

On French Possessive *son propre* ('his own'): Evidence for an Interaction between In- tensification and Binding

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1 Introduction

1.1 Theoretical background and goal of the study

Some typological studies (cf. König and Siemund: 2005) document a striking empirical fact about binding and intensification: in many languages, the elements that serve as reflexives are either identical to the elements serving as adnominal intensifiers (e.g. English *himself*, Chinese *ziji*, French *lui-même*) or partially overlap with adnominal intensifiers (e.g. German *sich selbst*, Dutch *zichzelf*, Danish *sig selv*).

Nevertheless, most binding theoretical accounts of reflexives (cf. Chomsky: 1981; Pollard and Sag: 1992; Reinhart and Reuland: 1993...etc) have not taken into consideration this fact for a long time. Only in the mid-nineties, several researchers (cf. Baker: 1995, Zribi-Hertz: 1995...) began to examine the close link between intensifiers and reflexives. The essence of these studies¹ consists in separating intensification and binding into two independent modules of the grammar.

In this paper, I will show that the link between reflexives and intensifiers must be taken into account in theoretical analyses of binding, but in a different way: binding and intensification do not constitute separate modules in the grammar, but interact with each other. To this end, I will use the example of the French complex possessive *son propre* (e.g. 1) because it has specific properties that reveal this phenomenon in a particular way: the correlations that the analysis of *son propre* brings to the fore cannot appear in the study of better analyzed expressions such as *himself*.

- (1) Cécile a invité son propre frère.
Cécile has invited her own brother
'Cécile invited her own brother'

*Thanks a lot to Dominique Sportiche and Daniel Büring for useful advice and discussion.

¹See Bergeon: 2004 for a detailed realization of this theoretical direction.

1.2 Background about *propre* in French - Distribution and readings of possessive *son propre*, target of the study

This study will concentrate on *propre* meaning 'own'.² More specifically, I will focus on *propre* combining with the possessive determiner *son*³ and I will call it possessive *propre*.

Possessive *propre* is identifiable by its DP-internal distribution: even if it looks like an adjective (in particular, it agrees in number with the head noun⁴), possessive *propre* has a unique distribution different from the distribution of French adjectives. It presents the following characteristics:

1. It can only occur in a possessive DP expressing both a possessor and a posses-

²The term *propre* presents various other uses in French, which are also historically related to Latin *proprius* ('exclusively belonging to, peculiar to'). Here is a classification proposed by some dictionaries:

- a. *propre* can mean 'clean':

- (i) Ce mouchoir n'est pas propre.
This handkerchief NEG is not PROPRE
'This handkerchief is not clean.'

- b. *propre* can mean 'peculiar to':

- (ii) C'est une coutume propre au Berry.
It is a custom PROPRE to the Berry
'It's a custom peculiar to the Berry region.'

- c. *propre à* can mean 'liable to':

- (iii) Voici des déclarations propres à rassurer les investisseurs.
Here are some statements PROPRE to reassure the investors
'These are statements liable to reassure investors.'

- d. *propre* has some other particular uses:

- (iv) Le rire est le propre de l'homme.
The laugh is the PROPRE of the human being
'Laughing is peculiar to human beings.'

- (v) au sens propre
in the sense PROPRE
'in the literal sense'

- (vi) appartenir en propre
belong in PROPRE
'to belong exclusively to'

- (vii) amour-propre
love-PROPRE
'self-esteem'

³The possessive determiner *son* in French agrees in gender and number with the possessum (unlike English 'his') and in person with the possessor.

⁴The presence of a plural marker (e.g. *ses propres enfants* 'his own children') is made clear by the liaison phenomenon.

sum:

- (2) son propre chien 'his own dog'
his own dog
- (3) votre propre chien 'your own dog'
your own dog
- (4) le propre chien de Jean 'John's own dog'
the own dog of John
- (5) *le propre chien
the own dog
- (6) *propre Jean
own John

2. It is exclusively prenominal⁵:

- (7) sa propre voiture 'his own car'
his own car
- (8) #sa voiture propre
his car own
- (9) la propre voiture de Jean 'John's own car'
the own car of John
- (10) #la voiture propre de Jean
the own car of John

3. It cannot be used predicatively:

- (11) #son chien est propre
his dog is own
- (12) #il a un chien propre
he has a dog own

4. It cannot coordinate with any adjective:

- (13) son premier chien 'his first dog'
his first dog
- (14) *son propre et premier chien
his own and first dog

⁵But the examples (8),(10), (11) and (12) are fine if *propre* means 'clean'.

- (15) *son premier et propre chien
his first and own dog

5. It is only compatible with the definite determiner: it cannot combine with indefinites and quantifiers.

- (16) le propre chien de Jean 'John's own dog'
the own dog of John

- (17) *un propre chien de Jean
a own dog of John

- (18) *quelques propres chiens de Jean
some own dogs of John

- (19) *deux propres chiens de Jean
two own dogs of John

So possessive *propre* has a very specific DP-internal distribution different from the adjectival distribution of the other uses of *propre*, which makes possessive *propre* easily identifiable. It will be the target of this study since it is in the particular environment where it occurs that interesting properties arise with respect to binding and intensification.

Possessive *son propre* presents three main readings⁶ as illustrated in the following sentences: the paraphrases in (b) make the differences clear.

- *possessor propre*: *propre* contrasts the possessor with another individual: in (20), Paul is opposed to Jean, as rendered by the construction *à* + strong pronoun in the paraphrase in (b):

- (20) a. Jean a pris sa propre voiture au lieu d'emprunter encore
Jean has taken his own car instead of borrow again
celle de Paul.
that of Paul
'Jean took his own car instead of borrowing Paul's again'
- b. Jean a pris sa voiture à lui au lieu d'emprunter encore
Jean has taken his car to him instead of borrow again
celle de Paul.
that of Paul

⁶A possible fourth reading occurs in sentences such as the following ones, which involve verbs of possession:

- (i) Luc possède son propre avion.
'Luc owns his own plane.'
- (ii) Anne veut avoir son propre appartement.
'Anne wants her own apartment.'

