

On Scalar Readings of French *Propre* ‘Own’

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Introduction

The goal of this article is to derive scalar readings arising in the presence of French possessive *propre* ('own'). The analysis will rely on the presence of a scalarity operator E, thus providing a new and independent argument in favor of the existence of such an operator. Besides the exhaustivity operator O or Exh (akin to *only*), a silent focus sensitive operator E akin to overt *even* has already been proposed, mainly to account for readings involving Negative Polarity Items (NPIs), in particular minimizers (cf. Heim 1984, Krifka 1995, Chierchia 2006, 2013). By examining the scalar readings associated with *propre*, this paper will extend the empirical basis for assuming the existence of E and clarify the conditions necessary for the insertion of E.

The scalar reading of *propre* is illustrated in (1). In these examples, we observe that *propre* seems to trigger a scalarity effect in the sense that the proposition in which it occurs is very low on a scale of expectations.

- (1) a. Médée a tué ses propres ENFANTS !
Medea has killed her own children
'Medea killed her own CHILDREN!'
b. Personne n' a défendu Paul. Sa propre MÈRE a gardé le silence.
nobody neg has defended Paul his own mother has kept the silence
'Nobody defended Paul. His own MOTHER kept silent.'
c. Le propre FILS de la victime a été mis en examen !
the own son of the victim has been put in examination
'The victim's own SON has been indicted!'

The ordering relation creating the scale is not based on logical entailments, but depends on world knowledge, stereotypes or context. Thus the unexpectedness of (1b) relies on the stereotypical world situation that a mother is expected to protect her children in all circumstances; the proposition that Paul's mother kept silent is the least expected among a set of alternatives (e.g. "Paul's neighbor kept silent", "a stranger kept silent"...etc). This scale is similar to that at stake with *même* 'even': the scalarity effect in (1) also obtains by replacing *propre* by *même* (but *même* is not identical in all respects as we will see in section 2.2.):¹

- (2) a. Médée a même tué ses enfants !
Medea has even killed her children
'Medea even killed her children!'
b. Personne n' a défendu Paul. Même sa mère a gardé le silence.
nobody neg has defended Paul even his mother has kept the silence
'Nobody defended Paul. Even his mother kept silent!'
c. Même le fils de la victime a été mis en examen !
even the son of the victim has been put in examination
'Even the victim's son has been indicted!'

¹ In particular, unlike *propre*, *même* presupposes that some alternatives higher on the scale of expectations are true.

The main point will be to show that we need to assume the presence of an implicit operator such as E in order to derive the right scope position in which the scalarity effect associated with *propre* is computed: the scalarity effect can have wide, narrow or intermediate scope, i.e. it can target different propositions irrespective of the position of *propre*.

The second part of the argument will be to explain why *propre*, or more precisely the focused possessive DP containing *propre*, typically associates with *even*-like E. In a nutshell, the contribution of *propre*, which does not affect the truth conditions in that case, is to justify this association by drawing attention to the relevant criterion for highest unexpectedness implied by E. E presupposes that the proposition it scopes over is less expected than its contextually given alternative propositions. As for the adjective *propre*, it is an intensifier specific to possessive relations, i.e. a maximizer that ranks the DP including it at the high end of a possession scale. It is because this scale pragmatically interacts with the unexpectedness scale required by E that DPs involving *propre* typically associate with E even though this association is not obligatory.

(1)' a. E ([Paul's own MOTHER]_F kept silent!)²

Relevance of *propre*: it is because Paul's mother is related to him in the most characteristic way that it is most unexpected that she did not try to defend him.

In section 1, I will present the crucial characteristics of *propre* that will be necessary to motivate the analysis. Sections 2 and 3 constitute the core of the paper: section 2 provides arguments for hypothesizing the presence of E to derive the scalar readings of sentences involving *propre*, and section 3 explains why DPs including *propre* typically associate with E. Finally in section 4, I will discuss how alternative analyses that would not assume the presence of this operator would be problematic.

1. Background about *propre*

Before the arguments for the association of *propre* with E can be explained, some crucial characteristics of *propre* need to be presented.

1.1. Main readings of *propre*

First, *propre* does not only exhibit scalar readings, but presents three main kinds of readings. In the first case, the restrictive adjective *propre* impacts the truth conditions of the sentence.

