

# PRO and Phi-feature mismatch in imposter constructions

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This paper examines control constructions, and investigates the interaction of the syntax and semantics of control, using Minimalist syntax in combination with the framework of Distributed Morphology. I present binding alternations in control constructions with the imposter phenomenon studied by Collins and Postal (2012). I offer a syntactic account which would validate such alternations and show evidence for PRO in infinitives with imposter constructions. Furthermore, comparing PRO and *pro*, I argue that *pro* cannot account for the binding alternations. I demonstrate that the lack of the effect of phi-feature valuation does not result in ungrammaticality whereas the failure of Agree itself leads to ungrammaticality. The current analysis offers a systematic picture of the morphosyntactic variation of English nominals in terms of {person}.

*Keywords: control; binding; imposter constructions; person; Agree*

## 1 Imposter constructions

After reviewing distinctive agreement in binding relations of imposter constructions studied by Collins and Postal (2012), I discuss the same binding alternations are observed in infinitival adjuncts to imposter constructions. I compare the imposter and non-imposter constructions, and present research questions regarding control constructions to pursue an answer in this paper.

Collins and Postal (2012) observe that full DPs which refer to the speaker can select 1<sup>st</sup> and 3<sup>rd</sup> person reflexives in (1) and (2).

- (1) a. This reporter<sub>i</sub> (=I) sent myself<sub>i</sub> to cover Bill Clinton's lecture...  
b. This reporter<sub>i</sub> (=I) sees himself<sub>i</sub> as managing editor in the future.  
(Collins and Postal 2012:20)
- (2) These reporters (=we) respect ourselves<sub>i</sub>/themselves<sub>i</sub>.  
(*Ibid.*, 54)

The subject DPs *this reporter* and *these reporters* refer to the speaker or the speaker's group in (1) and (2) respectively. However, the same DPs determine a

1<sup>st</sup> person reflexive or a 3<sup>rd</sup> person reflexive in (1) and (2).<sup>1</sup> These particular kinds of expressions, which may exhibit notionally and grammatically distinct person features, are what Collins and Postal call *imposters*. They observe that a similar observation applies to DPs which denote the addressee (2nd person) as well. For simplicity, I will focus only on singular DPs that refer to the speaker (1<sup>st</sup> person) in the following discussion.

Interestingly, the imposter DPs referring to the speaker can be coreferential with nominal elements in the adjunct infinitives as well in (3a,b).

- (3) a. [To protect myself<sub>i</sub>/himself<sub>i</sub>,] this reporter<sub>i</sub> (=I) is going to wear a bullet-proof vest. (*Ibid.*, 73)
- b. [To keep ourselves<sub>i</sub>/themselves<sub>i</sub> out of jail], the present authors<sub>i</sub> (=we) are going to wear bullet-proofing vests. (*Ibid.*, 187)

The subject DPs in the main clause are in imposter use, and they are coreferential with the reflexives in the adjunct infinitives. The dual selection of the reflexives in the adjunct clause of (3) is the same as that in (1) and (2). However, this “optional” selection of reflexives appears to be uniquely restricted to imposter constructions, and this optionality is not observed in non-imposter constructions in (4).

- (4) a. To protect \*myself<sub>i</sub> /himself<sub>i</sub>, this reporter<sub>i</sub> (≠I) wore a bullet-proof vest.
- b. To protect \*myself<sub>i</sub>/himself<sub>i</sub>, he<sub>i</sub> wore a bullet-proof vest.
- c. To protect myself<sub>i</sub>/\*himself<sub>i</sub>, I<sub>i</sub> wore a bullet-proof vest.

The subjects in the matrix clauses are not in imposter use and only one selection of reflexives in the infinitive clauses is grammatical and the other selection is ungrammatical, unlike in the case of imposter constructions as in (1)-(3). The “optional” selection of reflexives prompts us to question how phi-agreement is optional in imposter constructions. What are the antecedents of the reflexives in the infinitives within the imposter construction in (3)? Is it PRO? Is it a trace via movement? To what extent does syntax regulate the interpretation of control constructions?

I examine properties of {person} based on Harley and Ritter’s (2002) feature geometry, and argue that PRO in infinitives may not possess the same person value with the controller even after an Agree relation. I attribute a mismatch in person to dual properties of {person}. I demonstrate that underspecification of binding agreement as a result of Agree does not induce

<sup>1</sup> According to Collins and Postal, only the 3rd person reflexive yields a grammatical result for some dialects of English speakers.

ungrammaticality, unlike in the case of the failure of Agree.