- *possessum propre*: *propre* contrasts the possessum with another individual and contains a notion of surprise: in (21), the passers-by are contrasted with Michel's children, whose murder by their father is unexpected; this is shown by the addition of *même* 'even' in the paraphrase in (b):

- (21) a. Dans un moment de folie, Michel n'a pas seulement tué
in a moment of madness Michel has not only killed
deux passants: il a tué ses propres enfants.
two passers-by he has killed his own children
'In a moment of madness, Michel not only killed two passers-by, but
also his own children'
- b. Dans un moment de folie, Michel n'a pas seulement tué
in a moment of madness Michel has not only killed
deux passants, il a même tué ses enfants.⁷
two passers-by he has even killed his children

- *agentive propre*: *propre* indicates that the participant is the only agent and is not assisted with this action; it can be paraphrased with agentive *lui-même* 'himself' (cf. Hole 2002),

- (22) a. Claire a créé son propre site internet.
Claire has created her own website
'Claire created her own website.' (without any help)
- b. Claire a créé son site internet elle-même.
'Claire created her website herself.'

1.3 Outline of the study

I will focus on the first two readings of possessive *son propre* to shed light on the presence of a link between binding and intensification. It will be argued that the complex behavior of this expression can only be understood if one pinpoints the specific intensifying properties of *propre* and correlate them with the binding properties of *son propre*.

First, I will show that *propre* behaves like a flexible intensifier specialized in possessive DPs: its semantic effect consists in contrasting either the possessor (possessor *propre*) or the possessum (possessum *propre*) with a set of contextually determined alternatives.

Then, I will argue that these double intensifying properties of *propre* correlate with the binding properties of *son propre*. In the first case (possessor *propre*), *son propre* exhibits anaphoric properties. More specifically, when *propre* intensifies the possessor,

⁷Of course, both possessor *propre* and possessum *propre* involve possessors, but the difference is the target of the contrast with contextual alternatives. Thus, a paraphrase involving the construction preposition *à* + strong pronoun would be weird in the context of (21), since it is not question of any other children: Michel's children can only be contrasted with other individuals, not with other children. Conversely, a paraphrase with *même* 'even' would not be suitable in (20) since there is no notion of unexpectedness in this case with respect to possessor: Jean's car is not less expected than Paul's car to be taken by Jean. This will be made clearer in the analysis.

i.e. the referent of the antecedent of *son propre*, *son propre* behaves like an anaphor or a logophor (long distance anaphor): either it obeys the syntactic constraints of binding theory (principle A) or it follows the constraints of logophoricity. In the second case however (possessum *propre*), neither of these requirements holds: *son propre* obeys constraints different from binding. This means that the binding properties of *son propre* depend on the intensification of the referent of its antecedent. Therefore, the case of *son propre* shows that intensification and binding interact with each other.

This empirical result should have important consequences on linguistic theory, given that binding and intensification are not supposed to apply at the same level: the syntactic principles of the binding theory deal with the distribution of pronominal and anaphoric elements (cf. Chomsky 1981, Pollard and Sag 1992, Reinhart and Reuland 1993, Huand and Liu 2001...) while the semantic and pragmatic principles of intensification deal with the distribution of intensifiers, which belong to focusing devices (cf. König and Siemund 2000, Eckardt 2001, Bergeton 2004...). Therefore, this paper leads to question the locus and the principles of the binding theory and the intensification module. However, these crucial theoretical issues cannot be addressed in detail here, since this would go far beyond the scope of this paper. The aim of this article is mainly to establish empirical facts: it presents new data and correlations that raise crucial issues for binding theory and intensification.

2 *Propre* and intensification: *propre* as a flexible intensifier specialized in possessive DPs

The goal of this section is to show that *propre* behaves like a flexible intensifier specialized in possessive DPs: its semantic effect consists in contrasting either the possessor (possessor *propre*) or the possessum (possessum *propre*) with a contextually determined set of alternatives.

2.1 First case: possessor *propre*

Let's compare the two following sentences:

- (23) a. Anne_i a présenté son_i travail devant la classe.
Anne has presented her work in front of the class
'Anne presented her work to the class.'
- b. Anne_i a présenté son_i propre travail devant la classe.
Anne has presented her own work in front of the class
'Anne presented her own work to the class.'

Both sentences are true in the same situation where Anne worked on a topic and set out her results: the presence of *propre* does not change the truth-conditions of (23b) as compared to (23a).

However, the two sentences do not have the same felicity conditions: (23b) is felicitous only if some other work is relevant in the discourse background to be contrasted with Anne's work. For example, (23b) could be felicitous in the following context: in this

linguistics class, the students can choose between presenting articles written by well-known researchers or results of the research that they conducted themselves; instead of presenting someone else's work, the student Anne chose to tell about the results that she got herself. Thus, *propre* requires some other contextually salient referent(s) that play(s) the role of alternative(s): *propre* imposes a contrastiveness condition.

More specifically, the alternatives induced by *propre* in this case target the possessor;⁸ that's why I call this first case possessor *propre*. Thus in (23b), the referent of Anne is contrasted with another contextual possessor, i.e. some well-know researcher.

This means that possessor *propre* has an effect similar to focusing the possessor by stressing it:⁹

- (24) Anne_i a présenté SON_i travail devant la classe.
 Anne has presented her work in front of the class
 'Anne presented HER work to the class.'

2.2 Second case: possessum *propre*

In the first case called possessor *propre*, the semantic effect of *propre* consists in contrasting the referent of the possessor with a contextually determined set of alternatives. We observe a second case in which the alternatives target the possessum, as illustrated by the following example. I call it possessum *propre*.

- (25) a. Arnaud_i est devenu si insupportable que sa_i fille a cessé de
 Arnaud is become so unbearable that his daughter has stopped of
 lui rendre visite.
 him visit
 'Arnaud has become so unbearable that his daughter stopped visiting him.'
- b. Arnaud_i est devenu si insupportable que sa_i propre fille a
 Arnaud is become so unbearable that his own daughter has
 cessé de lui rendre visite.
 stopped of him visit
 'Arnaud has become so unbearable that his own daughter stopped visiting him.'

⁸Note that *propre* can also target the possessor if it is expressed by a prepositional phrase *de X*, although it is not judged as good as the other case by all native speakers of French.