(3) *Truth-conditional propre*:

[Context: Claire uses two cars, i.e. a professional car and a personal car]

Claire a pris sa propre voiture.

Claire has taken her own car

'Claire took her own car.' [i.e. her personal car]

² Capital letters indicate the prosodic marking of focus; as suggested in Féry (2001), focus seems to be phonologically marked by phrasing in French, not stress; but I will not go into phonological details in this paper and for simplification, I will symbolize focus marking with stress. The subscript F marks the constituent that is replaced by variable elements in the alternatives and the brackets indicate the domain in which the alternatives are computed.

In this example, while *sa voiture* ('her car') could either designate Claire's professional car or her personal car, *sa propre voiture* ('her own car') can only refer to her personal car. Thus *propre* is truth-conditional here: it restricts the set of possible cars in question.

But in the two other cases (including the target of the paper in (1)b repeated in (5)a), *propre* does not change the truth conditions of the sentence, but only the felicity conditions by affecting focus alternatives (note that focus on *propre* is also possible in (3) just as with any adjective, but not obligatory). These two main readings of *propre* differ with respect to the content of the alternatives: either the possessor (4) or the possessum (5) is contrasted with a set of contextually determined alternatives.

(4) *Possessor propre*:

- a. Julie compare sa PROPRE vie à celle de Louise.
Julie compares her own life to that of Louise
'Julie compares her OWN life to Louise's.'
- b. Julie compare SA vie à celle de Louise.
Julie compares her life to that of Louise
'Julie compares HER life to Louise's.'
- c. Julie compare sa vie à ELLE à celle de Louise.
Julie compares her life to her to that of Louise
'Julie compares HER life to Louise's.'

(5) *Possessum propre*:

- a. Personne n' a défendu Paul. Sa propre MERE a gardé le silence.
nobody neg has defended Paul his own mother has kept the silence
'Nobody defended Paul. His own MOTHER kept silent.'
- b. Personne n' a défendu Paul. Sa MERE a gardé le silence.
nobody neg has defended Paul his mother has kept the silence
'Nobody defended Paul. His MOTHER kept silent.'
- c. Personne n' a défendu Paul. Même sa MERE a gardé le silence.
nobody neg has defended Paul even his mother has kept the silence
'Nobody defended Paul. Even his MOTHER kept silent.'
- d. Personne n' a défendu Paul. Sa mère ELLE-MEME a gardé le silence.
nobody neg has defended Paul his mother herself has kept the silence
'Nobody defended Paul. His mother HERSELF kept silent.'

In (4)a, *propre* does not change the truth conditions of the sentence since Julie only has one life. But *propre* is focused, which induces alternatives to the possessor Julie: Julie is contrasted with Louise (that is an explicit alternative here) with respect to her life. I call *propre* under this reading *possessor propre*. (4)a can be paraphrased by focusing the possessive pronoun as in (4)b or by doubling it with a strong pronoun as in (4)c: these are different ways to trigger focus alternatives to the possessor.

In (5)a, *propre* does not change the truth conditions either since Paul only has one mother. But it is this time the possessum that is in focus: the possessor Paul is not contrasted with other sons, but it is the possessum Paul's mother that is contrasted with other individuals. I therefore call *propre* under this reading *possessum propre*. In this case, the focal stress is not on *propre*, but on the head noun, and I assume that focus projects to the whole DP (see a.o. Selkirk: 1996 for details

about focus projection) so that the DP ‘his own mother’, i.e. the possessum, is contrasted with other individuals. Note that as opposed to the previous case of possessor *propre*, there need be no relation of possession that holds for the alternatives: a stranger who just walked into the room could be an alternative to Paul’s mother. Just as the possessor (e.g. Julie) is replaced by another individual in the alternatives in the case of possessor *propre* (e.g. Julie compares x’s life to Louise’s), the possessum (e.g. Paul’s mother) is replaced by another individual in the case of possessum *propre* (e.g. x kept silent). But since unlike the possessor, the possessum structurally includes the possessive relation, the possessive relation does not constrain the set of alternatives in the case of possessum (vs. possessor) *propre*.