Section 2 critically reviews Hornstein's movement analysis and Landau's (2000, 2003, 2010) Agree analysis by applying them to control constructions with the imposter phenomenon, and presents that both analyses cannot fully account for the constructions in question. Section 3 introduces Harley and Ritter's feature geometry with a slight modification and applies it to imposter constructions to clarify distribution of {person} in the binding alternations within control constructions, in support of a PRO hypothesis.

## 2 Movement vs. PRO

Although dominant throughout the 1980s, the approach involving government has been abandoned in minimalist analyses. The control theory has been replaced by either a movement analysis (Hornstein, 1999) or revived by the introduction of the syntactic operation, Agree (Landau, 2000, 2003, 2010) in the generative literature. I critically review Hornstein's (1999) movement analysis in 2.1 and Landau's (2000, 2003, 2010) Agree analysis in 2.2 by applying these analyses to infinitives with imposter constructions, and I identify the issues of {person} in terms of the binding alternations in infinitives with imposter constructions.

### 2.1 Hornstein's (1999) movement analysis

I apply Hornstein's (1999) movement analysis and show how this analysis can account for the binding alternations in the infinitive of (5) (=3a).

- (5) [To protect myself<sub>i</sub>/himself<sub>i</sub>,] this reporter<sub>i</sub> (=I) is going to wear a bullet-proof vest.

Consider the schemas of the derivation under Hornstein's (1999) movement analysis in (6) for the sentence in (5).

- (6) a. [<sub>XP</sub> this reporter<sub>i</sub> (=I) protest myself<sub>i</sub>/himself<sub>i</sub>]  
 b. [<sub>t</sub> to reporter protest myself<sub>i</sub>/himself<sub>i</sub>]  
 c. this reporter<sub>i</sub> (=I) is going to wear a bullet-proof vest.  
 d. [<sub>TP</sub> [<sub>XP</sub> this reporter<sub>i</sub> (=I) protest myself<sub>i</sub>/himself<sub>i</sub>] [<sub>TP</sub> this reporter<sub>i</sub> (=I) is going to wear a bullet-proof vest.

The imposter DP *this reporter* is originally generated in subject position of the adjunct clause and binds either a 1<sup>st</sup> or 3<sup>rd</sup> person reflexive in (6a). It moves out of the clause in (6b) and becomes the subject of the matrix clause, where it receives structural Case in (6c). Both clauses merge by adjoining the adjunct infinitive XP to TP in (6d). Under Hornstein's movement analysis, no *PRO* appears in the infinitive. Instead, the imposter DP merges in subject position of the adjunct clause, and after that, it remerges in the matrix clause via movement. This means that the DP possesses two theta roles (one from the embedded verb and the other

from the matrix verb), which does not violate the theta criterion according to Hornstein. Yet, in order for the theta roles to be “visible” the imposter DP needs a structural Case. This requirement drives the DP to be “remerged” in the matrix clause. Note that the imposter DP does not violate a Minimal Link Condition at the stage of the derivation when the imposter DP remerges in subject position of the matrix clause in (6c). At this stage, both adjunct and matrix clauses are separately built, and at the same time the imposter DP in subject position of the infinitive is moved out of the clause. Thus, before the imposter DP remerges in the matrix clause, this DP is not c-commanded by the object DP in the matrix clause. What is important for the current purposes is that this movement analysis attributes the lack of the embedded subject to a trace via movement.

I continue to apply Hornstein’s analysis to the imposter construction in (7).

- (7) a. [To cover myself<sub>i</sub> in case of an investigation], this reporter<sub>i</sub> (=I) is going to keep himself<sub>i</sub> out of the newspapers.

(Collins, Moody & Postal, 2008)

- b. [To keep ourselves<sub>i</sub> out of jail], the present authors<sub>i</sub> (=we) are going to behave themselves<sub>i</sub> from now on.

(Collins & Postal, 2012, p. 187)

The imposter DPs in subject position of the matrix clauses bind a 3<sup>rd</sup> person reflexive in the main clauses while a 1<sup>st</sup> person reflexive appears in both infinitives. These reflexives are coreferential with the imposter DPs despite of their distinct person. The imposter sentences in (7) are problematic to Hornstein’s movement analysis. If the imposter DPs originate in subject position of the infinitives and remerge in subject of the matrix clause later, the reflexives in both clauses are expected to exhibit the same person. Otherwise, the sentences should be ungrammatical, as in (8).

