

Exempt Reflexives and Psych Verbs

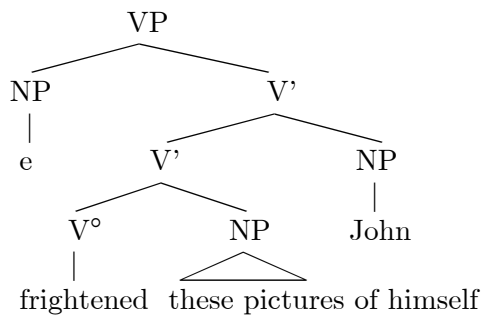
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1. Introduction

Reflexives contained in subjects of object-experiencer psych verbs (OE psych verbs) such as *to frighten*, or *to make one's day* have caused problems for binding theory since they have been discussed in Belletti and Rizzi (1988). Belletti and Rizzi (1988) assume that subjects of OE psych-verbs are underlyingly less prominent than the corresponding surface objects, as indicated in (1). Reflexive binding would apply on this underlying level, thus giving rise to the observed coindexations.²

(1) These pictures of himself_i frightened John_i.



In the following, we call the phenomenon observed in (1) *inverse binding*. The analysis in (1), however, falls short of an explanation for examples like the ones given in (2).

- (2) a. Paul_i told Mary_j that pictures of themselves_{i+j} made John_k's day.
b. Paul_i said that pictures of himself_{i/j} dominated John_j's thoughts.

In (2b), the putative antecedent *John* does not c-command the reflexive even if one assumes that the examples in (2) show the same structure as (1) at a certain syntactic level. The example in (2a) illustrates that reflexives in subjects of OE psych verbs allow split antecedents. Split antecedents are illicit for ordinary reflexives but typically occur with exempt reflexives.

That exemptness plays a central role for the distribution of reflexives in OE psych verbs is further indicated by the Portuguese long-distance reflexive *ele próprio* which occurs alongside the short-distance reflexive *si próprio*. In contrast to *si próprio*, *ele próprio* can be exempt (cf. Branco and Marrafa 1999, Kiss 2001; 2003), as is illustrated in (3).³

- (3) a. O retrato dele próprio foi pintado pela Maria.
The painting of-him self was painted by-the Maria
b. *O retrato de si próprio foi pintado pela Maria.
The painting of-him self was painted by-the Maria

In (3), the reflexives are *masculine*, while the only other NP is marked *feminine*. The examples show that *ele próprio* can indeed be free while *si próprio* has to be bound.

¹ I would like to thank Ana Luís and Antonio Branco for assistance with the Portuguese data and Kook-Hee Gill for assistance with the Korean data.

² Belletti and Rizzi assume that inverse binding results from underlying unaccusativity of OE psych verbs. Pesetsky (1995:21ff.) has shown that this assumption cannot be correct.

³ Branco and Marrafa (1999:171) clearly show that *ele próprio* must not be analyzed as a pronoun. It must be coindexed with an a-commanding antecedent if it is a-commanded.

Following this line, only *ele próprio* may occur as part of a subject in OE psych verb constructions, as is illustrated by the grammaticality distributions in (4).

- (4) a. *Estas fotos de si_i próprio assustaram o Luís.
 These pictures of him self frighten the Luís
 b. Estas fotos dele_i próprio assustaram o Luís.
 These pictures of-him self frighten the Luís

With the exception of a side remark in Pollard and Sag (1994:278), the binding properties of OE psych verbs have not been considered within HPSG. We assume that inverse *binding* does not exist. Instead, apparent inverse binding occurs if the formulation of Principle A in the pertinent language allows exempt reflexives. The relevant reflexives are exempt, hence not bound, but freely coindexed. This conclusion does not only eliminate complex and otherwise unjustified analyses of inverse reflexivization such as (1) from the theory of grammar, it also allows an explanation for the coindexations observed in (2) and the grammaticality contrast in (4). In addition, it explains why inverse reflexivization is illicit in languages like German and Korean.