- (i) Donc me voilà débarquant dans un appartement plus grand que le propre appartement de
 so me here turning up in a apartment more big than the own apartment of
 mes parents en France! [attested on Google]
 my parents in France
 'And then, I was turning up at an apartment that was bigger than my parents' own apartment in France!'

⁹The capital letters are not meant to transcribe a precise prosodic phenomenon here (a detailed prosodic analysis of the sentence would be required for that), but only indicate some kind of stress related to focus.

As in the case of *possessor propre*, both sentences are true in the same situation, but they have different felicity conditions: alternatives come into play in (25b).

However, it is not the referent of the possessor that is targeted in this sentence: Arnaud – the possessor – is not contrasted with other fathers. Rather, it is Arnaud’s daughter – thus the possessum – that is contrasted with other individuals. For example, (25b) would be felicitous in the following context: Arnaud’s friend and Arnaud’s cousin have already stopped visiting Arnaud because he is too bad-tempered. Thus, *propre* targets the possessum in this case¹⁰ since it is the referent of the whole possessive DP *sa fille* (‘his daughter’) that is contrasted with other individuals¹¹. Furthermore, as opposed to possessor *propre*, possessum *propre* requires an ordering of the alternatives on a scale of likelihood: the individual intensified by *propre* corresponds to an unlikely one in the context: in (25b), Arnaud’s daughter is less likely than his friend or his cousin to stop visiting him.

This means that in this case, *propre* has an effect comparable to focusing the possessum by stressing it as shown in (26).

- (26) Arnaud_i est devenu si insupportable que sa_i FILLE a cessé de lui rendre visite.
 Arnaud is become so unbearable that his DAUGHTER has stopped of him visit
 ‘Arnaud has become so unbearable that his daughter stopped visiting him.’

To sum up this section, *propre* has two possible interpretations: it can contrast either the possessor (*possessor propre*) or the possessum (*possessum propre*) with a contextually determined set of alternatives. That’s in this sense that *propre* can be considered as a flexible intensifier specialized in possessive DPs.

¹⁰As in the previous case, the possessum can also be targeted when the possessor is expressed by a prepositional phrase *de X*: here, the referent of the victim’s son is contrasted with other individuals:

- (i) Le meurtrier présumé qui a été placé en hôpital psychiatrique n’est autre que le propre fils **de la victime**. [attested on google]
 the murderer presumed who has been placed in hospital psychiatic NE is other than the own son of the victim
 ‘The presumed murderer who has been placed in a psychiatric hospital in no other than the victim’s own son.’

¹¹The example (25b) could suggest that it is not the possessum individual, but rather the relation (‘daughter’) that is contrasted with other relations (‘friend’ or ‘cousin’ in the context). But this is incorrect: it is not necessary that the alternatives be related to the possessor as shown by the following example. In the example below, at least one of the salient alternatives – the witness – does not stand in a specific relationship to John. Therefore, the relation of motherhood cannot be contrasted with other relations; it is rather the individual referent of John’s mother that is contrasted with other individuals.

- (i) Ce n’est pas la victime qui a dénoncé Jean_i, ni un témoin, c’est sa_i propre mère qui l’a dénoncé!
 it NE is not the victim who has denounced John nor a witness it is his own mother who him has denounced
 ‘It’s not the victim who denounced John, nor a witness, it’s his own mother who denounced him!’

2.3 Formalization: *propre* as a Flexible Intensifier Counterpart of *même* in Possessive DPs

2.3.1 *Selbst* and *propre*

The main semantic intuitions about *propre* are similar in several respects to the intuitions that have been reported for German *selbst* ('-self'; cf. French *-même*) referred to as an intensifier. So based on the analysis that has been proposed for *selbst*, I will argue that *propre* is a counterpart of the intensifier *-même*¹² in possessive DPs and that *propre* therefore falls into the class of intensifiers.¹³

It has been argued (Eckardt: 2001, Hole: 2002) that the focus accent that is typically observed on *selbst* leads to a Rooth-style focus meaning of *selbst* (cf. Rooth: 1985, 1992): *selbst*, which does not make a difference in the ordinary denotation, makes a crucial difference in the focus meaning by introducing alternative functions on the domain of individuals. The focus meaning of *selbst* is the set of all functions which map individuals to other individuals. Thus in (27), *selbst* does not change the truth-conditions of the sentence, but involves alternatives to the referent of the DP to which it adjoins, namely here, alternatives to the referent of the king.

- (27) Der König selbst wird teilnehmen.
 the king himself will attend
 'The king himself will attend.'

Here are therefore the meanings that have been proposed for *selbst*:

- Ordinary meaning

$$\llbracket \text{selbst} \rrbracket^o = \lambda x_e . x$$

- Focus meaning

$$\llbracket \text{selbst} \rrbracket^f = \{f_{\langle e, e \rangle} : f(x) \neq x\}^{14}$$

Similarly, *propre* has no semantic effect in the narrow sense: truth-conditions remain unchanged. Moreover, *propre* has a semantic effect in that it relates to alternatives. Thirdly, *propre* bears focal stress itself. That's why I propose that *propre* like *selbst* falls into the class of intensifiers.

Nevertheless, *propre* exhibits several specificities as compared to *selbst*. First, as shown in the introductory section, it has a distribution restricted to possessive DPs. Moreover, as argued in the second section, it presents flexible intensification: the alternatives it involves target either the possessor or the possessum. Therefore, I am going to argue that *propre* corresponds to two specific type-lifted variants of the identity function in focus, with two different targets for the identity function (possessor or possessum).

¹²I assume here that the analysis provided for German *selbst* can be adapted to French *-même*.

¹³See Charnavel: 2010 for more details about the semantic analysis of *propre*.

¹⁴This is the formulation proposed by Hole (2002), who purposefully chooses not to include the identity function in the set of alternatives even if strictly speaking, a p-set à la Rooth has the focused element in it.