- (8) \*[The present authors<sub>i</sub> (=we) are going [to talk to ourselves<sub>i</sub> about themselves<sub>i</sub>]].

(Collins & Postal 2012:187)

The two reflexives in the infinitive have a distinct person value, and at the same time they are coreferential with the same DP in the matrix clause, which is ungrammatical. This shows that imposter DPs cannot possess two distinct person values simultaneously in (8). Yet, the distinct person values of the reflexives in (7) does not induce ungrammaticality. Thus, the grammaticality of the infinitives in (7) (in contrast with (8)) weakens Hornstein’s movement analysis.

## 2.2 Landau's (2000, 2003, 2010) Agree analysis

Landau (2000, 2003) argues for the existence of PRO as the subject of infinitives.<sup>2</sup>

Given his analysis, the subject of the embedded clause in (5) is PRO, which enters into an Agree relation with the imposter DP in the main clause for coreference. We would assume that the binding alternations in the infinitive of (5) ultimately result from the imposter DP via PRO; because the imposter DP should possess {1<sup>st</sup>} or {3<sup>rd</sup>}, one of the features is shared to PRO via Agree, and passes down to the reflexive via Agree, as the schemas in (9a,b) show the two binding relations in (5).

- (9) a. [ PRO<sub>i</sub> {1<sup>st</sup>} ... reflexive<sub>i</sub> {1<sup>st</sup>} [ DP<sub>i</sub> {1<sup>st</sup>} ... ] ]  
 b. [ PRO<sub>i</sub> {3<sup>rd</sup>} ... reflexive<sub>i</sub> {3<sup>rd</sup>} [ DP<sub>i</sub> {3<sup>rd</sup>} ... ] ]

Unfortunately, Landau's Agree analysis cannot also account for the mismatch in person of reflexives in (7), whose schema is shown in (10).

- (10) [ PRO<sub>i</sub> {1<sup>st</sup>} ... reflexive<sub>i</sub> {1<sup>st</sup>} ... [ DP<sub>i</sub> {3<sup>rd</sup>} ... reflexive<sub>i</sub> {3<sup>rd</sup>} ] ]

As the reflexives show, the controller DP possesses 3<sup>rd</sup> person while PRO exhibits 1<sup>st</sup> person. Yet PRO as well as the two reflexives are coreferential with the DP in imposter use. Under Landau's Agree analysis, it is not clear how elements of a distinct person value can corefer in (10).

In the following section, I will examine properties of a person feature and present the mechanism of the binding alternations in infinitives with imposter constructions with a revised Agree analysis.

## 3 Phi-feature geometry and imposter DPs

I review Harley and Ritter's (2002) feature geometry for phi-features and revise it slightly by applying it to imposter constructions. I argue that seeming "optionality" of the reflexive selection in imposter constructions is attributed to dual properties of {person} because imposter DPs lack lexical/referential

<sup>2</sup> Landau argues that a movement analysis cannot explain the partial construction as in (ia), whose schema is in (ib).

- (i) a. The chair<sub>i</sub> preferred [to PRO<sub>i</sub> gather at 6]. (Landau, 2003, p. 834)  
 b. [ DP<sub>i</sub> {3<sup>rd</sup>, Singular} ... [ CP [ TP PRO<sub>i</sub> {3<sup>rd</sup>, Plural} ... ] ]

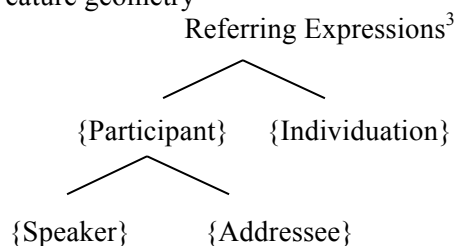
According to Landau, the subject DP enters into an Agree relation with the C head, which Agrees with the T head. This T head with {3<sup>rd</sup>} enters into an Agree relation with PRO. This way PRO receives 3<sup>rd</sup> person. However, C has no specification for number and PRO does not acquire a value for number via Agree. Instead, it gets {plural} semantically. Thus, the controller and PRO shares the person feature value but not the number value via Agree. Importantly, this partial control cannot be accounted for by a movement theory.

properties in 3.1. Given the revised feature geometry, I argue that the dual properties of a person value create the “optionality” of binding relations in imposter constructions and thus that phi-agreement in itself is not optional in 3.2. I offer an analysis to the example in question which involves a mismatch in person in (7) in 3.3.

