(213)   Alsu [[*pro* sestra-m] mine kür-de diep] at'-tɤ

           Alsu   sister-1SG I.ACC see-PST C   say-PST

           'Alsu$_i$ said that her$_i$ sister saw her$_i$'   quotational embedding

           'Alsu$_i$ said that my sister saw me'   non-shifted reading

           'Alsu$_i$ said that her$_i$ sister saw me'   shifted reading

           #'Alsu$_i$ said that my sister saw her$_i$'   *unavailable!*

3.1.3 Nominative vs. accusative case

We have already seen accusative proleptic objects in embedded CPs in Mishar Tatar ((282), (208)). Interestingly, when a null pronoun is contained inside an accusative proleptic object, it cannot be shifted:

(214)   Alsu [irtägä   [*pro* sestra-m-nɤ] kil-ä-r   diep] at'-tɤ.

           Alsu tomorrow *pro* sister-1SG-ACC come-ST-POT C   tell-PST

           'Alsu$_i$ said that my/#her$_i$ sister would come tomorrow.'

This contrasts with sentences with an overt nominative subject instead of an accusative proleptic object. If a null pronoun is contained inside an overt nominative subject, it can get shifted.

(215)   Alsu [irtägä   [*pro* sestra-m] kil-ä-r   diep] at'-tɤ.

           Alsu tomorrow *pro* sister-1SG come-ST-POT C   tell-PST

           'Alsu$_i$ said that my/her$_i$ sister would come tomorrow.'

The contrast is especially intriguing, since accusative proleptic objects can be interpreted within the scope of embedding attitude verbs (see Appendix).

A similar contrast was noted by Shklovsky and Sudo (to appear) in Uyghur: in that language, shifting only occurs below the position of accusative marked embedded subjects. This observation was crucial for determining the syntactic position of the *monster operator* responsible for shifting in Uyghur. The contrasts like the one between (214) and (215) will be important for situating the monster in Mishar Tatar (see 3.3.1).

3.1.4 *De se* vs. *de re*

Another useful observation concerns the semantics of shifted pronouns. They are always interpreted (*de se*) or (*de te*). That is, a shifted pronoun can be used only in reference to individuals that the attitude holder identify as themselves (*de se* 1st peron pronouns) or as their addressees (*de te* 2nd person pronouns).

If an attitude holder doesn't identify an individual as himself, a shifted 1st person pronoun cannot be used in the attitude report. So, given a scenario in which this self-identification doesn't happen, only non-shifted pronoun referring to the attitude holder will be licensed:

(216)   <u>Scenario</u>: Marat is a retired marathon runner. Once he is watching an old footage of a marathon he participated in. He looks at one of the athletes and exclaims: *"Oh boy, this guy runs really well!".* He doesn't recognize this person, but this is actually a younger Marat himself...

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a. Marat [(ul) jaxšɤ jeger-ä   diep] at'-tɤ.
   Marat (he) well run-ST.IPFV C   say-PST
   'Marat said that he ran well.'   non-*de se* available

b. #Marat [*pro* jaxšɤ jeger-ä-m   diep] at'-tɤ.
   Marat   well run-ST.IPFV-1SG C   say-PST
   'Marat said that he ran well.'   only *de se* available!

Similarly, if an attitude-holder doesn't identify a different individual as his addressee, a shifted 2nd person person cannot be used to refer to that individual:

(217) Scenario: Marat is having guests over. He is told that one of the guests is misbehaving. In about half an hour he finds his son and asks him: "Did that misbehaving person leave?". Unbeknownst to Marat, it is actually his son who has been misbehaving...

a. Marat üzeneŋ   malaj-ɤ-n-nan   [(ul) kit-te-me   diep] sɤra-dɤ.
   Marat REFL.GEN boy-3SG-OBL-ABL (he) leave-PST-Q C   ask-PST
   'Marat asked his son if he left.'   non-*de te* available

b. #Marat üzeneŋ   malaj-ɤ-n-nan   [*pro* kit-te-ŋ-me   diep] sɤra-dɤ.
   Marat REFL.GEN boy-3SG-OBL-ABL   leave-PST-2SG-Q C   ask-PST
   'Marat asked his son if he left.'   only *de te* available!

The fact that shifted 1st and 2nd person pronouns have to be interpreted *de se* and *de te*, respectively, has been noticed in other languages that exhibit indexical shifting, and it will need to be explained in our analysis[6].

3.1.5 Finite vs. non-finite clauses

Indexical shifting is also limited to attitude reports that use *finite* embedding.

Mishar Tatar has non-finite complementation, cf. the nominalizations below:

(218) a. Alsu [DP Marat-nɤŋ [VP ɤzba sal]-gan-ɤ]-n   at'-tɤ.
          Alsu   Marat-GEN   house put-NMN-3-OBL.ACC tell-PST
          'Alsu said that Marat built a house.'

      b. Alsu [DP Marat-nɤŋ [VP kil]-ü-e]-n-nän   kurk-a.
          Alsu   Marat-GEN   come-NMN-3-OBL-ABL be.afraid-ST.IPFV
          'Alsu is afraid that Marat would come.'

Crucially for us, indexical pronouns in nominalizations are never shifted. Whether they are overt or null, they refer to the speaker or the addressee of the whole utterance.

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[6]Sudo (2012) notes that shifted 2nd person indexicals in Uyghur don't have to be *de te*. He attributes the difference between Uyghur and those languages in which shifted 2nd person pronouns are obligatorily *de se* to the lexical semantics of the 2nd person pronoun. The second person pronoun in Uyghur, he argues, is not a true indexical, but rather a definite desciption containing a 1st person pronoun (roughly, "my addressee"). See Sudo 2012: 227–228 for details.

(219) a. Marat Alsu-ga [(minem) kil-gän-em-ne] at'-tɤ.
        Marat Alsu-DAT I.GEN come-NMN-1SG-ACC tell-PST
        'Marat told Alsu that I came.'

     b. Alsu [mine *ber kaja da* kür-mä-gän-e-n] at'-tɤ.
        Alsu I.ACC one where *n*PCL see-NEG-NMN-3-OBL.ACC tell-PST
        'Alsu said that she didn't see me anywhere.'

     c. Alsu [Marat-nɤŋ (minem) ɤzba-m-nɤ sal-gan-ɤ-n] at'-tɤ.
        Alsu Marat-GEN I.GEN house-1SG-ACC put-NMN-3-OBL.ACC tell-PST
        'Alsu said that Marat built my house house.'

The same syntactic distinction obtains in Uyghur: it is only in finite complements that indexicals can be shifted (they even *have to*, in Uyghur), while in non-finite clauses they cannot (see Shklovsky and Sudo to appear). And just as this point is important for Shklovsky's and Sudo's analysis of indexical shifting, it will be for ours, as we will soon see.

3.2   Indexical shifting: analytical options

In this section I will briefly review some of the theories proposed to account for indexical shifting in different languages to determine the space of analytical possibilities and highlight some insights that could be for helpful in explaining indexical shifting in Tatar.

3.2.1   Kaplan's conjecture and counterexamples to it

As is well-known, Kaplan (1977/1989) predicted indexical shifting in general to be impossible. Recall that Kaplanian indexicals differ from other kinds of expressions in that they have constant intensions. Their denotation is thus insensitive to the world parameter, the only relevant parameter of evaluation being the context:

(220)   a. $[\![\,I\,]\!]^{c,g,w} = s_c$

      b. $[\![\,you\,]\!]^{c,g,w} = h_c$

In principle, parameters of semantic evaluation can be manipulated. Even apart from imposters, the assignment parameter is routinely manipulated for the purposes of semantic binding. The world parameter can be manipulated, too, for example, by modals. With English data in mind, Kaplan didn't sdetect anything that would manipulate the context parameter in a comparable way. The context relevant for the evaluation of indexicals always seems to be the context of utterance (so, *I* always refers to the speaker of the utterance, and *you* to the addressee). At the same time, an operator that would manipulate the context parameter is not inconceivable:

(221) $[\![\,OP_M\,\varphi\,]\!]^{c,g,w} = [\![\,\varphi\,]\!]^{c',g,w}$, where c' is different from c in certain respects (to be determined)

Kaplan called these operators *monsters* and, based on the lack of positive evidence in English, conjectures that *monsters don't exist*. The status of this claim as a cross-linguistic universal in Kaplan's system is unclear, but, as subsequent research has shown, if Kaplan's conjecture is indeed taken as a universal, it would likely be falsified in a number of languages.

From the empirical point of view, it looks like there are languages in which the referents of indexical expressions are not fixed they they are in English. We have already seen some evidence from Mishar Tatar, but the first counterexamples to Kaplan's conjecture came from Amharic, where indexicals also can be shifted in attitude reports (specifically, under the verb '*say*') (see Schlenker 1999, 2003, Anand 2006):

(222)   John jɨəgna ləmɨn n-ññ   yɨl-all
        John hero   why   COP.PRES-1SG says-3S
        Why$_i$ does John$_j$ says that {I am} / {he$_j$ is} a hero t$_i$.

(A matrix wh-question with a wh-word originating in the embedded clause is used to ensure that we are not dealing with an optional quotation parse.)

Since Amharic, indexical shifting was also discovered in many languages including American Sign Language (ASL, Zucchi 2004, Schlenker 2013), Catalan Sign Language (LSC, Quer 2005), French Sign Language (LSF, Schlenker 2013, Zorzi 2013), Italian Sign Language (LIS, Zucchi 2004), Matses (Munro et al. 2012), Nez Perce (Deal to appear), Navajo (Speas 2000), Slave (Anand and Nevins 2004, Anand 2006, also in Rice 1986), Tamil (Sundaresan 2011, 2012), Turkish (Gültekin Şener and Şener 2011), Uyghur (Shklovsky and Sudo to appear, Sudo 2012), and Zazaki (Anand and Nevins 2004).

There is a certain amount of cross-linguistic variation in indexical shifting. Languages vary in the kinds of indexicals that can be shifted, in the kinds of attitude predicates that can trigger shifting, and in the obligatoriness of shifting (optional in most languages, obligatory in Matses (Munro et al. 2012), Slave with the verb 'say' (*hadi*, Anand and Nevins 2004), and Uyghur (Sudo 2012, Shklovsky and Sudo to appear)).