Moreover, as opposed to (4)a, (5)a involves a scalarity effect: Paul’s mother is a particularly unexpected individual to keep silent in this context. That’s why (5)a can be paraphrased by focusing the DP as in (5)b or by associating it with *même* ‘even’ in (5)c or the intensifier *elle-même* ‘herself’ in (5)d. This scalarity effect is the target of the paper.

These are not the only readings of *propre*.³ In particular, the alternatives can have different sizes depending on focus projection. For instance, the alternatives could only target the relation denoted by the noun, i.e. ‘mother’ in (5)a, instead of the whole possessum DP, i.e. ‘Paul’s mother’, if the context makes the contrast between *sa propre mère* ‘Paul’s own mother’ and, say, ‘Paul’s own sister’ salient. Conversely, the alternatives could target the whole VP in (1)a if what is salient in the context is that killing one’s own children is the least expected option for Medea. But in this paper, I am primarily interested in the possessum reading of *propre*, namely the reading where the focus alternatives target the possessive DP containing *propre* as in (5)a, because this reading gives rise to the unexpectedness effect that I will derive using E more typically than the other readings (which are nevertheless also compatible with E as we will see).

Note that the same observations seem to hold for English *own* as hinted by the translations of each example, which suggests that the phenomenon is general and does not rely on an idiosyncrasy of French.⁴ I will nevertheless focus on French here: the comparison of *propre* with *même* ‘even’, which will help us identify the scope of the scalarity effect, is more straightforward than that of *own* with *even*, because *même*, unlike *even*, only has surface scope in crucial cases, as we will see in section 2.

1.2. Lexical entry of *propre*

Before turning to the study of the scalarity effect, we crucially need to examine the meaning of *propre* to understand how this effect can arise in its presence. The hypothesis here is that *propre* has the same lexical entry under all its readings; this is motivated by theoretical reasons of economy and by empirical facts as explained below. Specifically, I hypothesize that *propre*

³ Another puzzling reading of *propre*, which will not be treated in this paper, is the one illustrated in (i):

(i) Anne a créé son propre site internet.

Anne has created her own site internet

‘Anne created her own website’, i.e. she made it herself, without help.

Descriptively, it seems that it is the subject of the sentence that is here replaced by other individuals in the focus alternatives (x created Anne’s website).

⁴ Fauconnier (1975) briefly mentions this case in English as a case of pragmatic superlative:

(ii) Iago would betray his own brother.

(Fauconnier 1975: ex. 2)

modifies a possessive relation and characterizes it as most specific; in other words, I take *propre* to be an intensifier -or more precisely a maximizer- specific to possessive relations.

First, *propre* must indeed occur in possessive constructions, i.e. in possessive DPs of the form *son propre N* (as in (6)a and most examples of this paper) or *le propre N de DP* (as in (6)b or (1)c), which are the two possible possessive constructions in French.⁵

- (6) a. sa propre voiture
 his/her own car
 ‘his/her own car’
 b. la propre voiture de Claire
 the own car of Claire
 ‘Claire’s own car’
 c. *la/une propre voiture
 the/a own car
 *‘the/an own car’

Moreover, the semantic contribution of *propre* is to characterize the possessive relation as most specific (or most prototypical). It is well known that possessive relations are subject to flexible interpretations (a.o. Barker 1995, 2011; Storto 2003,). Claire’s car can be the car that Claire owns, but also the car that she uses at work, or a car that she rented, or even, say, a car that she has to advertise. Nevertheless if the context provides several of these options, only the first one is available in the presence of *propre* as shown in (3) repeated below.

- (7) [= (3)] [Claire uses two cars, i.e. a professional car and a personal car]
 Claire a pris sa propre voiture.
 Claire has taken her own car
 ‘Claire took her own car.’ [i.e. her personal car]

If the context does not provide the first option (Claire does not own any personal car or it is not relevant), *propre* is compatible with a looser possessive relation.

- (8) [Claire and Paul are at work, and both have professional cars]

⁵ In older stages of French, *propre* was able to occur in non-possessive DPs as illustrated in (iii).