### 3.1 Feature geometry for person

Harley and Ritter (2002) examine morphosyntactic properties of pronominal systems and argue that morphosyntactic features are best thought of as forming a dependency structure, or a feature geometry in (11).

(11) Phi-Feature geometry



(Harley & Ritter, 2002, p. 486)

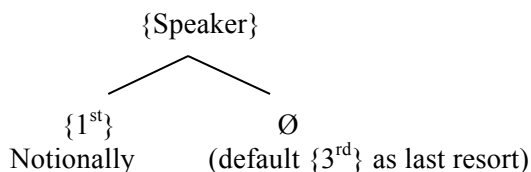
The individual nodes represent privative phi-features of DPs. Particularly, the Participant node and its dependents represent person features which depend on the DP’s discourse role. The participant node and its dependents, {Speaker} and {Addressee} are used to represent {person}.

Given the phi-feature geometry in (11), let us consider a feature geometry of imposter DPs. Full DPs such as *this reporter* do not possess lexical/referential properties and yet they can refer to the speaker. I assume that imposter DPs possess {Speaker} in the appropriate contexts. Based on the fact that English imposter DPs can bind either a 1<sup>st</sup> or 3<sup>rd</sup> person reflexive, I further assume that the Speaker node may be connected with grammatical person. This means that notional person {Speaker} and grammatical person {1<sup>st</sup>} are not always identical with imposter DPs. Thus, they may possess {Speaker-1<sup>st</sup>}; otherwise, {Speaker} lacks grammatical person, which is assigned a default 3<sup>rd</sup> person feature value as last resort (Baker 2011), i.e., {Speaker-3<sup>rd</sup>}. Thus, {Speaker} in (11) possesses additional dependencies in (12).

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<sup>3</sup> I focus only on person features in this paper and I omit the dependent nodes of INDIVIDUATION in (11).

## (12) Speaker node for English imposter DPs



This feature geometric structure shows that 1<sup>st</sup> person is decomposed into notional person {Speaker} and grammatical person {1<sup>st</sup>}, because the Speaker node is not automatically tied to morphology for {person} when a DP lacks a special form. The {Speaker} feature may be connected with {1<sup>st</sup>} and if not with {3<sup>rd</sup>} as last resort. In contrast, personal pronouns inherently possess lexical/referential properties and thus they cannot exhibit the dual selection of reflexives as in (13).

## (13) I sent myself/\*himself to cover the story.

The pronominal subject *I* has the feature geometry which involves the combination of notional person {Speaker} and grammatical person {1<sup>st</sup>}, thanks to its intrinsic lexical/referential properties, and thus the pronoun in (13) binds a 1<sup>st</sup> person reflexive and cannot tolerate a 3<sup>rd</sup> person reflexive.

Once the dual properties of {person} is clear, let us return to imposter constructions and examine the binding alternations.

### 3.2 Imposter DPs and binding variation

Given the feature geometry with the dual properties of {person} for DPs in imposter use, the “optionality” of reflexive selection in imposter constructions is readily accounted for in (14) (=1).

- (14) a. This reporter<sub>i</sub> (=I) sent myself<sub>i</sub> to cover Bill Clinton's lecture...  
 b. This reporter<sub>i</sub> (=I) sees himself<sub>i</sub> as managing editor in the future.

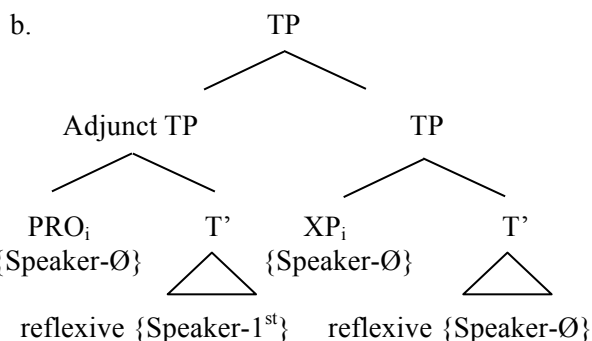
In (14) the imposter DP *this reporter* referring to the speaker possesses notional person {Speaker}. Because the imposter DP does not possess lexical/referential properties, {Speaker} does not automatically possess grammatical person {1<sup>st</sup>}. Given the appropriate contexts, the imposter DP in (14) may or may not possess {Speaker} with grammatical person. In (14a), the DP possesses {Speaker-1<sup>st</sup>} and shares it with the reflexive. Thus, a 1<sup>st</sup> person reflexive is inserted post-syntactically. In contrast, the DP in (14b) only has notional person {Speaker-Ø}, and thus a 3<sup>rd</sup> person reflexive is selected post-syntactically. Both 1<sup>st</sup> and 3<sup>rd</sup> person reflexives are grammatical when they are coreferential with the imposter DP referring to the speaker, because of {Speaker}, notional person shared via Agree.