2. Complex Argument Structures

A fundamental insight suggested in Pollard and Sag (1994) concerns the distinction between a domain satisfying certain criteria on the one hand and the distance between a binder and a bindee on the other. The present proposal extends Pollard and Sag's suggestions and follows Kiss (2001, 2003) in assuming that binding distance and binding domain are two parameters to be determined in language-specific formulations of Principle A. According to Kiss (2001, 2003), *universal grammar* contains a non-parameterized version of Principle A which he calls *Proto-Principle A*. Its formulation is given below.

(5) Proto-Principle A:

A reflexive contained in a certain *binding domain* must be bound by an element which is realized in a *certain distance* to the reflexive.

The role of the *binding domain* is perhaps best understood if Proto-Principle A is directly compared to its instantiations for English as given in Pollard and Sag (1994) and for Portuguese as given in Branco and Marrafa (1999) and taken up in Kiss (2001).⁴

(6) Principle A (English, Pollard and Sag 1994):

If a reflexive is *locally a-commanded* it has to be *locally a-bound*.

(7) Principle A (Portuguese, Branco and Marrafa 1999):

If a reflexive is *a-commanded* it has to be *a-bound*.

The binding domain in (6) is the local argument structure (ARG-ST) on which the reflexive appears. For (6) to apply, this ARG-ST must contain at least one other, more prominent element. In this case, the reflexive must be bound. If these conditions are not met, the reflexive becomes exempt.

⁴ There are three major differences between the formulations given in Pollard and Sag (1994) and Branco and Marrafa (1999) on the one hand, and the formulations used here. First, the relevant principles constrain reflexives and not anaphors. Depending on the exact formulation of Principle A, certain reflexives do not become anaphoric in the strict sense. Second, we have made the conditional formulation of the principles explicit. This move will become clear in section three. Third, the formulations of Principle A for English in Pollard and Sag (1994) and for Portuguese *ele próprio* in Branco and Marrafa (1999) stipulate the individual conditions on binding distance and binding domain, while we follow Kiss (2001) in deriving these specifications from (5).

The conditions imposed on the binding domain in (7) are more lax than the ones imposed in (6). The formulation of Principle A for Portuguese in (7) does not consider the local argument structure of the reflexive, but the larger structure that is confined by the a-command relation. In addition, it is only required that a more prominent element in this larger domain has to be found in order to require the reflexive to become bound. The somewhat paradoxical effect of loosening the conditions is that *fewer* reflexives become exempt. This is so because it is much easier *not* to find a more prominent element in a local ARG-ST than *not* to find a more prominent element in the larger domain defined by a-command.

ARG-ST is not just considered to be an attribute of *words*, but may occur on *phrases* as well. Hence the value of an ARG-ST can be complex in the sense that an *argument structure* may contain other *argument structures*. We define the *argument structure domain* of an element α as the largest complex *argument structure* of which the local argument structure on which α is realized forms a part. A *maximal argument structure domain* of a reflexive is the largest argument structure which contains the local argument structure of the reflexive as one of its parts.

A-command can now be considered as a relation imposed on complex ARG-STs, where parametric variation may in part be accounted for by defining which elements occur on ARG-ST.⁵

(8) a. *Local A-Command:*

An element α locally a-commands β if α is realized to the left of β on the same ARG-ST as β .

b. *A-Command:*

An element α a-commands an element β if α locally a-commands β , or the local argument structure of α embeds the argument structure domain of β .

Pollard and Sag (1994:376) argue against ARG-ST (a.k.a. SUBCAT) occurring on phrases because it would allow a selection of embedded arguments and hence violate the locality of subcategorization. But this assumption is only correct if one assumes that ARG-ST appears inside *synsem*. If one assumes, however, that ARG-ST appears outside of *synsem*, i.e. as an attribute of *sign*, the problem disappears. We thus assume that ARG-ST is an attribute appropriate for *sign* and that it is projected according to an independent principle, which builds up complex argument structures by replacing *synsem-objects* appearing on ARG-ST by the value of the ARG-ST of the sign corresponding to the *synsem-object*.⁶ Returning to the Portuguese examples in (3) and (4), the subject of the matrix verb, being the most prominent element in the maximal argument structure domain of any reflexive, is the sole element for which a more prominent element in a complex argument structure cannot be found. Hence it should not come as a surprise that Portuguese *ele próprio* in matrix subject position actually becomes exempt. With respect to the distribution of *si próprio*, we follow Manzini and Wexler (1987:424) and assume that parameters are not set for individual languages but for individual lexeme categories. This means that Portuguese shows two different instances of Principle A, one for short-distance, and one for long-distance reflexives.