2.3.2 The Ordinary Meaning of *propre*

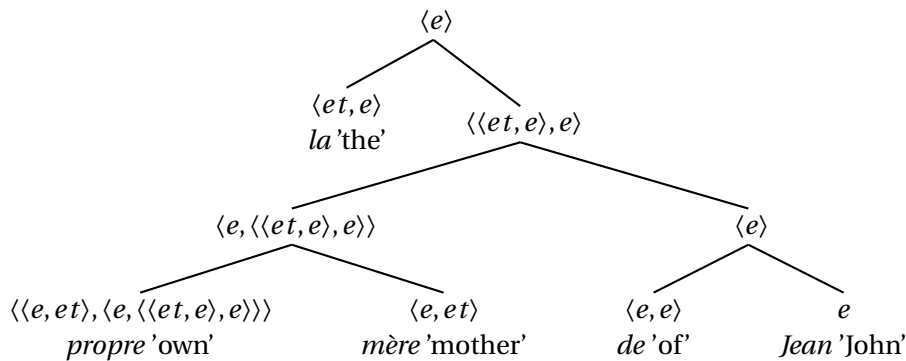
I propose that the right analysis can be derived if we formulate the two following ordinary meanings for possessor *propre* and possessum *propre*:

- $\llbracket \text{possessor propre} \rrbracket^o = \lambda R. \lambda x. \lambda a. a(R(ID(x)))$
- $\llbracket \text{possessum propre} \rrbracket^o = \lambda R. \lambda x. \lambda a. ID(a(R(x)))$
 - *ID* is the identity function on the domain of individuals: $\langle e, e \rangle$
 - *R* is a variable over possessive relations: $\langle e, e \rangle$
 - *x* is a variable over individuals: $\langle e \rangle$
 - *a* is a specific kind of choice function defined for singleton sets: $\langle et, e \rangle$

These denotations capture three main aspects of *propre*: (a) its distribution in definite possessive DPs (b) its vacuous meaning with respect to truth-conditions and (c) its flexibility in intensification.

- (a) First, these denotations predict the right distribution for *propre*: it has to combine with a possessive relation (*R*, which is commonly expressed by a relational noun), a possessor individual (*x*), and it is only compatible with definite articles, as opposed to indefinite articles or quantifiers, as predicted by *a*, which corresponds to the definite article (cf. $THE = \lambda P. \iota x P(x)$).
- (b) Moreover, this ordinary meaning is vacuous with respect to the truth-conditions since neither the identity function nor the simple combination of the possessive relation, the individual and the definite article can yield a semantic effect in the narrow sense. Thus, this correctly predicts that *la propre mère de Jean* ('John's own mother') has the same ordinary meaning as *la mère de Jean* ('John's mother'), as illustrated in (24). This is the case whether we deal with possessor *propre* or possessum *propre*, since the fact that the identity function takes different arguments in both cases does not make any difference in the ordinary meaning¹⁵.

(28) *la propre mère de Jean* 'John's own mother'



¹⁵Note that in the case of non relational nouns, I suppose as is standard the presence of an abstract POSS ($\lambda f_{et}. \lambda x_e. \lambda y_e. f(y) = 1$ and *y* is possessed by *x*).

Moreover, in the case of the possessive determiner *son* ('his'), I assume that *son* is decomposed into *le* 'the' and *de lui* ('of him').

- $[[\textit{propre}]]^o = \lambda R_{e,et}.\lambda x_e.\lambda a_{et,e}.a(R(ID(x)))$
- $[[\textit{mère}]] = \lambda x_e.\lambda y_e.y \text{ is mother of } x$
- $[[\textit{propre mère}]]^o = \lambda x_e.\lambda a_{et,e}.a([\lambda x_e.\lambda y_e.y \text{ is mother of } x](ID(x)))$
- $[[\textit{de}]] = \lambda x_e.x$
- $[[\textit{Jean}]] = [[\textit{de Jean}]] = \text{John}^{16}$
- $[[\textit{propre mère de Jean}]]^o = \lambda a_{et,e}.a([\lambda x_e.\lambda y_e.y \text{ is mother of } x](ID(\text{John}))) = \lambda a_{et,e}.a(\lambda y_e.y \text{ is mother of John})$
- $[[\textit{la}]] = \lambda f_{et}$; and there is exactly one x such that $f(x)=1$. the unique y such that $f(y) = 1$
- $[[\textit{la propre mère de Jean}]]^o = \text{the unique } y \text{ such that } [\lambda y_e.y \text{ is mother of John}](y) = 1 = \text{the unique } y \text{ such that } y \text{ is mother of John}$

(c) Thus, the denotation for the ordinary meaning of *propre* expresses the vacuity of *propre* with respect to the truth-conditions. However, it crucially predicts a difference in the focus meaning of possessor *propre* and possessum *propre*: since the identity function takes two different arguments (possessor (x) or possessum ($a(R(x))$)), two different contrast-sets of alternatives are involved. In other words, this scope difference of the identity function predicts the flexibility in intensification of *propre*. This will be made clearer by examining the focus meaning of *propre*.

2.3.3 The Focus Meaning of *propre*

Like *selbst*, *propre* is stressed and this is the case for both possessor and possessum *propre*.¹⁷

This empirical observation suggests that *propre* is in focus, and this will predict the effect of *propre* on the felicity conditions of the sentence. While *propre* does not contribute anything to the meaning of the sentence, it will become meaningful if it is in focus: focused *propre* will, like any other focused item, evoke focus alternatives that will enter in the meaning of the respective focus construction.

Therefore, I propose that *propre* has a focus meaning à la Rooth (1985, 1992): the focus meaning of an item in focus is the set of all type-identical alternatives to it. However, the case of *propre* is a little more specific: since *propre* denotes a type-lifted variant of the identity function, I assume that the focus alternatives of *propre* are type-lifted variants of other functions from D_e to D_e ¹⁸: *propre* in focus relates to alternative functions on the domain of individuals.

¹⁶The preposition *de* ('of') is considered to be semantically vacuous here because of the presence of the relational noun *mère* ('mother'), that already expresses the relational meaning.

¹⁷This is at least the case in my dialect of French. Note however that this seems to be different for German *eigen* or English *own* according to several German and English speakers: in these two cases, possessor *propre* is stressed whereas possessum *propre* is not, but the possessee is.