The accounts of indexical shifting in particular languages often resort to some kind of Kaplanian monsters, but we will start our review by looking at a theory that might not even need them.

3.2.2   Ambiguity Theory

A theory of indexical shifting could be very simple. It could just say that shifted indexical pronouns are essentially *logophors*.

There is indeed a lot at in common between shifted indexicals and logophors. Logophors are employed in a number of languages specifically to refer to the coordinates of the contexts embedded under attitude predicates. Languages that have designated logophors include Dogon (Culy 1994, 1997), Ewe (Clements 1975, Schlenker 1999, 2003, Pearson 2013), Gokana (Hyman and Comrie 1981), Mundung (Hagège 1974), Mupun (Frajzyngier 1985), and Yoruba (Anand 2006). A big difference is that, unlike shiftable indexicals, classic logophors cannot be used in unembedded contexts. For example. the logophor *yè* in Ewe is licensed in the scope of attitude predicates (first observed by Clements 1975). When it appears in a seemingly unembedded sentence, it can only mean that this sentence is interpreted within the scope of an attitude predicate from another sentence:

(223)   a. Kofi be yè   dzo.
            Kofi say LOG leave
            'Kofi said that he left.'

b. e/*yè   dzo.
   3SG/*LOG leave
   'He left.'

c. Kofi be yè   bidzi. Mary zu   yè.
   Kofi say LOG angry Mary insult LOG
   'Kofi said he was busy. Mary insulted him, he said'[7]   (Pearson 2013)

But even granted that logophors cannot be used in unembedded clauses, still, it could be the case that 1st and 2nd person pronouns in languages with shifting are merely ambiguous between logophors and Kaplanian indexicals.

If logophors themselves are not taken to be indexicals in Kaplan's sense, then we wouldn't have to postulate monsters to analyze them. And if shifted indexicals were logophors, then monsters wouldn't be needed to account for them either.

That said, there are several objections to reducing shifted indexicality. First is that in many languages, there is a constraint requiring *all* indexicals to shift or *all* of them to stay unshifted in the scope of an attitude verb. This constraint is known as *Shift Together*, and we are going to discuss it shortly. If indexical shifting is just a matter of lexical ambiguity, it is not clear why such a constraint should hold, i.e. why cannot a Kaplanian indexical be used under at attitude verb, together with a logophor that happens to sound exactly the same? The second major objection is that languages like Uyghur and Tatar impose specific *syntactic* constraints on indexical shifting (e.g., shifting is not possible in non-finite clauses, or in the periphery of the embedded clause, above the nominative subject). Comparable constraints have not been reported for logophors, their distibution is governed mostly by *semantic* considerations.

3.2.3 Monster theories

If the ambiguity theory is refuted, it becomes necessary to come up with account of how Kaplanian indexicals could be evaluated with respect to the context that is different from the context of utterance. This is a job for monsters.

3.2.3.1 Quantificational monsters

Some monsters can look not exactly Kaplanian. In fact, in the early theories of indexical shifting (Schlenker 1999, Schlenker 2003), context manipulation was performed not by *operators*, but rather by *quantifiers over contexts* that do not shift the context parameter of evaluation but selectively bind *context variables*.

In Schlenker's (1999, 2003) view[8], attitude predicates are always monstrous by themselves, they are *quantifiers over contexts*, much in the same way as modals are quantifiers over worlds (the idea of quantifying over contexts can be traced back to Israel and Perry 1996). Contexts can be thought to be as triples of a world, a speaker and a hearer $\langle w_c, s_c, h_c \rangle$ of type k. To give a concrete example of a denotation of an attitude verb, we can look at the

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[7]The logophor in (223c) cannot be used if Kofi didn't say that Mary insulted him, i.e. it has to be in the scope of *say* (Pearson 2013: 446).

[8]For the purposes of simplicity, I will roughly stick to the rendition of Schlenker's theory given in Sudo 2012: 199–202.

verb '*say*' below. As all other attitude predicates, it is taking a function of type $\langle k, t \rangle$ that it quantifies into, as its first argument (the embedded clause), and also an addressee argument that will correspond to the hearer coordinate in contexts that are quantified over and the agent argument that will correspond to the addressee coordinate:

(224) $[\![\text{ say }]\!]^{c,g}(p_{\langle k,t \rangle})(x_e)(y_e) \Leftrightarrow$
for all c' such that $h_{c'} = x$ and $s_{c'} = y$ and $w_{c'}$ is compatible with what
y says to x in w_c, $p(c) = 1$.

The argument of type $\langle k, t \rangle$ is formed by lamda-abstracting over contexts. A context-lambda λ_{i_k} is binding overt context variables[9]:

(225)

Matrix clauses are also assumed to denote functions of type $\langle k, t \rangle$ with a context-lambda on top that introduces the *context of utterance*:

(226) Sentence S is true with respect to context c and assignment g if and only if
$[\![\text{ S }]\!]^{c,g}(c) = 1$.   (Sudo 2012: 200, cf. Schlenker 2000)

Note that the context variable next to the predicate '*hero*' is setting the world in which the predicate holds, while the context variable next to the proper name *John* is irrelevant for the interpretation. The crucial difference between languages that have indexical shifting and those that don't is exactly in how contextual variables next to indexicals are interpreted.

In languages with indexical shifting, indexical pronouns will have a have a contextual variable next to them that contributes to the interpretation, cf. the denotation of the Amharic 1st person pronoun:

(227) *Amharic 1st person pronoun*
$[\![\text{ I } i_k]\!]^{c,g} = s_{g(i_k)}$ if there is a unique speaker of $g(i_k)$, undefined othewise.

The context variable can be bound, either locally, giving the effect of indexical shifting, or at long distance:

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[9]Sudo (2012) proposes the following formulation of the generalized predicate abstraction:

(i) If α has λi_τ and β as its daughters, where $i \in \mathbb{N}$ and τ is some semantic type,
then $[\![\alpha]\!]^{c,g} = \lambda x_\tau. [\![\beta]\!]^{c,g[i_\tau \to x]}$.

(The indices are assumed to carry the information about the type of their referent, represented as a subcript. The assignment g is a function from pairs of natural numbers and types to individual specimen of particular semantic types). See Sudo 2012: 199.

(228) John jɨəgna n-ññ   yɨl-all
John hero   COP.PRES-1SG says-3S
John$_i$ says that {I am a hero} / {he$_i$ is a hero}.   (Schlenker 2003: 68)

a. *Local binding: indexical shifting*

(228) is true iff for all such c' such that $s_{c'}$ is John and $w_{c'}$ is compatible with what John says in w_{c_u}[10], $s_{c'}$ is a hero in $w_{c'}$

λx_k. for all such c' such that $s_{c'}$ is John and $w_{c'}$ is compatible with what John says in w_x, $s_{c'}$ is a hero in $w_{c'}$

$\lambda 1_k$

John λy. for all c' such that $s_{c'} = y$ and $w_{c'}$ is compatible with what x says in w_c, $s_{c'}$ is a hero in $w_{c'}$

say λx_k. s_x is a hero in w_x

$\lambda 5_k$ $s_{g(5_k)}$ is a hero in $w_{g(5_k)}$

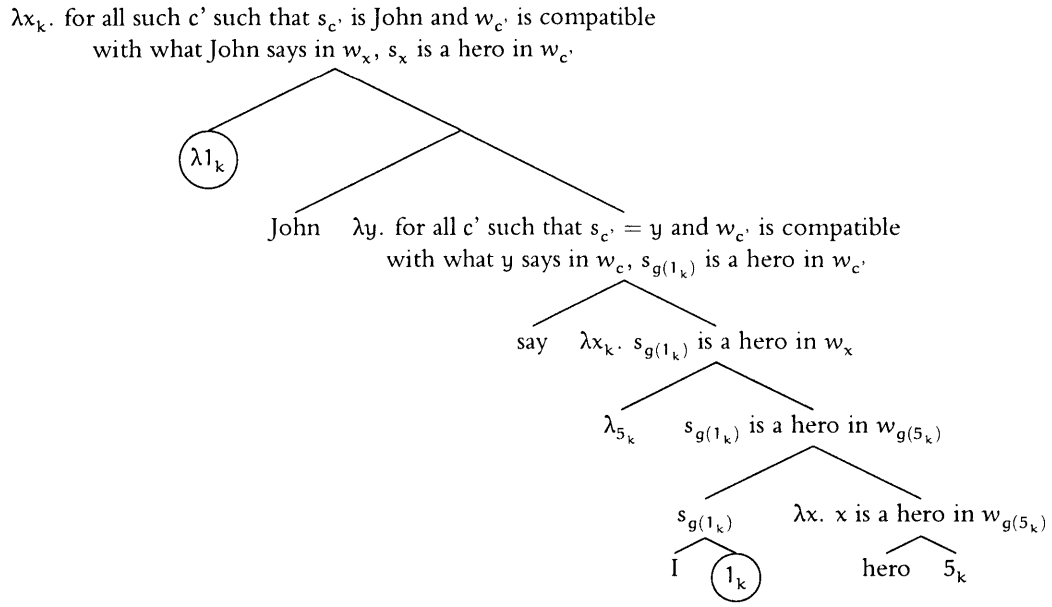$s_{g(5_k)}$ λx. x is a hero in $w_{g(5_k)}$