(iii) Et quant de moy, qui n' ay pas esté gueres loing, j'ay veu des choses que plusieurs ne pourroient
 and as for me who neg have not been very far I have seen of the things that several neg could
 croire sans le veoir. Gervaise propre nous met en exemple d' un chevalier nommé de
 believe without it see Gervaise own us put in example of a knight called of
 Rogier du Chastel Rousset, en la province d'Auxci, qui trouva une faee et la vould avoir a femme.
 Rogier of the Chastel Rousset in the province of Auxci who found a fairy and her wanted have as woman
 (in Jean d'Arras, *Méhusine*, 1392-1393; edited by L. Stouff, Dijon, Bernigaud Priva, 1932; published online by *la Base de français médiéval*, <http://catalog.bfm-corpus.org/melusine>. Last revision on March 30, 2005)
 ‘And as for me, even if I have not travelled very far away, I saw things that many people could not
 believe without seeing. Gervaise himself gives us the example of a knight named Rogier du Chastel de
 Rousset, in the Auxci province, who found a fairy and wanted to make her his wife.’

Here *propre* is attached to the proper name *Gervaise* and has a meaning similar to that of the intensifier *lui-même* ‘himself’. This use, which is found in some current Romance languages like in Spanish with *propio*, is impossible in modern French where *propre* must occur in a possessive construction as shown in (6)c. It would be interesting to investigate how this change from Medieval to Modern French happened, but it is beyond the scope of this paper.

Claire a pris sa propre voiture, et non pas celle de Paul, pour aller voir le
 Claire has taken her own car and not that of Paul for go see the
 client avec lui.
 client with him
 'Claire took her own car, not Paul's, to visit the client with him.'

Here only professional cars are relevant, and *propre* can be used to contrast Claire's professional car to Paul's professional car. This means that in the presence of *propre*, the most specific relation available in the context must be chosen.

This is however the case only if the possessive relation that is available in the context is above a certain threshold of specificity: not any pragmatic relation will do. For instance, Storto (2003) observes that if John and Bill are attacked by wild dogs in the street, we can say that John's dogs were rabid, where *John's dogs* expresses a pragmatic relation between John and the dogs that attacked him. This is however impossible in the presence of *propre*.

- (9) [Yesterday John and Paul were attacked by (different) groups of dogs]
 Jean a eu peur: ses (#propres) chiens semblaient bien plus méchants que ceux de Paul.
 John has had fear his own dogs seemed much more vicious than those of Paul
 'John was afraid: his (#own) dogs seemed to be much more vicious than Paul's.'

Under Storto's analysis, this would mean that *propre* can only modify what he calls 'control relations', namely possessive relations where the possessor has some sort of control of the possessum or of his bearing a relation to the possessum. The relation described in (9) is not a control relation, since John does not have any control of the dogs.

Similar facts are observed in the case of relational nouns. If the head noun of a possessive DP is relational, the content of the possessive typically depends on the content of the relational noun. For instance, Paul's sister denotes the female offspring having the same parents as Paul. But possessives containing a relational head can also receive a pragmatic interpretation on which the possessive relation does not coincide with the lexical relation: Paul's sister can sometimes refer to some female person who has a sibling, and who is related to Paul through some kind of circumstantial association. As in the case of non-relational nouns, *propre* forces us to pick the most specific relation available in the context, typically the relation expressed by the relational noun: *sa propre sœur* 'his own sister' typically refers to Paul's biological sister. If the context does not provide this option, *propre* may still be used as long as the contextual relation is close enough to it: the possessive relation must be very similar to the one lexically expressed by the relational noun for *propre* to be acceptable. Thus, *sa propre sœur* 'his own sister' can be used if Paul only has a half-sister as in (10), but is not felicitous in a context like (11)b even if the possessive pronoun (doubled with a strong pronoun) is felicitous in (11)a.

- (10) [Context: In terms of siblings, Paul only has a half-sister.]
 Paul viendra avec la sœur de Laure et avec sa propre sœur.
 Paul will come with the sister of Laure and with his own sister
 'Paul will come with Laure's sister and with his own sister.'

- (11) [Context: Jeanne and Lucie Dupont are two sisters going to a clinic; Jeanne has an appointment with the dentist and Lucie with the ophthalmologist.]