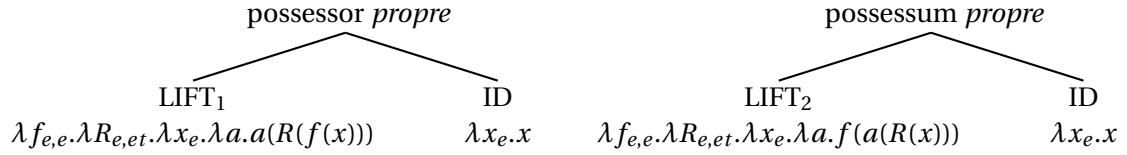
a) possessor *own*: his OWN daughter (cf. German: seine Elgene Tochter)

b) possessum *own*: his own DAUGHTer (cf. German: seine eigene TOCHter)

¹⁸I adopt here the same strategy as Eckardt, who proposes type-lifted variants of the identity function for adverbial *selbst* (2001: 381).

$\llbracket \text{propre} \rrbracket^f = \{\text{Lift}_n(f) \mid f \text{ is a contextually salient alternative to } ID\}$ for appropriate lifts Lift_1 – Lift_2 .

To this end, two lifts are necessary depending on which argument the identity function takes (the possessor or the possessum):



Thus, since focus on *propre* generates alternative functions on the domain of individuals, I predict that focused *propre* indirectly induces a set of alternative individuals in D_e , as shown below.

- Let a be the referent of the element intensified by *propre*.
- Let $\{f_1, f_2, f_3, \dots, f_k\}$ be salient alternatives to ID in the given context C .
- Here is the induced set of alternatives to a in D_e ¹⁹ in context C :
 $Alt(C)(a) = \{f_1(a), f_2(a), f_3(a) \dots f_k(a)\}$

Note that it is the context that restricts the potentially infinite set of individuals to the salient alternatives relevant in the discourse situation. Also, this analysis does not say anything about the truth of the alternatives, which correctly predicts that alternative propositions to the sentence including focused *propre* may be true (additive reading; cf. 25b) or false (exclusive reading; cf. 23b).

Let's apply this analysis to example (23b) repeated here:

- (29) Anne_i a présenté son_i propre travail devant la classe.
 Anne has presented her own work in front of the class
 'Anne presented her own work to the class.' = (23b)

As shown above, this is an example of possessor *propre* since in this context, Anne is contrasted with researchers whose work could have presented by her too: instead of presenting other researchers' work, Anne presented her own work. Thus, the ordinary meaning of *propre* is the following one, where the identity function takes the possessor individual as argument:

$$\llbracket \text{propre} \rrbracket^o = \lambda R.\lambda x.\lambda a.a(R(ID(x)))$$

Therefore, the focus meaning of *propre* in this sentence is the set of type-lifted variants (using Lift_1) of contextually salient alternative functions to the identity function, i.e. the set of type-lifted1 variants of salient functions from individuals to individuals except for the identity function. Let's suppose that Anne could have presented the work of three possible researchers. The relevant alternative possessors in the context are then these three researchers, and there are three contextually salient alternative functions to the identity function, namely the functions that take Anne as argument and return one of the three researchers; I call these functions r_1, r_2, r_3 .

$$\llbracket \text{propre} \rrbracket^f = \{\text{Lift}_1(f) \mid f_{\langle e,e \rangle} \text{ is a contextually salient alternative to } ID\}$$

$$f_{\langle e,e \rangle} \in \{r_1, r_2, r_3\}$$

¹⁹I borrow this name from Eckardt (2001: 382).

Therefore, the induced set of alternatives to Anne in the domain of individuals is as follows:

$$Alt(C)(Anne) = \{r_1(Anne), r_2(Anne), r_3(Anne)\}$$

Thus, the focus semantic value of (25) is the following set of propositions:

$\llbracket \text{Anne a présenté son [propre]}_F \text{ travail devant la classe} \rrbracket^f = \{\text{Anne presented } x\text{'s work to the class} / x \in Alt(C)(Anne)\}$

This correctly means that the focus semantic meaning of the sentence 'Anne presented her own work to the class' is the alternative proposition 'Anne presented some researcher's work to the class.'

Possessum propre works the same except that alternatives are ordered on a scale of likelihood: *possessum propre* induces a scalarity effect, that is the proposition containing the intensified element is an unlikely one as compared to the alternative propositions. For example in (25b) (repeated below), Arnaud's daughter is an unlikely individual to stop visiting Arnaud among the contextual alternatives Arnaud's cousin and Arnaud's friend.

- (30) Arnaud_i est devenu si insupportable que sa_i propre fille a cessé
 Arnaud is become so unbearable that his own daughter has stopped
 de lui rendre visite.
 of him visit
 'Arnaud has become so unbearable that his own daughter stopped visiting him.'
 =(25b)

This is the same kind of scalarity effect as the one induced by the focus sensitive particle *même* but the difference consists in the absence of an existential presupposition in the case of *propre*.

To account for this scalarity effect, I propose that *possessum propre* is associated with a silent element *even* that triggers a scalar presupposition. This is probably related to the possibly hidden *even* involved by minimizers (cf. Heim 1984) that denote the low endpoint of the contextually relevant pragmatic scale as illustrated in (29):

- (31) He didn't $\langle \text{EVEN} \rangle$ lift a finger.

I have thus argued that *propre* is a counterpart of *-même* in possessive DPs. Like *-même*, *propre* is an intensifier, and its specificities come from its restricted distribution in possessive DPs: it is a flexible intensifier in that it can intensify either the possessor or the possessum.

3 *Son propre* and binding: interaction between intensification and binding

The goal of this section is to argue that the intensifying properties of *propre* interact with the binding properties of *son propre*: *son propre* exhibits anaphoric properties only when the possessor (referent of its antecedent) –vs. the possessum– is intensi-

fied²⁰.

Target of intensification (<i>propre</i>)	Binding properties (<i>son propre</i>)
Possessor (= referent of the antecedent of <i>son</i>)	Anaphoric
	Logophoric
Possessum	Neither

3.1 Possessor *son propre*: anaphoric and/or logophoric properties

In this subsection, I show that *son propre* exhibits anaphoric or/and logophoric properties when *son* is associated with *possessor propre* (*possessor son propre*): when it is the possessor that is intensified by *propre*, *son propre* behaves like an anaphor, which can be long distance bound if the antecedent is a logophoric center.