I 5_k hero 5_k
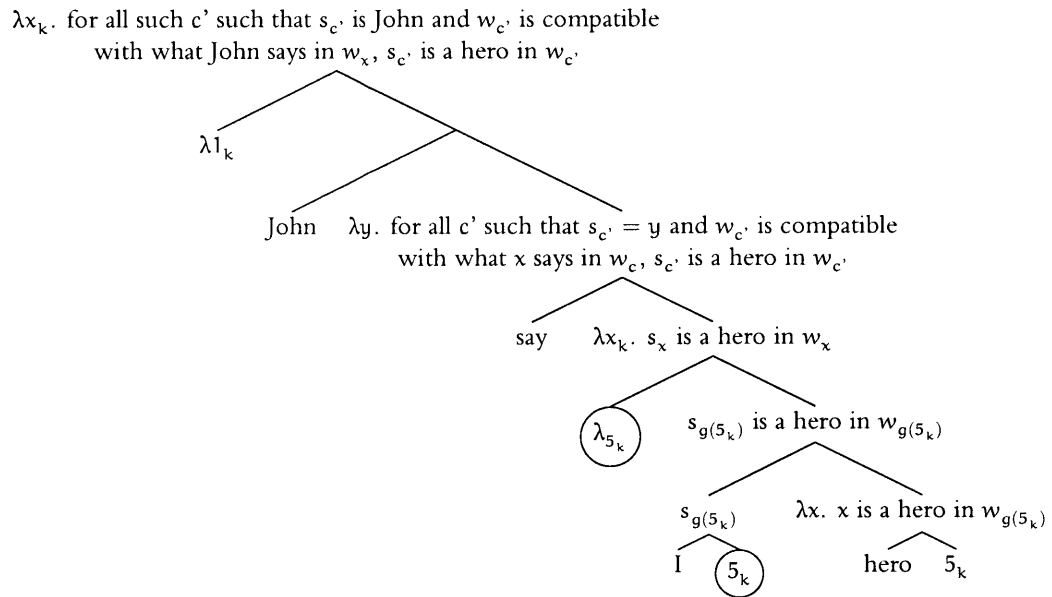
b. *Distant binding: no shifting*

(228) is true iff for all such c' such that $s_{c'}$ is John and $w_{c'}$ is compatible with what John says in w_{c_u}, s_{c_u}[11] is a hero in $w_{c'}$

---

[10] The world of the context of the utterance
[11] The speaker of the utterance

λx_k. for all such c' such that $s_{c'}$ is John and $w_{c'}$ is compatible
with what John says in w_x, s_x is a hero in $w_{c'}$

          $(\lambda 1_k)$

John λy. for all c' such that $s_{c'} = y$ and $w_{c'}$ is compatible
        with what y says in w_c, $s_{g(1_k)}$ is a hero in $w_{c'}$

     say λx_k. $s_{g(1_k)}$ is a hero in w_x

       $\lambda 5_k$ $s_{g(1_k)}$ is a hero in $w_{g(5_k)}$

          $s_{g(1_k)}$ λx. x is a hero in $w_{g(5_k)}$

            I (1_k) hero 5_k

In (228a) the context variable next to the pronoun is bound by the closest context-lambda. The predicate that it forms becomes an argument of 'say', and, given the semantics of that predicate, the pronoun comes to denote the attitude holder, *John*, which is want we want for the shifted reading.

In (228b) the context variable next to the pronoun is bound at a distance, effectively, by the context of utterance. Thus, no shifting takes place, the pronoun denotes the speaker of the context of utterance.

In languages without shifting pronouns have different semantics. They denote individual variables with indexical presuppositions, while the context variables next to them do not contribute to the meaning:

(229)   *English 1st person pronoun*
     $[\![\, I_i \, i_k \,]\!]^{c,g} = g(i)$ if $g(i) = s_c$, undefined othewise.

Binding context variables doesn't make a difference for the meaning of such pronouns, which is fixed by the assignment function and the context of utterance, so no shifting can occur.

The difference between languages with and without shifting is, thus, not in the availability of monsters (quantificational attitude monsters are always available), but in the ways indexical pronouns are interpreted.

One serious problem for the ambiguity theory carries over to this quantificational monster theory. Specifically, if we consider languages with shifting, there is no principled way to exclude a situation in which some person indexicals are bound locally in the scope of the attitude verb and some others are not. This will amount to having pronouns that are shifted locally and pronouns that are not, in the scope of the same attitude verb. Although such configurations may occur Amharic (see Anand 2006), they are systematically ill-formed in a number of other languages with shifting (e.g., Zazaki, Anand and Nevins 2004; Nez Perce, Deal to appear; Uyghur, Shklovsky and Sudo to appear).

This problem is solved in those theories of shifting that employ *monster operators* and to which turn to next.

3.2.3.2 Monster operators

If all indexical pronouns in all languages have context as at least one of the parameters of evaluation, this parameter could be manipulated by designated operators that would be more like Kaplanian monsters than Schlenker's attitude verbs are.

The main motivation for monster operators as opposed to quantifiers over contexts comes from languages in which either *all* indexicals in the scope of an attitude verb shift, or *none* do. This property of indexical shifting can be illustrated with the following example form Zazaki.

(230) Vɨzeri   Rojda Bill-ra va kɛ ɛz to-ra   miradiša.
       Yesterday Rojda Bill-to said that I you-to angry.be.PRES

       'Yesterday Rojda$_1$ said to Bill$_2$ that I$_3$ am angry at you$_4$.'   (none shifted)

       'Yesterday Rojda$_1$ said to Bill$_2$ that she$_1$ is angry at him$_2$.'   (both shifted)

       #'Yesterday Rojda$_1$ said to Bill$_2$ that she$_1$ is angry at you$_4$.'   (1 of 2 shifted)

       #'Yesterday Rojda$_1$ said to Bill$_2$ that I$_3$ am angry at him$_2$.'   (1 of 2 shifted)
       (*Zazaki*; Anand and Nevins 2004: 23)

Zazaki is a language with optional indexical shifting, but if one indexical is shifted in the scope of an attitude verb, then all other indexicals in the scope of that attitude verb must be also shifted. The constraint is known as *Shift Together*.

(231) *Shift Together* (Anand and Nevins 2004: 24)
       All indexicals within a *speech-context domain* must pick up reference from the same context.

An analysis in terms of a monster operator that manipulates the context parameter to which all indexicals are sensitive can capture the Shift Together effects quite straightforwardly: if an operator shifts the context of evaluation, then all the indexicals in its scope will be shifted to the new context.

Where are the monsters situated? They must be stand in some close relationship to attitude verbs, but they can be still syntactically separate from them. The best evidence for severing monsters from attitude verbs comes from Uyghur (Shklovsky and Sudo to appear, Sudo 2012).

Indexical shifting in Uyghur occurs in finite clauses embedded under attitude verbs. Crucially, indexicals that are in the *nominative subject position* and all the positions below the nominative subject position *must* be shifted, but those indexicals that are in the *accusative subject position*, that is higher up, but still c-commanded by the the embedding verb[12], never are, as the example below demonstrates quite clearly.

---

[12]See Shklovsky and Sudo to appear and Sudo 2012 for arguments in favor of analyzing these accusative DPs as subjects, as well as for evidence for positioning them above nominative subjects. The tests that I employ for the analysis of accusative-marked proleptic objects in Mishar Tatar are largely based on Shklovsky's and Sudo's.

(232) a. Ahmet [men ket-tim]   di-di.
          Ahmet I   leave-PST.1SG say-PST.3SG
          'Ahmet said that he left.'   (shifted)
          #'Ahmet said that I left.'   (non-shifted: unavailable)

       b. Ahmet [meni ket-tim]   di-di.
          Ahmet I.ACC leave-PST.1SG say-PST.3SG
          #'Ahmet said that he left.'   (shifted: unavailable)
          'Ahmet said that I left.'   (non-shifted)

Shklovsky and Sudo conclude that the monster operator is occupying a syntactic position that is below the accusative subject position, but above the nominative subject position. Since accusative subjects are c-commanded by attitude verbs, monsters would have to be separate from them:

(233)
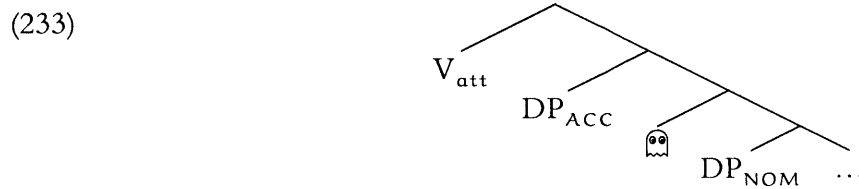
It is predicted, then, that Shift Together will hold locally: *all* indexicals will be shifted in the nominative subject position and below, and *no* indexicals will be shifted in the accusative subject position and above. The prediction is borne out. For example, in each of the two sentences below there are two indeixcals inside a complex subject. When this subject is in nominative case, both indexicals must be shifted (234a), but if it is in accusative case, neither can be (234b).

(234) a. Ahmet Ajgül-ge   [[[sen yaxshi kör-idi-ghan] oqughuchi-m] imithan-din öt-ti]
          Ahmet Aygül-DAT   you well   see-IMPF-RELstudent-1SG   test-ABL   pass-PST.3SG
          di-di.
          say-PST.3SG
          'Ahmet$_i$ told Aygül$_j$ that the student of his$_i$ that she$_j$ likes passed the test.'
          #'Ahmet$_i$ told Aygül that the student of his$_i$ that you like passed the test.'
          #'Ahmet told Aygül$_i$ that the student of mine that she$_i$ likes liked passed the test.'
          #'Ahmet told Aygül that the student of mine that you like passed the test.'

       b. Ahmet Ajgül-ge   [[[sen yaxshi kör-idi-ghan] oqughuchi-m-ni] imithan-din
          Ahmet Aygül-DAT   you well   see-IMPF-REL student-1SG-ACC test-ABL
          öt-ti]   di-di.
          pass-PST.3SG say-PST.3SG
          #'Ahmet$_i$ told Aygül$_j$ that the student of his$_i$ that she$_j$ likes passed the test.'
          #'Ahmet$_i$ told Aygül that the student of his$_i$ that you like passed the test.'
          #'Ahmet told Aygül$_i$ that the student of mine that she$_i$ likes liked passed the test.'
          'Ahmet told Aygül that the student of mine that you like passed the test.'

Monster operators were postulated by a number of authors for the purposes of the analysis of indexical shifting in various languages (Anand and Nevins 2004 for Zazaki and Slave, Shklovsky and Sudo to appear for Uyghur, Deal to appear for Nez Perce). In what follows, I am going to discuss the monster operator that Shklovsky and Sudo proposed for Uyghur (inspired by Anand's and Nevins's operator $OP_\forall$, see also Sudo 2012).