In the following subsection, I will employ the revised feature geometry of 1<sup>st</sup> person and analyze infinitives, in support of the PRO hypothesis.

### 3.3 Mismatch in person feature

I examine the distribution of {person} in (15a) (=7), whose tree is shown in (15b).

- (15) a. [To cover myself<sub>i</sub> in case of an investigation], this reporter<sub>i</sub> (=I) is going to keep himself<sub>i</sub> out of the newspapers.



In (15b) the imposter DP *this reporter* involves {Speaker-Ø}, which is shared with PRO via Agree. Once PRO obtains the feature, it shares the feature with the reflexive in the embedded clause via Agree, while the DP shares the same feature with the one in the main clause. Post-syntactically a 1<sup>st</sup> person reflexive is selected in the embedded clause while a 3<sup>rd</sup> person reflexive is selected in the matrix clause. Although grammatical person of the reflexives is distinct, they are ultimately coreferential because of notional person {Speaker}. This indicates that Agree does not inevitably guarantee full sharing of {person}. Put differently the absence of the effect of phi-feature valuation does not result in ungrammaticality.<sup>4</sup>

One might consider the presence of *pro* instead of PRO as the subject of the adjunct clause. *Pro* possesses its phi-features and binds the reflexive in the infinitive (analogous to a 1<sup>st</sup> person pronoun), independently from the subject DP

<sup>4</sup> Collins and Postal (2012) argue that a null pronominal DP appears at the left periphery of the sentence, which binds *PRO*. Thus *PRO* gets 1<sup>st</sup> person and binds the 1<sup>st</sup> person reflexive. However, their analysis cannot account for the sentence in (i).

- (i) [To cover himself<sub>i</sub> in case of an investigation], this reporter<sub>i</sub> (=I) is going to keep himself<sub>i</sub> out of the newspapers.

If a covert pronoun exists in the left periphery in (i), it should be a 3<sup>rd</sup> person pronoun because the reflexive in the embedded clause is 3<sup>rd</sup> person. However, if a null element is *pro*, it is not clear how a 3<sup>rd</sup> person pronominal element is coreferential with the imposter DP referring to the speaker.

in the main clause. However, English is not considered as a pro-drop language. Moreover, in the Government and Binding era, *pro* is treated as [+pronominal], distinct from *PRO* with [+anaphor, +pronominal]. I take this to mean that *pro* possesses both notional and grammatical person like lexical pronouns. If the subject of *keep* in (16) is *pro*, it should not allow for the binding alternations.

- (16) It is important to keep myself/herself (=I) from getting sunburned.

Given the appropriate contexts, the referent of the reflexive in (16) is the speaker even when the 3<sup>rd</sup> person reflexive is selected, and the sentence is still grammatical. If *pro* were the antecedent of the reflexive in the infinitives, *pro* should only bind a 1<sup>st</sup> person reflexive as in the case of a 1<sup>st</sup> person pronoun because the referent is the speaker. The selection of the 3<sup>rd</sup> person should be ungrammatical in (16), contrary to fact. On the other hand, if *PRO* is the subject of the infinitive, it does not have a person value from the beginning of the derivation; it is given notionally in (16) or via Agree in (15), and it possesses {Speaker}, like imposter DPs. Thus, the reflexives bound by *PRO* may coreferential with a DP referring to the speaker even when they are 3<sup>rd</sup> person in (15) and (16). The current analysis supports the *PRO* hypothesis.