3.1.1 First case: anaphoric *son propre*

When the referent of the possessor, i.e. the antecedent, is inanimate, possessor *son propre* has anaphoric properties, unlike the pronoun *son*. As stated by the principle A of Binding Theory, this means that *son propre* needs to be locally bound, i.e. it requires a locally c-commanding and coindexed antecedent.

- Principle A of Binding Theory (cf. Chomsky 1981, 1986 and subsequent revisions of it): an anaphor must be bound in its domain.

The following sentences, which involve possessor *propre*, illustrate the c-command requirement.

- (32) a. [Cet hôtel] protège sa_k (*propre*) plage sans se préoccuper des
 this hotel protects its own beach without SE care of the
 plages des hôtels voisins.
 beaches of the hotels neighboring
 'This hotel protects its (own) beach without caring about the beaches of the neighboring hotels.'
- b. Les clients de [cet hôtel]_k préfèrent sa_k (**propre*) plage à celles des
 the guests of this hotel prefer its own beach to the ones of the
 hôtels voisins.
 hotels neighboring
 'The guests of this hotel prefer its (*own) beach to the beaches of the neighboring hotels.'

²⁰All the judgments for the data in this section have been informally checked with a few other native speakers of French. Moreover, I have just made a more systematic questionnaire involving many speakers of French, which verifies the pattern presented here. For timing reasons, it cannot be presented here, but will be presented in future work.

In (32a), both *sa propre plage* ('its own beach') and *sa plage* ('its beach') license *cet hôtel* ('this hotel') as antecedent. However, in (32b), *cet hôtel* ('this hotel') is only a possible antecedent for *sa plage* ('its beach'), not for *sa propre plage* ('its own beach'). Since the crucial difference between the two sentences is that *cet hôtel* ('this hotel') does not c-command *sa (propre) plage* ('its (own) beach') in (32b), but does in (32a), this means that *sa propre plage* as opposed to *sa plage* needs to be c-commanded by its antecedent.

Moreover, the binder must be local, as exemplified by the following sentence.

- (33) [Ce pont]_j a bénéficié du fait que les autorités ont donné plus
 this bridge has benefited of the fact that the authorities have given more
 d'avantages à son_j (*propre) architecte qu'à celui du musée.
 of benefits to its own architect than to the one of the museum
 'This bridge benefited from the fact that the authorities provided more benefits
 to its (*own) architect than to the architect of the museum.'

In (33), *son architecte* ('its architect') licenses the long-distance antecedent *ce pont* ('this bridge'), but *son propre architecte* ('its own architect') does not.

Therefore, the following generalization holds:

In the case of inanimate possessors, possessor *son propre* is a complex possessive anaphor obeying principle A of Binding Theory (as formulated by Chomsky 1981, 1986 and subsequent revisions).

3.1.2 Second case: logophoric *son propre*

However, this generalization does not hold for animate possessors, as illustrated by the following contrast:

- (34) a. [Ce pont]_j a bénéficié du fait que les autorités ont donné plus
 this bridge has benefited of the fact that the authorities have given more
 d'avantages à son_j (*propre) architecte qu'à celui du musée.
 of benefits to its own architect than to the one of the museum
 'This bridge benefited from the fact that the authorities provided more
 benefits to its (*own) architect than to the architect of the museum.'
- b. [Le patron de cette entreprise]_j a bénéficié du fait que les
 the boss of this company has benefited of the fact that the
 autorités ont donné plus d'avantages à ses_j (propres) employés
 authorities have given more of benefits to his own employees
 qu'à ceux de son concurrent.
 than to the one of his competitor
 'The boss of this company benefited from the fact that the authorities pro-
 vided more benefits to his (own) employees than to the employees of his
 competitor.'

(34b) shows that *ses propres employés* ('his own employees') licenses a long-distance antecedent *le patron de cette entreprise* ('the boss of this company') as opposed to *son propre architecte* ('its own architect') in (34a). Since the crucial difference is that the possessor is animate in (34b), this means that *son propre* does not require a local binder

when the possessor antecedent is animate.²¹

Similarly, it is not always true that *son propre* must be c-commanded by its antecedent in the case of animate possessors:

- (35) a. L'opinion de Sébastien_j portait autant sur sa_j (propre) mère
 the opinion of Sébastien was about as much on his own mother
 que sur la mère de sa femme.
 than on the mother of his wife
 'Sébastien's opinion was as much about his (own) mother than about his
 wife's mother.'
- b. Le sujet de [l'article]_j contredisait autant son_j (*propre) titre
 the topic of the article was contradicting as much its own title
 que le titre du film en question.
 than the title of the movie in question
 'The topic of the article was as much in contradiction with its (*own) title
 than the title of the movie in question.'

(35a) contrasts in this respect with (35b) since *sa propre mère* ('his own mother') licenses the animate non c-commanding antecedent *Sébastien* in (35a), while *son propre titre* ('its own title') cannot have the inanimate non c-commanding *l'article* ('the article') as antecedent in (35b). So, in the case of animate antecedents, *son propre* does not require a locally c-commanding antecedent.

Therefore, *son propre* seems to fall into the class of long-distance anaphors such as Mandarin Chinese *ziji* (cf. Huang and Liu 2001), which pose a challenge to the standard theory of anaphor binding. The hypothesis that has been proposed in such cases is the theory of logophoricity (cf. Huang and Liu 2001; Giorgi 2007...): long-distance anaphors are logophoric, i.e. they do not have to obey the syntactic constraints of binding, but the constraints of logophoricity requiring that the antecedent be a center of perspective of the sentence. This idea is based on the fact that some West African languages have specific pronouns used to express the perspective of the person they refer to. The term logophor has been originally coined for such cases (cf. Hagège 1974) and has then been extended to situations in other languages where the usual rules of binding do not apply, that is in the case of long distance anaphors, which have their antecedents outside their binding domains (e.g. Mandarin Chinese *ziji*).