The monster manipulates the context in the following way. It takes a context variable argument i_k and substitutes the context parameter of interpretation c with the value of that context variable with respect to the assignment g:

(235) $[\![[[\, 👾 \, i_k \,] \, \phi \,] \,]\!]^{c,g} = [\![\, \phi \,]\!]^{g(i_k),g}$

The context variable that the monster takes as its first argument is locally bound by a context binder index (context-lambda)[13]:

(236)

An attitude verb like '*say*' takes a predicate of contexts as its first argument. Just like in Schlenker's system, it quantifies over contexts and identifies their coordinates:

(237) $[\![[\, \text{say} \, i_k \,] \,]\!]^{c,g} = \lambda p_{\langle k,t \rangle}.\lambda y_e.\lambda x_e.$ for all $c' \in SAY_{x,y,g(i_k)}$, $p(c') = 1$

The restriction $c' \in SAY_{x,y,g(i_k)}$ is to ensure that the possible worlds that are parts of the contexts being quantified over are accessible, and that the shifted indexicals are interpeted *de se* and *de te*:

(238) $c' \in SAY_{x,y,g(i_k)}$ if and only if

  a. $w_{c'}$ is compatible with what x told y in $w_{g(i_k)}$;

  b. $s_{c'}$ is the individual that x identifies in $w_{g(i_k)}$ as himself/herself;

  c. $h_{c'}$ is the individual that x identifies in $w_{g(i_k)}$ as his/her addressee.

Unlike in Schlenker's system, indexical shifting is done without binding context varables next to indexicals. So, their denotations can be kept simple. We can say that they are are just Kaplanian indexicals:

(239) a. $[\![[\, I \,] \,]\!]^{c,g} = s_c$

  b. $[\![[\, \text{you} \,] \,]\!]^{c,g} = h_c$

Keeping everything else the same as in the version of Schlenker's system we have just discussed, we can now achieve indexical shifting with the help from the monster operator:

(240) Ahmet [men ket-tim]   di-di.
       Ahmet I   leave-PST.1SG say-PST.3SG
       'Ahmet said that he left.'

---

[13] In fact, for our purposes, all overt context variables can be assumed to be bound locally by context-lambdas.

(240) is true with respect to the context c_u iff for all c' such that $w_{c'}$ is compatible with what Ahmet says in w_{c_u}, and $s_{c'}$ is the individual that Ahmet identifies in w_{c_u} as himself, $s_{c'}$ left in w'.

$$
\begin{array}{c}
\lambda 1_k \qquad \text{for all c' } \in \text{SAY}_{\text{Ahmet},g(1_k)}, \\
s_{c'} \text{ left in } w_{c'}
\end{array}
$$

Ahmet $\qquad \lambda y.$ for all c' $\in$ SAY$_{y,g(1_k)}$, $s_{c'}$ left in $w_{c'}$

$\lambda x.$ s_x left in w_x $\qquad$ said 1_k

$\lambda 5_k$ s_{5_k} left in $w_{g(5_k)}$

👻 5_k I left 5_k
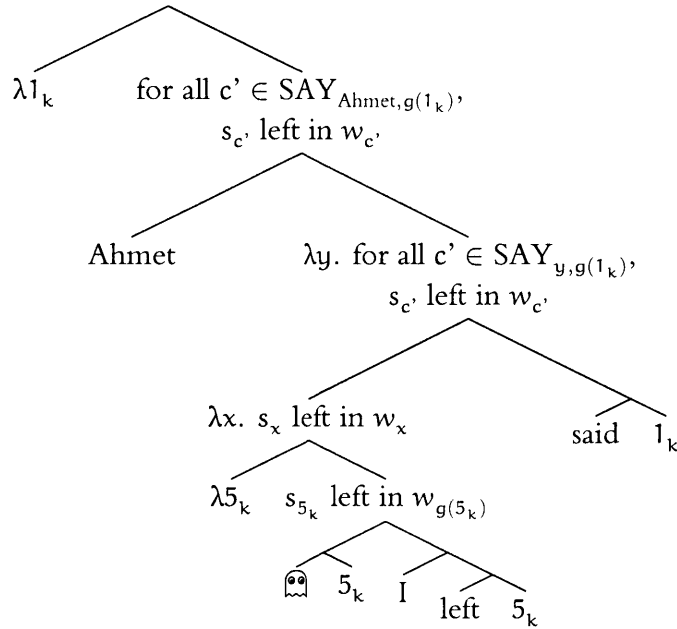
The difference between languages that have indexical shifting and those that don't is in the availability of the monster operator. If it is not there, indexical shifting wouldn't take place. For languages with optional indexical shifting, we can assume that that they have a monster operator that is optionally inserted in the syntactic structure.

Now we have built enough background to proceed to the analysis of indexical shifting in Mishar Tatar. In the next section we will discuss a number of arguments in favor and against applying particular theories of indexical shifting to Mishar material.

3.3 A theory of indexical shifting in Mishar Tatar

As we have seen in section 3.1, null pronouns in Mishar Tatar are shiftable and overt ones are not. At the same time it wouldn't be right to reduce all shifting to differences in the semantics of pronouns. Recall that there *syntactic environments* in which even null pronouns cannot be shifted. One kind of such environments is *accusative proleptic objects* (3.1.3), the other kind is *non-finite clauses* (3.1.5).

If we were to say that null pronouns are simply ambiguous between "normal" indexical and logophoric interpretations (cf. the theory in 3.2.2), we would have to stipulate that logophors are not licensed in non-finite clauses and in accusative proleptic obejcts. This would be an odd stipulation, both conceptually, and empirically, given that, as far as I know, no comparable restrictions are attested in languages with designated logophors.

Similarly, if attitude predicates are quantificational monsters and shifted indexicals can be bound by different context binders (as in Schlenker's theory, see3.2.3.1), we shouldn't expect to find constraints that reduce the number of binding possibilities depending on the

syntactic environment, granted that both nominalized clauses and accusative proleptic objects can be in the scope of attitude verbs (see Appendix).

Another theory that would run into the same kind of problems could state that there are no monsters of any kind, and only overt, "non-shiftable", pronouns are true Kaplanian indexicals, while null, "shiftable", pronouns are just definite descriptions like *the author* and *the addressee*. Beside the fact that this wouldn't solve the aforementioned problems of syntactic distribution in a non-stipulative way, this view just cannot be right, since null or overt, 1st and 2nd person pronouns in Mishar Tatar are indexicals in Kaplan's sense. Unlike definite descriptions (241a), overt and null pronouns in Mishar Tatar cannot be bound by temporal and modal quantifiers ((241b),(242)).

(241)   a. Kajčan Marat sül-i,   xalxk [kem sülä-gän-ne]   txŋn-i.
           when Marat talk-ST.IPFV people who talk-PFCT-ACC listen.to-ST.IPFV
           'When Marat talks, people listen to the person who talks (= to Marat).'

         b. Kajčan Marat sül-i,   xalxk mine txŋn-i.
           when Marat talk-ST.IPFV people I.ACC listen.to-ST.IPFV
           'When Marat talks, people listen to me ($\neq$ to Marat).'

(242)   a. Kajčan Marat$_i$ sül-i,   [kem sülä-gän]/(ul$_i$) xär-vakxt Alsu turxnda at'-ä.
           when Marat talk-ST.IPFV who talk-PFCT/(he) every-time Alsu about   tell-ST.IPFV
           'When Marat talks, the speaker (= Marat) always talks about Alsu.'

         b. Kajčan Marat sül-i,   (min) xär-vakxt Alsu turxnda at'-ä-m.
           when Marat talk-ST.IPFV (I)   every-time Alsu about   tell-ST.IPFV-1SG
           'When Marat talks, I ($\neq$ Marat) always talk about Alsu.'

With these arguments against different theories without monster operators, it is tempting to try to apply the monster operator theory to the Mishar Tatar data. However, it will not be completely trivial, since we still have to understand the difference in shiftability between null and overt pronouns.
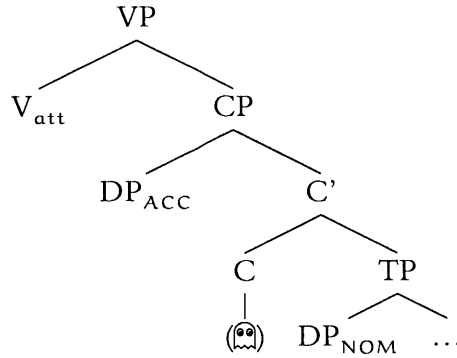
3.3.1 Two parameters and one monster

What we should aim at is an optional monster operator that affects null pronouns, but not the overt ones.

From the point of view of syntax, this hypothetical monster should be in roughly the same position, as in Uyghur, i.e. above nominative subjects of finite clauses and below accusative proleptic objects. The main piece of evidence for this position comes from the fact that indexicals inside accusative proleptic objects never shift, even if they are null, cf. (214) and (215), repeated below as (243):

(243)   a. Alsu [irtägä   [*pro* sestra-m-nx] kil-ä-r   diep] at'-tx.
           Alsu   tomorrow *pro* sister-1SG-ACC come-ST-POT C   tell-PST
           'Alsu$_i$ said that my/#her$_i$ sister would come tomorrow.'

         b. Alsu [irtägä   [*pro* sestra-m] kil-ä-r   diep] at'-tx.
           Alsu   tomorrow *pro* sister-1SG come-ST-POT C   tell-PST
           'Alsu$_i$ said that my/her$_i$ sister would come tomorrow.'

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For simplicity, we can assume that the complementizer embedding finite clauses may itself contain a monster:

(244)

```
              VP
           /      \
        V_att      CP
                /      \
            DP_ACC      C'
                     /      \
                    C        TP
                    |       /   \
                  (👻)   DP_NOM  ...
```

This monster would manipulate some parameter of evaluation that is relevant for null pronouns, but not for overt ones. What should this parameter be? I am going to propose that this parameter is assignment function, but before putting the argument together, I will resort to an analogy.

3.3.1.1 An imposter analogy

In this dissertation, we have already seen a system with two kinds of indexicals with different parameters relevant for their evaluation. I am talking about *imposters* and *indexical pronouns* in English. Recall that imposters are true Kaplanian context-dependent indexicals (245), and indexical pronouns are variables with complex indices, whose reliance on the context is only indirect:

(245) a. $[\![\text{ your faithful servant}_{imp}]\!]^{c,g} = s_c$.

   b. $[\![\text{Madam}_{imp}]\!]^{c,g} = h_c$.