3. On the Non-Existence of Inverse Binding

⁵ As a case at hand, consider adjuncts. Pollard and Sag (1994) assume that adjuncts do not participate in a-command relations in English, while Kiss (2001, 2003) shows that adjuncts play a role in a-command relationships in both Portuguese and German. In the present proposal this difference can be accounted for by simply assuming that the occurrence on ARG-ST is subject to language-specific settings.

⁶ This move is reminiscent to Pollard and Sag's suggestion that domination in terms of o-command has to be understood as domination of the corresponding *signs*, cf. Pollard and Sag (1994:253fn6).

Based on the idea of complex argument structures discussed in the previous section, we can formulate language-specific versions of Principle A, derived from (5) by instantiating the values for binding domain and binding distance. We consider three different binding domains, where the third domain has the *prima facie* unusual property of suspending the relevance of the domain itself. The first domain is the local argument structure domain, as illustrated for English in (6), the second domain is the maximal argument structure domain, which is relevant in Portuguese, as illustrated in (3). Finally, the third domain does not consist of an argument structure but considers the whole clause. If the third domain applies, this means that not only reflexives in a certain domain but all reflexives require to be bound. Applying the third domain thus strictly speaking means that the domain in which the reflexive is realized does not play a role. In many languages, exemptness of reflexives leads to ungrammaticality. We explain this by assuming that the binding domain is not important for the determination of anaphoric properties of reflexives in these languages. If this is the case, Principle A is not formulated as a conditional but applies to every reflexive.

The characteristic properties of the relevant domains can be identified by referring to a-command properties of the reflexives, as given in (9)

- (9) Domains (formulated in terms of a-command):
- a. Local: The local argument structure of the reflexive contains an a-commander of the reflexive, i.e. the reflexive is locally a-commanded.
 - b. Maximal: The maximal composed argument structure domain of the reflexive contains an a-commander, i.e. the reflexive is a-commanded.
 - c. Clausal: Each reflexive is considered, without a-command playing a role.

The required binding distances are summarized in (10). Binding distance is not relevant to the question whether a reflexive may become exempt. This means that exemptness is a property of both short distance and long distance reflexives.⁷

(10) Binding Distance:

The binder of a reflexive α is

- a. a local a-commander of α ,
- b. a minimal a-commander of α , or
- c. an a-commander of α .

For the languages under consideration here, in addition to the principles given for English and Portuguese, the following formulations for Principle A can be derived from (5) by assuming the different settings listed in (9) and (10):⁸

(11) Principle A (German):

A reflexive must be minimally a-bound.

(12) Principle A (Korean):

A reflexive must be a-bound.

We see that German and Korean differ from English and Portuguese in that Principle A is not formulated as a conditional in the former languages. If the binding domain is irrelevant for Principle A, the language in question does not show exempt reflexives. We can thus offer the following generalization on inverse binding in terms of a conditional formulation of Principle A.

(13) *Inverse Binding*:

⁷ For a definition of *minimal* vs. *local* a-command, the reader is referred to Kiss (2001). For the present purposes, it suffices to assume that German reflexives have to be bound in the smallest S in which they appear.

⁸ The formulation in (11) for German *sich* is also applied to Portuguese *si próprio*, the distribution of which seems to be very similar to German reflexives. For Korean, cf. Gill (2000).

‘Inverse binding’ of a reflexive is only possible under a conditional formulation of Principle A.

The generalization in (13) can be translated into simply prose as: inverse binding is only possible if the language in question shows exempt reflexives. In other words, we claim that cases like (1), (2b), and (4b) are not instances of binding at all, but cases of coindexation of an otherwise exempt reflexive. This conclusion is further corroborated by the ungrammaticality of inverse binding in German (14) and Korean (15).

(14) *Bilder von sich_i gefielen den Kindern_i.
 Pictures of self pleased the children.