I propose that *possessor son propre* supports this hypothesis: possessor *son propre* can be long distance bound if it is logophoric. This means that in such cases, *son propre* refers to a specific type of antecedent, namely a logophoric center: the antecedent refers to a person whose words, thoughts or point of view are being reported.²² More

²¹It would be worth defining the notion of locality and the anaphoric domain in detail; but since I do not have space to investigate all the relevant examples here, I simply assume for now that the anaphoric domain is the clause; this approximation is sufficient for my purposes here.

²²Sells (1987) proposes three primitive roles for the antecedent of logophors and he suggests that these roles characterize certain cross-linguistic variations:

- a- Source: the one who is the intentional agent of the communication,
- b- Self: the one whose mental state or attitude the proposition describes,
- c- Pivot: the one with respect to whose (time-space) location the content of the proposition is evaluated.

specifically, I argue that *son propre* belongs to the class of logophors that require a *de se* reading.²³

The distinction between *de re* and *de se* readings corresponds to the distinction between the report of the knowledge of the speaker and that of the knowledge of the referent of the antecedent (cf. Chierchia 1989). This means that the antecedent of *son propre* corresponds to a logophoric center if and only if its referent is aware of the reflexivity of the possession, i.e. if and only if its referent could knowingly say *mon propre* ('my own').

Thus, I propose that the *de se* reading is the primitive property defining *son propre* as a logophor. This property is therefore sufficient as a diagnostic for logophoricity. However, for methodological reasons, I also use two other properties that derive from this one to identify logophoric *son propre*, because they are clearer diagnostics, i.e. animacy and consciousness of the referent of the antecedent. *De se* reading entails consciousness of the referent of the antecedent since it is necessary to be conscious to be able to knowingly say *mon propre*. Moreover, consciousness entails animacy, and therefore, by transitivity, animacy of the referent of the antecedent is also entailed by the *de se* reading. That's why following Huang and Liu (2001), I use the following three criteria as diagnostics for the logophoricity of possessor *son propre*: (a) animacy of the referent of the antecedent; (b) consciousness of the referent of the antecedent; (c) *de se* reading.

(a) Animacy of the referent of the antecedent. As already suggested in the pair (34) repeated here as (36), the referent of the antecedent has to be animate to license logophoric *son propre*. Put another way, possessor *son propre* does not require a locally c-commanding antecedent if the referent of the antecedent is a center of perspective, and this is possible only if it is animate.

- (36) a. [Ce pont]_j a bénéficié du fait que les autorités ont donné plus
this bridge has benefited of the fact that the authorities have given more
d'avantages à son_j (*propre) architecte qu'à celui du musée.
of benefits to its own architect than to the one of the museum
'This bridge benefited from the fact that the authorities provided more
benefits to its (*own) architect than to the architect of the museum.'
- b. [Le patron de cette entreprise]_j a bénéficié du fait que les
the boss of this company has benefited of the fact that the
autorités ont donné plus d'avantages à ses_j (propres) employés
authorities have given more of benefits to his own employees
qu'à ceux de son concurrent.
than to the one of his competitor
'The boss of this company benefited from the fact that the authorities pro-
vided more benefits to his (own) employees than to the employees of his
competitor.'

²³Mandarin Chinese *ziji* in Huang and Liu's dialect (2001:19) or Italian *proprio* (cf. Giorgi 2007:333) also belong to this class of logophors.

Ses propres employés ('his own employees') in (36b) licenses a long distance antecedent *le patron de l'entreprise* ('the boss of the company'), but the long distance antecedent *ce pont* ('this bridge') in (36a) for *son propre architecte* ('its own architect') is ungrammatical. This is so because 'the boss of the company' can be a perspective-holder in (36b) as opposed to 'this bridge' in (36a). This difference can be easily diagnosed by the animacy of the referent of *le patron de l'entreprise* vs. *ce pont*.

(b) Consciousness of the referent of the antecedent. Similarly, the center of perspective of a sentence has to be conscious; therefore, if the referent of the antecedent is not conscious, logophoric *son propre* is not possible, as shown by the following contrast:

- (37) a. [Le pharaon]_i a beaucoup aimé les embaumeurs qui à présent
the Pharaoh has a lot liked the embalmers who at present
prennent soin de son_i (*propre) corps.
take care of his own body
'The Pharaoh had liked a lot the embalmers who are now taking care of his
(*own) body.'
- b. [L'esprit du pharaon]_i devait penser que les embaumeurs prenaient
the spirit of the Pharaoh must think that the embalmers took
bien soin de son_i (propre) corps.
well care of his own body
'The Pharaoh's spirit was probably thinking that the embalmers were tak-
ing great care of his (own) body.'

In (37a), the Pharaoh is dead, therefore not conscious, and this diagnostic shows that the Pharaoh cannot be the center of perspective of the sentence. Thus, *son propre corps* ('his own body'), which is not locally c-commanded by *le pharaon* ('the Pharaoh'), is not possible, as predicted by the logophoricity hypothesis. However in (37b), *son propre corps* ('his own body') can be long distance bound by *l'esprit du pharaon* ('the Pharaoh's spirit') because the referent of this antecedent is conscious, thus a possible center of perspective.

(c) De se reading. The *de se* reading is the strictest criterion to define the logophoric center in the case of possessor *son propre*. The context of Beaumarchais's *Marriage of Figaro* can exemplify this property: in this setting, the maid Marceline knows that Suzanne will marry Figaro, but she does not know until the end of the play that Figaro is her own son. In this context, the following contrast holds:

- (38) a. Marceline_i disait que Suzanne allait épouser son_i (# propre) fils.
Marceline said that Suzanne was going to marry her own son
'Marceline said that Suzanne would marry her (# own) son.'
- b. Marceline_i disait que Suzanne avait épousé son_i (propre) fils.
Marceline said that Suzanne had married her own son
'Marceline said that Suzanne had married her (own) son.'

If (38a) is uttered at the beginning of the play, the *de se* reading is not available since Marceline does not know yet about her motherhood. Therefore, as predicted by the lo-

gophoricity hypothesis, she cannot be the center of perspective and Marceline cannot long-distance bind *son propre fils* ('her own son'): *son propre* cannot be logophoric in this case. However, if (38b) is uttered at the end of the play, the sentence is appropriate because Marceline knows at that time that Figaro is her son; thus, Marceline is the center of perspective according to the criterion that I propose, which licenses the long distance anaphor *son propre fils* ('her own son'). This contrast demonstrates that the *de se* diagnostic appears to be the most relevant one to define the notion of logophoric center in the case of possessor *son propre*. Conversely, this means that if the *de se* reading is not available, possessor *son propre* cannot be logophoric and has therefore to be an anaphor requiring a locally c-commanding antecedent.