(246) a. $[\![I_{\langle i, ① \rangle}]\!]^{c,g} = g(\langle i, ① \rangle)$.

   b. $[\![\text{you}_{\langle i, ② \rangle}]\!]^{c,g} = g(\langle i, ② \rangle)$.

   c. $[\![\text{(s)he}_{\langle i, ③ \rangle}]\!]^{c,g} = g(\langle i, ③ \rangle)$.

The context is not directly relevant for the evaluation of pronouns, but it does constrain the mapping from complex indices to individuals via the Admissibility Condition.

(247) *Admissibility Condition for Assignment Functions*
       An utterance of a sentence is felicitously evaluated with respect to context c, possible world w and assignment function g, only if g satisfies the following three conditions: for all $i \in \mathbb{N}$,

   a. $g(\langle i, ① \rangle) = s_c$

   b. $g(\langle i, ② \rangle) = h_c$

The crucial argument in favor of the different denotations for imposters and pronouns was that unlike imposters, 1st and 2nd person pronouns can be semantically bound:

100

(248)   a.   Only I think that I know how to ski well.
        i.   *Strict reading*: 'I think that I know how to ski well, and nobody else thinks that I know how to ski well.'
        ii.   *Bound reading*: 'I think that I know how to ski well, and nobody else thinks that he or she knows how to ski well.'
   b.   Only I think that your faithful servant knows how to ski well.
        i.   *Strict reading only*: 'I think that I (y.f.s.) know how to ski well, and nobody else thinks that I (y.f.s.) know how to ski well.'

What this analogy could teach us, is that in principle a language can have expressions that arrive at the same indexical meaning via different parameters of evaluation. So, we could hypothesize that in Mishar Tatar, say, null pronouns are assignment-dependent and overt pronouns are context-dependent. Then, if we define the monster operator in such a way that it manipulates the assignment, but not the context, it will affect only null pronouns, which is what we want.

3.3.1.2   An assignment-manipulating monster

The possibility of an assignment-manipulating monster was explored in some detail in Sudo 2012. It was motivated by the requirements of consistency in Sudo's system: if indexical pronouns indeed have denotations as in (246), then the monster in (235) won't affect them.

The new monster[14] is not that different from the old one. It also takes a context variable and a proposition, but then it modifies the assignment function with respect to which the proposition is evaluated so that it would map 1st and 2nd person indices to the speaker and hearer coordinates of the context argument.

(249) $[\![\,[\![\, \text{\reflectbox{E}}\, i_k\,]\, \phi\,]\,]\!]^{c,g} = [\![\, \phi\,]\!]^{c,g'}$
    where g' differs from g at most in that for all $i \in \mathbb{N}$,
    a. $g'(\langle i, \text{①} \rangle) = s_{g(i_k)}$
    b. $g'(\langle i, \text{②} \rangle) = h_{g(i_k)}$

Everything in the system, modulo the denotations of shiftable pronouns, can stay the same. Nothing special needs to be said about 3rd person indices, they will be shifted by the monster, given the Elswhere 3rd person principle that we had discussed in relation with imposters:

(250)   *Elsewhere 3rd person Principle*
    For all $i, j, k \in \mathbb{N}$, a complex index with the 3rd person feature $\langle i, \text{③} \rangle$ is not licensed in a position P of a sentence S, if there is an alternative sentence S', different from S at most in that $\langle i, \text{③} \rangle$ in P is replaced by $\langle i, \text{①} \rangle$ or $\langle i, \text{②} \rangle$), such that $[\![\, S\,]\!]^g = [\![\, S'\,]\!]^g$.

For the purposes of analyzing Mishar Tatar, null pronouns can be assumed to be assignment-sensitive and have denotation denotations, as in (246), while overt pronouns will have more "impostrous" indexical denotations, as in (245):

---

[14] *"Monster"* might not be the best name for this operator. It is not a Kaplanian monster, because it doesn't manipulate the context parameter. However, for the lack of a better name and since this new operator gives rise to the same effect as Kaplanian monsters do, I will keep calling it a monster.

(251) a. $[\![\, pro_{\langle i,①\rangle}\,]\!]^{c,g} = g(\langle i,①\rangle)$.

 b. $[\![\, pro_{\langle i,②\rangle}\,]\!]^{c,g} = g(\langle i,②\rangle)$.

(252) a. $[\![\, \mathrm{min}\,]\!]^{c,g} = s_c$.

 b. $[\![\, \mathrm{sin}\,]\!]^{c,g} = h_c$.

Having positioned the monster in the right place, with such denotations we can straight-forwardly capture the shifting effects that we observed. See a sample semantic derivation of a Mishar Tatar sentence below:

(253) Alsu [[*pro* sestra-m] mine kür-de diep] at'-tɤ
 Alsu   sister-1SG I.ACC see-PST C   say-PST
 'Alsu$_i$ said that her$_i$ sister saw me'   (shifted reading)

Here is how the meaning of the embedded CP is derived:

(254)
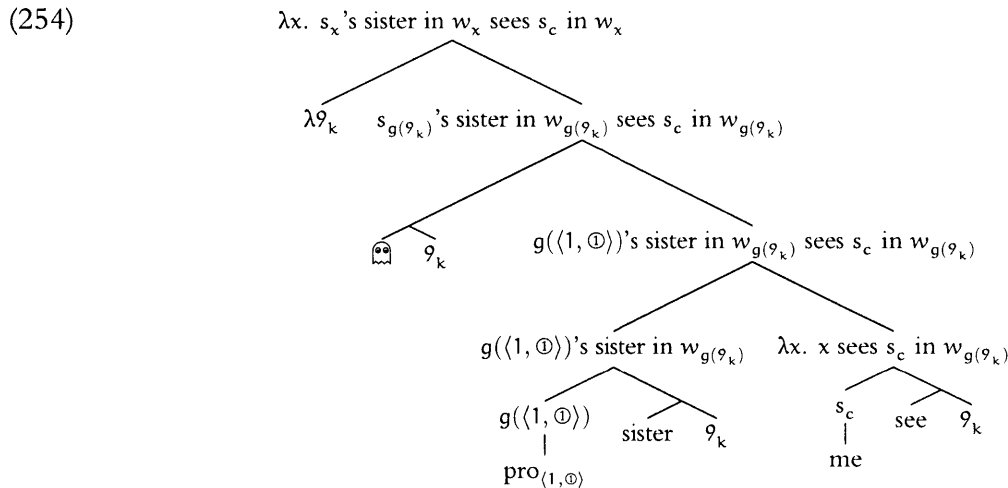
The null 1st person pronoun is now effectively bound within the predicate of contexts, while the overt pronoun is free. The resulting predicate becomes the first argument of the attitude verb '*say*'. Given the meaning of '*say*' in (237), the bound 1st person pronoun becomes identified with the attitude holder. The free 1st person pronoun denotes the speaker of the utterance:

(255) Sentence (253) is true with respect to the context c_u iff for all c' such that $w_{c'}$ is compatible with what Alsu says in w_{c_u}, and $s_{c'}$ is the individual that Alsu identifies in w_{c_u} as herself, $s_{c'}$'s sister in w' sees s_{c_u} in $w_{c'}$.

$\lambda x.$ for all $c' \in SAY_{Alsu,Addr,x}$
$s_{c'}$'s sister in $w_{c'}$ sees s_c in $w_{c'}$

$\lambda 8_k$ for all $c' \in SAY_{Alsu,Addr,g(8_k)}$
    $s_{c'}$'s sister in $w_{c'}$ sees s_c in $w_{c'}$

Alsu $\lambda x_e.$ for all $c' \in SAY_{x,Addr,g(8_k)}$
    $s_{c'}$'s sister in $w_{c'}$ sees s_c in $w_{c'}$

(Addressee)

$\lambda p_{(k,t)}.\lambda y_e.\lambda x_e.$ $\lambda x.$ s_x's sister in w_x
for all $c' \in SAY_{x,y,g(8_k)}$, $p(c') = 1$ sees s_c in w_x

say 8_k
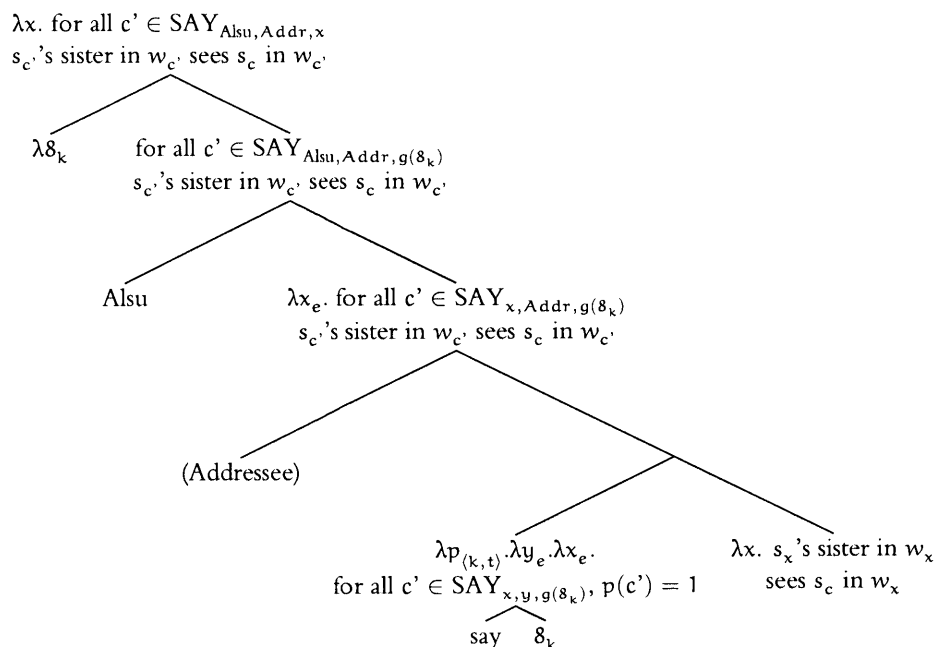
It is immediately noticeable that the analysis makes a prediction about the semantic binding of indexical pronouns. Specifically, it is predicted that null pronouns, which are assignment-dependent can be semantically bound, and overt pronouns must stay free. The prediction is borne out, as the examples following examples demonstrate:

(256)   a. *Null pronoun: Strict and sloppy readings*
      Min genä Alsu-ga   [*pro*   anɤ   sü-ä-m   diep] at'-tɤ-m,   ä
      I   only Alsu-DAT   *pro*.1SG her.ACC love-ST.IPFV-1SG C   tell-PST-1SG, and
      Marat alaj at'-ma-gan.
      Marat so   tell-NEG-PERF
      'Only I told Alsu that I love her – Marat$_1$ didn't say so [{that I love her, that he$_1$ loves her}]

  b. *Overt pronoun: Strict reading only*
      Min genä Alsu-ga   [min anɤ   sü-ä-m   diep] at'-tɤ-m,   ä
      I   only Alsu-DAT   I   her.ACC love-ST.IPFV-1SG C   tell-PST-1SG, and
      Marat alaj at'-ma-gan.
      Marat so   tell-NEG-PERF
      'Only I told Alsu that I love her – Marat$_1$ didn't say so [{that I love her, #that he$_1$ loves her}]

(257)   *Overt object pronoun: Strict reading only*
      Alsu miŋa gɤna [*pro*   mine sü-ä-m   diep] at'-tɤ,   ä   *pro*   Marat-ka
      Alsu I-DAT only   *pro*.1SG I.ACC love-ST.IPFV-1SG C   tell-PST, and *pro*.3SG Marat-DAT
      alaj at'-ma-gan.
      so   tell-NEG-PERF
      'Alsu told only me that she loves me – Marat$_1$ she didn't tell so [{that I love her, #that she$_1$ loves him}]

As noted to me by Philippe Schlenker (p.c.), the examples above are compatible with a different theory, according to which a) monsters manipulate a context parameter c_1; b) there is a different context parameter c_2 that is not manipulated by monsters; c) both null and overt pronouns are not sensitive to assignment; d) null pronouns are evaluated with respect to c_1, and overt pronouns are evaluated with respect to c_2. If there is a monster operator in (256a) (as far as I can tell, it can be there), this account would work for this paradigm, however adopting this account would mean that neither overt nor null pronouns can be variables. It would not ever be possible to have them semantically bound. So, Mishar Tatar would be an example of a language with indexical shifting, but without fake indexicals. It is dubious if there are any such languages. Although the relationship between indexical shifting and fake indexicality hasn't been properly studied cross-linguistically, it can be hypothesized that *all* languages have fake indexicals (Irene Heim, p.c.).

Besides, with different test sentences we can see that bound variable interpretation is available for null 1st person pronouns in Mishar Tatar. For example, in (258a), *only I* sem-binds a null 1st person pronoun, while in next (258b) it stays unbound:

(258)   Scenario: I love Alsu, and Marat loves Aygül. Alsu, Aygül, Marat and I all went to a disco.

   a. Ike-bez-dän [min genä] [*pro* sü-gän   kʏz-ʏm] belän bie-de-m
       two-we-ABL I   only   love-PFCT.PART girl-1SG   with dance-PST-1SG
       – Marat Ajgül belän bii   al-ma-dʏ,   anʏŋ belän berničä tapkʏr Alsu
         Marat Aygül with dance can-NEG-PST he.GEN with several times   Alsu
       bie-de.
       dance-PST
       'Of the two of us, only I danced with a girl I love – Marat didn't manage to dance with Aygul, but Alsu danced with him several times.'   (bound reading)

   b. Ike-bez-dän [min genä] [*pro* sü-gän   kʏz-ʏm] belän bie-de-m
       two-we-ABL I   only   love-PFCT.PART girl-1SG with dance-PST-1SG
       – Marat kič   bujʏ   Ajgül belän bie-de,   ä   Alsu belän min genä
         Marat evening during Aygül with dance-PST and Alsu with I   only
       bie-de-m.
       dance-PST-1SG
       'Of the two of us, only I danced with the girl I love – Marat danced with Aygül the whole night, and only I danced with Alsu.'   (non-bound reading)

Furthermore, we can show again that the bound variable interpretation is not available for overt 1st person pronouns. Thus, in the same scenario, using an overt person pronoun doesn't work, if the context favors the bound reading:

(259)   Scenario: I love Alsu, and Marat loves Aygül. Alsu, Aygül, Marat and I all went to a disco.

[min genä] [min sü-gän   kʏz] belän bie-de-m   – Marat kič
  I   only   I   love-PFCT.PART girl with dance-PST-1SG   Marat evening
bujʏ   Alsu belän bie-de.
during Alsu with dance-PST
A contradiction: 'Only I danced with the girl I love – Marat danced with Alsu the
whole night.'   (non-bound reading)

3.3.2   The status of *Shift Together*

The theory just presented accounts for apparent absence of Shift Together effects in sentences
like (253), repeated below.

(260)   Alsu [[[*pro* sestra-m] mine kür-de] diep-🙀] at'-tʏ
        Alsu   sister-1SG I.ACC see-PST C   say-PST
        'Alsu$_i$ said that her$_i$ sister saw me'   (shifted reading)

The two first person pronouns (one null and one overt) refer to speaker coordinates of
different contexts, in violation of Shift Together, because, although both pronouns are in
the scope of the monster operator, only one of them, the null pronoun, is affected by it.

However, it is predicted that Shift Together effects would hold for two null pronouns,
if both are in the scope of the monster. This prediction is borne out:

(261)   Marat [[*pro* sestra-m] [*pro* brat-ʏm-nʏ]   sü-ä   diep] kurk-a.
        Marat   *pro* sister-1SG   *pro* brother-1SG-ACC love-ST.IPFV C   be.afraid-ST.IPFV
        'Marat$_i$ is afraid that my sister loves my brother.'   (no shifting)
        'Marat$_i$ is afraid that his$_i$ sister loves his$_i$ brother.'   (shifting)
        #'Marat$_i$ is afraid that his$_i$ sister loves my brother.'   (*Shift Together!)
        #'Marat$_i$ is afraid that my sister loves his$_i$ brother.'   (*Shift Together!)

At the same time, if only one of the two null pronouns is in the scope of the monster,
Shift Together wouldn't hold anymore.

Consider the following example, which is three-way ambiguous. The null pronouns
(the null subject and the null possessor) in (262) don not have to shift together:

(262)   Marat sestra-m-nʏ   sü-ä-m   diep at'-tʏ.
        Marat sister-1SG-ACC love-ST.IPFV-1SG C   say-PST
        a. 'Marat said that I love my sister.'   (no shifting)
        b. 'Marat$_i$ said that he$_i$ loves his sister.'   (shifting)
        c. 'Marat$_i$ said that he$_i$ loves my sister.'   !!!
        d. #'Marat$_i$ said that he$_i$ loves my sister.'   (*Shift Together!)

It is important to notice that the sentence in (262) allows for multiple parses. On one of
them, both pronouns would be in the scope of the monster. In that case, they would shift
together (as in (262b)):

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(263) Marat [[*pro* [*pro* sestra-m-nɤ] sü-ä-m] diep-👻] at'-tɤ.
Marat sister-1SG-ACC love-ST.IPFV-1SG C say-PST
'Marat_i said that he_i loves his sister.'

But there is also a different parse, on which the direct object is *scrambled* over the null subject and the monster. In that case, the null subject would shift and the null possessor wouldn't. This accounts for the reading in (262c):

(264) Marat [*pro* sestra-m-nɤ]_j [[*pro* t_j sü-ä-m] diep-👻] at'-tɤ.
Marat sister-1SG-ACC love-ST.IPFV-1SG C say-PST
'Marat_i said that he_i loves his sister.'

Potentially there could have been another parse, on which the direct object stays in-situ and the nominative subject is scrambled above the monster, bit this parse is ungrammatical. Nominative subjects are fixed in their position, they cannot be scrambled, and this is why the reading in (262d) is not available.

Observing similar effects in Uyghur, Shklovsky and Sudo (to appear) propose that Shift Together should hold *locally*, for example, within one noun phrase (see (234)). However, unlike Mishar Tatar, Uyghur has no difference in shiftability of null and overt pronouns. In Mishar Tatar Shift Tohether holds locally for any two pronouns only if those pronouns are both shiftable (or if both are non-shiftable).

3.3.3 Cases of apparent *disagreement*

It has been noticed before that overt 1st person and 2nd person subjects of embedded finite CPs in Mishar Tatar do not have to trigger 1st/2nd person agreement on the verb (Khanina 2007), see the examples below. I am going to argue that this is an effect of indexical shifting.

(265) a. Roza [min kit-te(-m) dip] bel-ä.
Roza I leave-PST(-1SG) C know-ST.IPFV
'Roza knows that I left.'

b. Alfijä [sin wakɤtɤnda kil-de(-ŋ) dip] šatlan-a.
Alfija you in.time come-PST(-2SG) C be.happy-ST.IPFV
'Alfija is happy that you came.' (Khanina 2007)

This "disagreement" pattern is strange, since in unembedded finite clauses 1st and 2nd person subjects absolutely have to be agreed with.

According to Khanina's (2007) account of these data, the complementizer here has to be analyzed as the converb of the verb '*say/call*' (see Appendix). When there is no agreement, it signals that the converb takes two arguments: a nominalized clause with a null 3rd person subject and a nominative object. For example, the sentence in (265a) has to be literally understood as '*Roza knows, calling he who left "I"*':

(266)

(267) Roza_i [*pro*_i min_j [(*pro*_j) kit-te]_{NMN} di-p] bel-ä.
Roza I leave-PST call-CONV know-ST.IPFV (Khanina 2007: 136)

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It is not entirely clear how exactly the needed interpretation would be derived in compositional semantics. But even with semantic issues put aside, the analysis is highly stipulative in that in postulates a nominalized use of a finite verb in past tense (it doesn't occur elsewhere in Mishar Tatar grammar, which is acknowledged by Khanina (2007)).