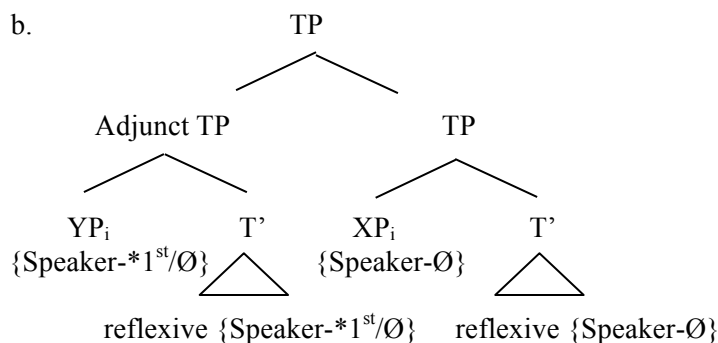
We should notice one difference between *PRO* and imposter DPs in terms of grammatical person.

- (17) a. I<sub>i</sub> respect this reporter<sub>i</sub> (=I) who never perjured himself<sub>i</sub>.  
b. \*I like<sub>i</sub> to PRO<sub>i</sub> see himself<sub>i</sub> as managing editor.

In (17a) the imposter DP in object position of the matrix clause is coreferential with the 1<sup>st</sup> person pronoun in subject position of the matrix clause. At the same time, the DP binds a 3<sup>rd</sup> person reflexive. I assume that the imposter DP has only notional person {Speaker} without grammatical person {1<sup>st</sup>} via Agree and passes it down to the reflexive. Because the feature lacks grammatical person, a 3<sup>rd</sup> person is inserted post-syntactically in (17a). A partial sharing operation is not applied to *PRO* controlled by the lexical pronoun in (17b). *PRO* in (17b) requires full sharing of a person value via Agree; otherwise it causes ungrammaticality.

With the difference between imposter DPs and *PRO* in mind, let us consider the example in (18a) with its structure in (18b), in favor of the *PRO* hypothesis.

- (18) a. [To cover \*myself<sub>i</sub>/himself<sub>i</sub> in case of an investigation], it is important to keep himself<sub>i</sub> out of the newspapers. (The referent is the speaker)



In (18a), no imposter DP exists in the sentence and yet the intended interpretation is that the reflexives are coreferential with XP referring to the speaker as in (16). The sentence in (18a) shows that the selection of a 3<sup>rd</sup> person reflexive in the infinitive is grammatical while that of a 1<sup>st</sup> person reflexive is ungrammatical. Under the PRO hypothesis, XP is PRO<sub>XP</sub> and YP is PRO<sub>YP</sub>. {Person} of PRO<sub>YP</sub> cannot differ from that of its antecedent if the antecedent is not an imposter DP. Put differently, PRO<sub>YP</sub> cannot notionally obtain a person value in the appropriate contexts without an Agree relation or it does not permit a partial sharing operation as in (17b). Thus, PRO<sub>YP</sub> must possess {Speaker-3<sup>rd</sup>} in (18a), as opposed to that in (16) (where PRO gets a person value notionally in the appropriate contexts).

Let us consider the pro hypothesis one more time in (18). Since the reflexive is coreferential with a DP referring to the speaker, it is not clear why 1<sup>st</sup> person is ungrammatical in the embedded clause while a 3<sup>rd</sup> person is not ungrammatical if YP as well as XP is pro in (18). Thus, the pro hypothesis cannot account for the distribution of person in (18).

I have discussed the four types of pronominals in terms of 1<sup>st</sup> person. I summarize the properties of 1<sup>st</sup> person in terms of the pronouns in (19).

(19) Morphosyntactic properties of 1<sup>st</sup> person of four types of nominal

Pronoun	Pro	PRO	Full DP
{Speaker-1 <sup>st</sup> }	{Speaker-1 <sup>st</sup> }	{Speaker-1 <sup>st</sup> } {Speaker-3 <sup>rd</sup> }	{Speaker-1 <sup>st</sup> } (Speaker-3 <sup>rd</sup> )

Lexical pronouns and pro possess notional and grammatical person in the numeration, whereas PRO and full DPs may or may not possess grammatical person along with notional person. They may get one via Agree in the middle of the derivation, which leads to the morphosyntactic variation in binding relations.

#### 4 Conclusion

In this paper I examined control constructions with imposter DPs. After having shown the binding alternations with reflexives in imposter constructions, I argued

for an infinitival PRO subject with the revised feature geometry. When PRO has its controller, PRO obtains the relevant feature geometry from the controller via feature-sharing operation, Agree. The failure of Agree results in ungrammaticality although the lack of the effect of phi-feature valuation is grammatical. In the latter case, PRO only receives notional person via Agree or notionally in the given contexts. I also argued that because of the anaphoric property of PRO, pro cannot be replaced with PRO in the control constructions with the imposter phenomenon.

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