To sum up, the following generalization holds for possessor *son propre*:

Possessor son propre is either an anaphor obeying the syntactic constraints of anaphoricity (local c-commanding antecedent) or a logophor obeying the discourse-related constraints of logophoricity (antecedent as perspective holder).²⁴

3.2 Possessum *son propre*: no anaphoric properties

While *possessor son propre* exhibits anaphoric properties, I show in this section that *possessum son propre* does not. This argues for the presence of an interaction between binding and intensification: when the possessor, i.e. the referent of the antecedent of *son propre*, is intensified, anaphoric properties arise, but it is not the case when it is the possessum that is intensified.

As illustrated by the following examples, *possessum son propre* lacks both anaphoric and logophoric properties:

- (39) a. [Ce pont]_i a l'air très fragile. Son_i (propre) architecte a demandé
 this bridge has the air very fragile its own architect has asked
 un contrôle de sécurité.
 a control of security
 'This bridge looks very fragile. Its (own) architect asked for a safety check.'
- b. [Ce pont]_i a l'air très fragile. Son_i (* propre) architecte a reçu
 this bridge has the air very fragile its own architect has received
 moins de moyens que tous les autres architectes des ponts de la
 less of means than all the other architects of the bridges of the
 région.
 area
 'This bridge looks very fragile. Its (* own) architect got less means than all
 the other architects of the bridges of the area.'
- c. [Cet enfant]_i a l'air très perturbé. Sa_i (propre) mère passe moins
 this child has the air very disturbed his own mother spends less
 de temps à la maison que toutes les autres mères des enfants de
 of time at the house than all the other mothers of the children of

²⁴Note that the sets of anaphoric and logophoric uses of *son propre* are not in complementary distribution, but overlap since their properties are not exclusive of each other. Thus, *possessor son propre* can be both anaphoric and logophoric if its antecedent both locally c-commands it and is the center of perspective (*de se* reading).

la classe.

the class

'This child looks very disturbed. His (own) mother spends less time at home than all the other mothers of the children in the class.'

In (39b), *son propre architecte* ('its own architect') is a case of *possessor propre*: this bridge is contrasted with other bridges as 'possessors' of an architect. In (39a) however, *propre* intensifies the possessum: the bridge's architect is opposed to other individuals who would ask for a safety check too, and he is an unlikely individual among the alternatives to express such a request since he designed the bridge himself. Crucially, this difference in intensification correlates with a difference in binding: (39b) is ungrammatical if it includes *propre* because *son propre architecte* ('its own architect') is an anaphor requiring a local antecedent, but (39a) is grammatical because *son propre architecte* ('its own architect') does not exhibit binding properties. In other terms, this contrast shows that *possessum son propre* does not require a local antecedent and therefore argues for the non anaphoric status of *possessum son propre*.

Moreover, the same example shows that *possessum son propre* also lacks logophoric properties. Recall that *possessor son propre* may be long distance bound if the antecedent is a logophoric center and we established that a logophoric center has to be animate. That's why (39b), which presents the inanimate *ce pont* ('this bridge') as antecedent of *possessor son propre*, is ungrammatical with *propre*, while (39c), in which *possessor son propre* has the animate *cet enfant* ('this child') as antecedent, is grammatical: it is because a child, unlike a bridge, can be a center of perspective that (39c), unlike (39b), is well-formed. However, the sentence (39a), in which *propre* does not intensify the possessor, but the possessum, is crucially grammatical, even if *son propre architecte* ('its own architect') has the inanimate *ce pont* ('this bridge') as long distance antecedent. This demonstrates that *possessum son propre*, unlike *possessor son propre*, lacks anaphoric and logophoric properties altogether.

So as opposed to *possessor son propre*, *possessum son propre* does not obey any binding constraints: its antecedent does not have to c-command it, nor to be local. Moreover, it does not have to be non c-commanding or non local either, as shown by the following example:

- (40) Dans un moment de folie, après avoir tué les voisins, Michel_i a
 in a moment of madness after have killed the neighbors Michel has
 tué ses_i propres enfants.
 killed his own children
 'In a moment of madness, after he killed the neighbors, Michel killed his own children.'

To sum up, *possessor son propre* obeys the constraints of anaphoricity or/and the constraints of logophoricity while *possessum son propre* does not. As shown in the second section, *possessor son propre* intensifies the possessor, i.e. the referent of the antecedent of *son propre*, while *possessum son propre* intensifies the possessum. Crucially, this correlation therefore shows that there is an interaction between the modules of binding and intensification: it is only when the referent of its antecedent is intensified that *son propre* needs to be bound.

4 Conclusion

Son propre is a piece of evidence for the existence of an interaction between intensification and binding in two respects:

- First, *possessor son propre* has to obey anaphoric or logophoric constraints while *son* does not. This shows that the intensifier *propre* turns the pronoun *son* into a (long distance) anaphor.

Besides, this also reveals that French has an anaphor that behaves like well-studied anaphors (while otherwise, anaphoric relations are typically coded by the reflexive clitic *se* in French) and a logophor, which is a long distance anaphor: this supports the theory of logophoricity.

- Second, *possessor son propre* has to obey anaphoric or logophoric constraints while *possessum son propre* does not. And crucially, the possessor (vs. the possessum) corresponds to the referent of the antecedent. This shows that it is not the combination of the intensifier and the pronoun *per se* that matters, but the intensification of the referent of the pronoun, corresponding to the referent of the antecedent. Therefore, this argues for the presence of an interaction between intensification and binding.

This correlation is visible due to the semantic specificity of *propre* as a flexible intensifier: *propre* can have two different targets for intensification (the possessor or the possessum), which I formalized as two type-lifted variants of the identity function in focus.

Further investigation would now need to establish how exactly the modules of binding and intensification interact with each other.

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