I am proposing a simpler analysis of the "disagreement" pattern (which, by the way, is replicated in the version of Mishar Tatar that this chapter is based on), although I will also propose that there can be more structure to the examples in (265), that the eye can see. Specifically, I suggest that in the cases of apparent lack of agreement, there are actually null 3rd person subjects that agree with verbs (3rd person agreement in Mishar Tatar is always null on a finite verb). Overt 1st and 2nd person pronouns in these cases are not subjects, but rather *hanging topics*, coreferent with null 3rd person subjects. Such coreference would indeed be possible, if the pronouns are in the scope of the monster operator.[15]

Recall the Elsewhere 3rd Person principle (250) that we assumed to hold in both shifted and non-shifted environments. With this principle, we can make a prediction about about the behavior of 3rd person null subjects in the domain of a monster. If overt nominative pronouns can indeed be hanging topics and since overt pronouns never shift in the scope of the monster, we can have a situation in which in the scope of a monster, there is a non-shifted overt hanging topic and a null 3rd person pronoun. By the Elsewhere 3rd Person principle, the 3rd person pronoun in the scope of a monster has to be distinct from the attitude holder and his/her addressee. But since in Khanina's examples, the attitude holder is different from what the overt 1st person hanging topic denotes (i.e. the speaker of the utterance), coreference between a non-shifted overt 1st person pronoun and a shifted 3rd person pronoun is possible. Note that the embedded (null) subject agrees with the main verb, just as it should.

(268) Roza [[min$_i$ [pro_i kit-te]]   diep-🙂] bel-ä.
       Roza   I   leave-PST C   know-ST.IPFV
       'Roza knows that I left.'

Similarly, a shifted 3rd person pronoun can be coreferent with a non-shifted 2nd person pronoun:

(269) Alfijä [[sin [pro_i wakɤtɤnda kil-de]]   diep-🙂] šatlan-a.
       Alfija you   in.time   come-PST C   be.happy-ST.IPFV
       'Alfija is happy that you came.'

If this analysis is on the right track, we shall see the option of 3rd person agreement in the presence of overt nominative 1st person pronoun go away when the attitude holder is

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[15]The effect seems to be limited to nominative subjects. For example, "disagreement" between an overt genitive possessor and a head noun is always ungrammatical, even in contexts that potentially involve indexical shifting.

(i)   * Marat [[minem sestra-sɤ]-n   sü-ä-m   diep-🙂] at'-tɤ.
         Marat   I.GEN sister-3SG-ACC love-ST.IPFV-1SG C   tell-PST
         Intended: 'Marat$_i$ said that he$_i$ loves my sister.'

I take it as evidence that inside a noun phrase, there is no position for an extra hanging topic-like DP that would be coreferent with a null shifted possessor.

the speaker of the utterance. The prediction is borne out, as evident from the following contrast:

(270)   a.   Marat [[min$_i$ [pro$_i$ kitte]]   diep-👻] at'tr.
             Marat   I   leave-PST C   tell-PST
             'Marat said that I left.'

        b.   * Min Maratka   [[min$_i$ [pro$_i$ kitte]]   diep-👻] at'tr.   Intended: 'I told Marat
             I   Marat.DAT   I   leave-PST C   tell-PST
             that I left.'

The sentence (270a) is not very different from (268). Again, the 3rd person null subject of the embedded clause, since it is shifted, can be coreferent with the overt 1st person hanging topic.

However, in (270b) such coreference is ruled out. This is because in (270b), unlike in (270b), the attitude holder is the speaker and the shifted 3rd person pronoun cannot refer to the attitude holder, by the Elswehere 3rd person principle[16].

Another prediction is that "disagreement" effects should occur with a wider range of null subjects. This prediction is also borne out. For example, in the sentence below an overt 2nd person hanging topic is coreferent with a null 1st person subject.

(271)   sin Marat-ka   [sin [pro   Alsu-nr   sü-ä-m]   diep-👻] at'-tr-ŋ.
        you Marat-DAT   you pro.1SG Alsu-ACC love-ST.IPFV-1SG C   tell-PST-2SG
        'You told Marat that you love Alsu.'

The shifted 1st person null subject refers to the attitude holder, which, in the case of (271), is also the hearer. The overt 2nd person hanging topic also refers to the hearer, and thus (271) is a perfectly fine sentence.

3.3.4   On locality

Before we finish the discussion of indexical shifting in Mishar Tatar, a few words are at place about the locality of the process.

With an analysis in terms of a monster operator, we should expect that in its scope all shiftable, i.e. null, indexical pronouns must shift, no matter how deeply they are embedded. Preliminary fieldwork results show that, for some reason, this is not the case.

Consider the following example:

(272)   # Alsu [[pro mine sü-ä-m   diep] at'-r-r-lar   diep-👻] kurk-a.
          Alsu   I.ACC love-ST.IPFV-1SG C   tell-ST-POT-PL C   be.afraid-ST.IPFV
          Intended: 'Alsu$_1$ is afraid that they will say that she$_1$ loves me.'

The sentence should allow for a parse where there is a monster operator in the complement of 'afraid'. In its scope all null 1st person indexicals must shift to denote the person

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[16]Unfortunately, as of now, I don't have comparable (positive or negative) data for 2nd person pronouns, but the expectation is that it won't be possible to have an overt nominative 2nd person hanging topic and a null 3rd person subject, if the addressee of the matrix verb is the hearer.

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who is afraid, Alsu. But even though there is a 1st person null subject in a deeply embedded CP, it doesn't shift in the scope of the monster.

Although as of now, I don't have a full proposal that would explain this effect, it could be speculated that there is some locality requirement that could reflect the syntactic side of indexical shifting. It might be the case that shifted indexicals in Tatar are *licensed* only if they are *locally c-commanded* by the monster. If so, then it would be interesting to see if this locality requirement could be reduced to a broader class of *Agree* phenomena.

It is especially intriguing, since it could well be the case that the monster is in the complementizer, and it has been claimed that complementizers play a mediating role in *control* (cf. Landau 2000, 2004, 2006), but here I will leave the question of the relationship between indexical shifting and control for the future.

3.4 Conclusions

In this chapter, I have proposed an analysis of indexical shifting in Mishar Tatar that captures the distinction between shiftable and non-shiftable pronouns in the language. Shiftable 1st and 2nd person (null) pronouns have complex indices with person features that get affected by the operator responsible for the shifting (the monster). Non-shiftable (overt) 1st and 2nd person pronouns are Kaplanian indexicals, they denote context coordinates, which are not affected by the operator. The monster operator that was postulated following the proposal by Sudo (2012) manipulates not the context itself, but the mapping from complex indices to context coordinates. The operator is optionally positioned in the periphery of the embedded finite CP. This particular position partially explains the syntactic distribution of shifted and non-shifted null pronouns.

Null and overt 1st and 2nd person pronouns differ not only in their shiftability, but also in their ability to be interpreted as bound variables: null pronouns can be bound, but overt pronouns cannot. This justifies the view that overt pronouns are Kaplanian indexicals and null pronouns have variable semantics.

The monster operator that manipulates the assignment function is, thus, well-suited for Mishar Tatar, but it doesn't seem likely that the same monster operator could be responsible for indexical shifting in other languages. First, there are languages in which not only person indexicals but also other kinds of indexicals shift under attitude reports. For example, adverbs like *yesterday* and *here* have to shift together with person indexicals in Zazaki, see Anand and Nevins 2004[17]. If all shifting is done by a person-sensitive assignment manipulating monster, one would have to assume that shiftable adverbs also have something like person features that can be targeted by the monster. Such an assumption looks dubious.

But even if there are very different monsters in different languages, we can now identify a problem that should be addressed by any theory of indexical shifting. The problem is how to capture bound variable readings of shiftable pronouns (if they have such readings, and we have no reasons to believe that they don't)[18]. Studying indexical shifting and fake

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[17]In Mishar Tatar, the question of shiftability beyond person indexicals hasn't been properly studied yet.

[18]For example, if a monster manipulates the context parameter and shiftable pronouns are Kaplanian indexicals (this is how Anand and Nevins analyze Zazaki), the analytical options for their bound variable uses are limited. For instance, they cannot be just ambiguous between Kaplanian indexicals and variables with complex indices, because with such an ambiguity, we will would predict that Shift Together won't hold.

indexicality in parallel within each language may provide us with significant insights into the representation and interpretation of person features and possible ambiguities in pronouns.

Thus, from the point of view of semantics, overt pronouns are identical to imposters like *yours truly*. Note, however, the semantic parallelism between Mishar overt pronouns and English imposters doesn't necessarily mean that overt pronouns in Mishar Tatar are also syntactically similar to English imposters in that don't have 1st person and 2nd person features at all. As far as I can see, overt pronouns in Mishar Tatar should have 1st and 2nd person features that are being agreed with when an overt pronoun is in an appropriate syntactic position. If overt pronouns didn't have 1st and 2nd person features, then verbal and nominal agreement would always be with coreferent null pronouns. This could remind the reader of Jelinek's (1984) Pronominal Arguments Hypothesis or Baker's (1996) Polysynthesis Parameter. However, we have seen some evidence in 3.3.3 that even though sometimes what looks like an overt pronominal subject is indeed a hanging topic, and what triggers verbal agreement is a coreferent null pronoun, it is not always the case. For example, within a noun phrases, genitive-marked overt pronouns are true agreement triggers.

In principle, there is nothing wrong in having Kaplanian indexicals with person features. In fact, when we started discussing indexical semantics in Chapter 1, we assumed that person features themselves can refer to context coordinates. It looks like overt pronouns in Mishar Tatar can illustrate this point quite nicely. There are at least two derivational options for person features in Mishar Tatar, either to appear by themselves, be interpreted as Kaplanian indexicals and be spelled out as full pronouns, or to appear as parts of referential indices that are spelled out as null pronouns.

With English plural pronouns, we have also seen the third option for person features, i.e. to take DPs as arguments and be interpreted as presupposition triggers (see Chapter 2). I haven't studied presuppositional person features in Mishar Tatar, but it is quite likely that one would have to take a close look at plural person pronouns in the language.