(15) *Caki_i-uy sacin-i Byong-Rae_i-lul hwana-key hay-ss-ta.
 self-*gen* picture-*nom* Byong-Rae-*acc* angry-*conn* caus-*pret-decl*

In addition, the principles introduced in (6), (7), (11), and (12) offer an explanation for the distribution illustrated in (16).

- (16)a. *Ulrich_i sagte, dass Bilder von sich_i den Kindern gefielen.
 Ulrich said that pictures of self the children pleased
- b. O João_i disse que estas fotos dele_i próprio assustaram o Luís.
 The João said that these pictures of-him self frighten the Luís
 ‘João said that these pictures of himself frighten Luís.’
- c. Jongbok_i-i caki_i-uy sacin-i Byong-Rae-lul hwana-key hay-ss-ta-ko
 Jongbok-*nom* self-*gen* picture-*nom* Byong-Rae-*acc* angry-*conn* caus-*pret-decl-comp*
 malha-yss-ta.
 say-*pret-decl*
 ‘Jongbok_i said that his_i own picture made Byong-Rae angry.’
- d. Paul_i said that these pictures of himself_i frightened John.

The ungrammaticality of (16a) alongside (14) is not surprising, given that reflexivization is strictly clause-bound in German. The grammaticality of (16d) follows from the exemptness of the reflexive. The more interesting cases are (16b) and (16c). The formulation of Principle A for Portuguese in (7) and for Korean in (12) does not just allow the coindexations in (16b) and (16c). They are actually required.⁹ In the case of Portuguese, this follows from the observation that *ele próprio* is a-commanded in (16b). In the case of Korean, the coindexation is required since *caki* requires an antecedent. By the same line of reasoning, the examples in (17) are correctly rendered ungrammatical.

- (17)a. *A Ana disse que estas fotos dele_i próprio assustaram o Luís.
 The Ana said that these pictures of-him self frighten the Luís
 ‘Ana said that these pictures of himself frighten Luís.’
- b. Jongbok-i caki_i-uy sacin-i Byong-Rae_i-lul hwana-key hay-ss-ta-ko
 Jongbok-*nom* self-*gen* picture-*nom* Byong-Rae-*acc* angry-*conn* caus-*pret-decl-comp*
 malha-yss-ta.
 say-*pret-decl*
 ‘Jongbok said that his_i own picture made Byong-Rae_i angry.’

The contrast between (16b) and (16c) on the one hand, and (17a) and (17b) on the other, cannot easily be accounted for in a theory which assumes that inverse binding exists. An analysis like the one of Belletti and Rizzi would assume that the coindexations in (17) are just fine, while the ones in (16b, c) fall outside the scope of their theory. In the present proposal, they follow from two assumptions: First, an element can only be exempt if it is not

⁹ For Portuguese, cf. Branco and Marrafa (1999:171) and Kiss (2003:167), for Korean, cf. Gill (2000).

(locally) a-commanded. Second, exemptness may only emerge if the binding domain is not suspended in the formulation of Principle A.

4. Prospects and Challenges

The present paper assumes that inverse binding is the result of exempt reflexives occurring in a language. Different formulations of Principle A for individual languages can be derived from different instantiations of *binding distance* – which may be short, intermediate or long-distance –, and *binding domain*. Only a conditional formulation of Principle A, which restricts the binding domain, gives rise to exemptness in a language.

It should be noted, however, that even in the languages that do not allow inverse binding we find certain cases where a reflexive may occur apparently without an antecedent. Consider the following example from German:

- (18) Der unerschütterliche Glaube an sich macht ihn stark: *Oliver Kahn*.
The unwavering belief in self makes him strong: *Oliver Kahn*.

The significance of examples like (18) is hard to estimate. The general ungrammaticality of free reflexives is not only illustrated in (14) but also confirmed in Frey (1993), and Kiss (2001) among others. Still, corpus research reveals that examples of the type (18) occur, albeit rarely. A possible explanation may assume that *Glaube an sich* is actually a kind of idiomatic expression and as such does not form a counterexample to the present proposal.¹⁰ This issue must await future research.

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¹⁰ This conjecture is further supported by the circumstance that most examples found in corpus search show idiomatic properties, as e.g. *Achtung vor sich* (self-esteem).