Appendix: Syntax of finite embedding in Mishar Tatar

Di(e)p complementation

Finite embedded clauses are introduced by the complementizer *di(e)p*:

(273)   Alsu [$_{CP}$ Marat ɤzba sal-dɤ   diep] at'-tɤ.
        Alsu   Marat house put-PST C   tell-PST
        'Alsu said that Marat built a house.'

I am calling *di(e)-p* a complementizer, but this point has to be justified. From a morphological point of view this word is a form (namely, a *converb*) of the verb of speech: *di(e)-p*, say-CONV.

In Mishar Tatar, as in many other Turkic languages, converbs are used to introduce events somehow related to the main event (a lot like gerunds in English), and also as main verbs in so-called serial verb constructions (SVC, see Grashchenkov 2012, 2013 and references therein).

A sentence like (273) is hardly a case of SVC. SVCs are based on the closed class of auxilary verbs, while the verbs taking *diep* complements come from a potentially unbounded class. As far as I know, almost any attitude predicate can take *di(e)p*-complements (*at'a* 'tell', *üjli* 'think', *belä* 'know', *ɤšana* 'believe', *kurka* 'be afraid', *šatlana* 'be happy' etc.[19]).

It could be that that in (273) we have a gerundial use of *diep*, and the sentence literally means '*Alsu told (it) saying that Marat built a house*'. While this might be an option for clausal embedding under verbs of speech, the logic breaks down when we consider other attitude predicates. For example, no actual *saying* has to take place in (274), where the *diep*-complement is embedded under 'be happy':

(274)   Marat [Alsu kil-de   diep] šatlan-a.
        Marat Alsu come-PST C   be.happy-ST.IPFV
        'Marat is happy that Alsu came'. (≠ 'Marat is happy saying that Alsu came.')

At the same time, *di(e)p* shares some typologically common properties of complementizers. For example, it can be dropped, and it is incompatible with embedded *wh*-questions:

(275)   a.   * Marat [$_{CP}$ kem-ne   ɤčrat-tɤ   diep] at'-tɤ.
            Marat   who-ACC meet-PST C   tell-PST

       b.   Marat [$_{DP}$ kem-ne   ɤčrat-kan-ɤ-n]   at'-tɤ.
           Marat   who-ACC meet-NMN-3-OBL.ACC tell-PST
           'Marat told who he met.'

I conclude that synchronically, *di(e)p* looks more like a complementizer. However, historically, *di(e)p* is undoubtedly a converb of the verb of speech (see Khanina 2007 for an analysis whereby *di(e)p* is not fully grammaticalized into a complementizer; see also Knyazev 2013 for an analysis of a similar construction in Kalmyk). It might be not a coincidence that indexical shifting takes place exactly in complements introduced by *di(e)p* (cf. also *däp*

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[19]A curious exception is the verb *di(e)-*, the one that *di(e)p* is derived from. Under this verb, *di(e)p* must be dropped.

in Uyghur (Shklovsky and Sudo, to appear)), as there are languages, such as Amharic and Zazaki, in which indexical shifting happens *only* under speech verbs (see Anand and Nevins 2004, Anand 2006).

Accusative subjects and proleptic objects

An interesting property of embedded finite clauses introduced by *di(e)p* is that sometimes it may look like the subjects of these clauses are in the accusative case.

(276)   Marat Alsu-nɤ   anɤ   sü-ä   diep üjl-i.
        Marat Alsu-ACC he.ACC love-ST.IPFV C   think-ST.IPFV
        'Marat thinks that Alsu loves me.'

In the dialect of Mishar Tatar spoken in Kutlushkino, there is strong evidence that these accusative-marked noun phrases can indeed be *thematic subjects* of embedded verbs, as they can be a part of *clausal idioms* (see Podobryaev 2013 for an analysis):

(277)   Alsu [Marat-nɤ   täš-e](-n)   sirek   dip at'-tɤ.
        Alsu [Marat-ACC tooth-3](-ACC) gapped C   tell-PST
        'Alsu said that Marat talks too much.'
        (*Literally*: 'Alsu said that Marat's teeth are gapped.')

However, in the version spoken in Rybushkino, the one this chapter is primarily concerned with, this test comes out negative:

(278)   a. šajtan anɤ   suk-kan.
           devil he.ACC hit-PFCT
           'He got paralized.' (*Literally*: 'Devil hit him.')
        b. Alsu Marat-ka   šajtan(#-nɤ) anɤ   suk-kan diep at'-tɤ.
           Alsu Marat-DAT devil(#-ACC) he.ACC hit-PFCT C   tell-PST
           'Alsu told Marat that he got paralized.'
           (*Only literal meaning with ACC*: 'Alsu told Marat that devil hit him.')

Rather than being thematic subjects of embedded clauses, accusative-marked DPs seem to be *proleptic objects* that do not bear any thematic relationship to embedded verbs. The best piece of evidence for this claim that I know of is the fact that these accusative-marked DPs are compatible with full nominative subjects in embedded clauses.

(279)   Min Marat-nɤ   bu   malaj kil-de   diep at'-tɤ-m.
        I   Marat-ACC this boy   come-PST C   tell-PST-1SG
        'I said of Marat that this boy came.'

In fact, an accusative proleptic object doesn't have to be coreferent with the subject of the embedded clause, as the example below shows:

(280)   Alsu Marat-nɤ$_i$ bu   malaj anɤ$_i$ kür-de diep at'-tɤ.
        Alsu Marat-ACC this boy   he.ACC see-PST C   tell-PST
        'Alsu said of Marat$_i$ that this boy saw him$_i$.'

If the prolepsis analysis is on the right track, then in examples like (276), it is just pro-drop of the nominative subject in the embedded clause that gives the accusative-marked DP an appearance of a subject. In partial support of this claim, it can be shown by a number of tests that accusative proleptic objects are positioned structurally higher than nominative subjects. For example they can trigger Principle B effects with respect to the DPs in the main clause (281a), while nominative subjects don't (281b):

(281) a. Marat$_i$ üzen$_i$/anɤ$_{*i}$ kil-de   diep at'-tɤ.
            Marat REFL.ACC/he.ACC come-PST C   tell-PST
            'Marat$_i$ said that he$_i$ came.'

      b. Marat ul kil-de   diep at'-tɤ
            Marat he come-PST C   tell-PST
            'Marat said that he came.'

Another piece of evidence for a very peripheral position of accusative proleptic objects is that although *n-phrases* licensed by embedded negation can appear as proleptic objects (282), proleptic objects, unlike nominative subjects, cannot be preceded by such n-phrases (283).

(282) Min *ber kem(-ne)* *dä* kil-mä-s   diep kurk-a-m.
       I   one who-ACC *n*PCL come-NEG-POT C   be.afraid-ST.IPFV-1SG
       'I am afraid that nobody would come.'

(283) a. Marat *ber kajčan*   *dä* Alsu(*-nɤ) kil-mä-s   diep
            Marat one when-ACC *n*PCL Alsu(*-ACC) come-NEG-POT C
            kurk-a.
            be.afraid-ST.IPFV-1SG
            'Marat is afraid that Alsu would never come.'

      b. Marat Alsu(-nɤ) *ber kajčan*   *dä* kil-mä-s   diep kurk-a.
            Marat Alsu(-ACC) one when-ACC *n*PCL come-NEG-POT C   be.afraid-ST.IPFV-1SG
            'Marat is afraid that Alsu would never come.'

At the same time, accusative proleptic objects must originate in a position below the attitude verb, as they can be shown to appear within its scope. For example, in (284) an indefinite proleptic object in the accusative case is interpreted, at least partially, *de dicto*:

(284) <u>Scenario</u>: Marat was told that one of my brothers lives in Moscow. He thinks it is either Rishat or Ilnur. But in fact Rishat and Ilnur are not my brothers, and my only brother lives in Pereslavl'-Zalessky, not Moscow...

      ...ä läkin   Marat [[minem ber brat-ɤm-nɤ]   mäskäüčä diep] üjl-i.
      but however Marat   I.GEN   one brother-1SG-ACC Muscovite C   think-ST.IPFV
      ...'however Marat thinks that one of my brothers is a Muscovite.'

Given the scenario, the person that Marat is thinking is about is my brother *only in Marat's thought-worlds*. In other, *my brother* has to be interpreted in the scope of the attitude

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verb *think*, which, from the point of view of syntax, suggests that the indefinite DP originates in a position c-commanded by the attitude verb.

Furthermore, accusative proleptic objects are licensed by the overt complementizer *diep*. They cannot appear in its absence:

(285) Marat Alsu(*-nɤ) *ber kajčan*   *dä* kil-mä-s   kurk-a.
       Marat Alsu(*-ACC) one when-ACC *n*PCL come-NEG-POT be.afraid-ST.IPFV-1SG
       'Marat is afraid that Alsu would never come.'

(The latter point could be interpreted as demonstrating that the complementizer *di(e)p*, being a verbal derivate, still has some argument structure and can introduce an argument that is a topic of the attitude report.)

Taken together, the evidence above suggests that accusative proleptic objects originate somewhere in the left periphery of the embedded CP and, probably, in a very local relationship with the complementizer *diep*. I take this position to be Spec,CP, but it could be They do not belong to the main clause, but their position is avove the position of nominative subjects:

(286)
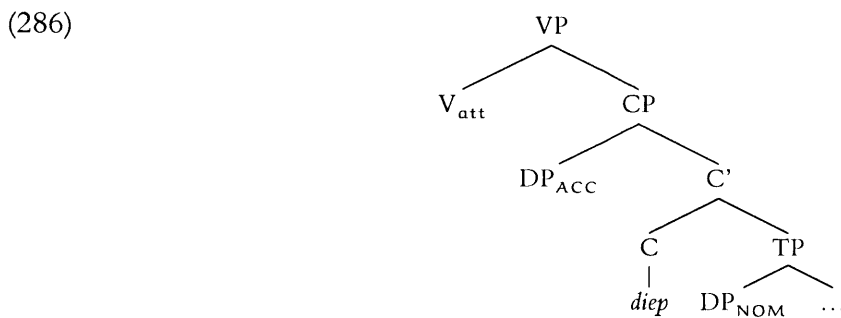
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