- a. Le dentiste pense que sa sœur à lui est plus sympathique que celle de l'ophtalmo.
 the dentist thinks that his sister to him is more friendly than that of the ophtalmologist
 'The dentist thinks that HIS sister is more friendly than the ophtalmologist's.'
- b. #Le dentiste pense que sa PROPRE sœur est plus sympathique que celle de l'ophtalmo.
 the dentist thinks that his own sister is more friendly than that of the ophtalmologist
 '#The dentist thinks that his own sister is more friendly than the ophtalmologist's.'

In other words, there is also a threshold of specificity that licenses the use of *propre* in the case of relational nouns: the relation must be similar enough to the relation lexically expressed by the lexical noun.

In sum, possessive nominals containing *propre* refer to the possessive relation that is the most specific one in context, as long as it is specific enough. Note that this holds for all readings of *propre*: focus does not affect this core meaning of *propre* as shown in (9) or (11). *Propre* is thus contentful, even if at first glance it could seem to duplicate the possessive morphology.

This is supported by the fact that *propre* also has a postnominal use and it means 'specific, peculiar to' in this case.

- (12) Ce langage est propre à cette époque.
 this language is own to this time
 'This language is peculiar to this time.'

But the difference between postnominal and prenominal *propre* is that the former has an absolute meaning while the latter has a relative meaning: postnominal *propre* simply means 'specific' while our target prenominal *propre* is a maximizer that characterizes the possessive relation as most specific. Consider the following minimal pairs:

- (13) a. Son rythme propre 'her own rhythm'
 his/her rhythm own
 b. Son propre rythme
 his/her own rhythm
- (14) a. Sa valeur propre 'its own eigenvalue'
 his/her value own
 b. Sa propre valeur
 his/her own value

Assuming that we speak about Anne in (13), *son rythme propre* ('her own rhythm' with postnominal *propre*) refers to the rhythm that is characteristic of her in an absolute way, while *son propre rythme* ('her own rhythm' with prenominal *propre*) designates the rhythm that is associated with her in the closest way, her most characteristic rhythm in some potential comparison class, e.g. the rhythm that she has decided to follow (even if it is not intrinsic to her) as opposed to e.g. the rhythm imposed by her company. The same holds for (14): *sa valeur propre* ('its eigenvalue' with postnominal *propre*) designates a value characteristic of the mathematical object (matrix) under discussion while *sa propre valeur* simply designates the value most closely associated with this matrix (e.g. its value) in some comparison class of values, as opposed to other values (e.g. of other matrices). In other words, prenominal *propre* is interpreted

as relative, i.e. introduces a scale of specificity, and corresponds to the endpoint of the scale in a given context ('the most specific'), while postnominal *propre* is absolute ('characteristic'). This difference in meaning correlates with two morphological differences between prenominal and postnominal *propre*. First, unlike postnominal *propre* in (15)-(16), prenominal *propre* is not gradable: it is not compatible with comparative or superlative morphology or with degree elements as shown in (17)-(18).

(15) un langage plus propre à une situation qu' à une autre
 a language more own to a situation than to an other
 'a language more specific to a situation than to another'

(16) un langage tout à fait propre à une situation
 a language completely own to a situation
 'a language completely specific to a situation'

(17) a. *son plus propre langage
 his/her/its more own language
 b. *le plus propre langage de Jean
 the more own language of John

(18) a. *son tout à fait propre langage
 his/her/its completely own language
 b. *la tout à fait propre langage de Jean
 the completely own language of John

Second, prenominal *propre* can only combine with a definite determiner or a possessive pronoun: even when a possessor is available, other determiners such as indefinites or quantifiers as in (19) are not compatible with prenominal *propre*; this contrasts with postnominal *propre* as in (20).

(19) a. le propre chien de Jean 'John's own dog'
 the own dog of John
 b. *un propre chien de Jean
 an own dog of John
 c. *quelques propres chiens de Jean
 some own dogs of John
 d. *deux propres chiens de Jean
 two own dogs of John

(20) a. le langage propre à cette époque 'the language peculiar to that time'
 the language own to this time
 b. une identité propre⁶ 'a specific identity'
 an identity own
 c. quelques problèmes propres à l'époque 'some problems peculiar to that time'
 some problems own to the time
 d. deux problèmes propres à l'époque 'two problems peculiar to that time'
 some problems own to the time

⁶ Here the possessor is implicit and corresponds to a generic. It can be made explicit as *soi* ('one, oneself') as in:

(iv) Une identité propre (à soi) est utile. 'A specific identity is useful.'
 an identity own to oneself is useful

These differences are explained if unlike postnominal *propre*, prenominal *propre* is a maximizer pointing to the most specific possessive relation in context, which is unique: as degree elements, maximizers are not gradable themselves, and like superlatives,⁷ maximizers are definite. Note that I do not analyze *propre* as a superlative proper though, but as a maximizer, because it does not require any explicit class of comparison in the context. For instance in (1)b repeated below in (21)a, *sa propre mère* ‘his own mother’ does not imply that Paul is related to other mothers, but *le meilleur avocat* ‘the best lawyer’ in (21)b requires other lawyers to be available in the context. We will come back to this point in section 3.2.

- (21) a. [(1)b] *Personne n' a défendu Paul. Sa propre MÈRE a gardé le silence.*
 nobody neg has defended Paul his own mother has kept the silence
 'Nobody defended Paul. His own MOTHER kept silent.'
 b. *Personne n' a défendu Paul. Le meilleur AVOCAT a gardé le silence.*
 nobody neg has defended Paul the best lawyer has kept the silence
 'Nobody defended Paul. The best LAWYER kept silent.'

I thus hypothesize that prenominal *propre* is a maximizer ranking the possessive relation it modifies at the endpoint of the scale without necessarily implying that other similar possessive relations with the same possessor (e.g. in (21)a: other mothers in relation to Paul) are available.

Importantly, I thereby assume that possessive relations are gradable on the dimension of specificity, and I introduce them as a new category that admits degree modifiers.⁸ In the case of relational nouns, the notion of specificity typically depends on the lexical entry of the noun⁹ and in the case of non-relational nouns, it depends on the notion of ownership. In other words, possessive scales can be seen as partly closed: they have a maximum, which corresponds to the lexical content of the relational noun (e.g. mother), or to the notion of ownership in the case of non-relational nouns. (22) and (23) illustrate the two types of possessive scales. Note that I here rank possessums rather than relations themselves on these scales for simplicity of exposition, but it should be kept in mind that the scale is a scale of specificity of (possessive) relations with the possessor, i.e. a scale of properties; for instance “woman who gave birth to the possessor” stands for the degree of specificity of the relation that holds between such a woman and the possessor.

(22) Scale of possessive relations involved in ‘his/her mother’ (relational noun)

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 | woman who gave birth to the possessor (‘mother’)¹⁰
 |

⁷ The following examples illustrate that superlatives have to be definite.

- (v) a. *le pire problème / le problème le pire* b. **un pire problème / *un problème pire*
 the worst problem the problem the worst a worst problem a problem worst
 (vi) a. *le problème le plus gênant* b. **un problème le plus gênant / #un problème plus gênant*
 the problem the most embarrassing a problem the most embarrassing a problem more embarrassing

⁸ Categories that are argued to admit degree modifiers include adjectives (e.g. *very*, *rather*, *perfectly*...), adverbs (e.g. *extremely*, *rather*, *very*...), verbs (e.g. *excessively*, *rather*, *hardly*) and nouns (*real*, *big* or *utter*, cf. Morzycki 2012).

⁹ In most cases, the scale can be seen as a scale of proximity. But the notion of specificity is generally more appropriate: for instance, *les propres ennemis de Claire* ‘Claire’s own enemies’ are Claire’s most specific enemies, namely her personal enemies as opposed to common enemies. The notion of proximity is not appropriate in that case.

¹⁰ In most contexts, we could rank ‘woman who adopted the possessor and was the primary female caretaker for him/her’ at the same level; some contexts (where the difference between adoptive and biological mothers matters) may however rank this relation lower than ‘woman who gave birth to the possessor’.

woman married to the possessor's father and didn't give birth to the possessor ('stepmother')

-----: *threshold T for the use of propre 'own'*

woman who gave birth to someone and is in some circumstantial relation to the possessor

(23) Scale of possessive relations involved in 'his/her car' (non-relational noun)

car owned by the possessor

professional car used by the possessor

rental car used by the possessor

car advertised by the possessor

} control relations

-----: *threshold T for the use of propre 'own'*

car that hit the possessor

....

Thus *propre* is a maximizer that characterizes the possessive relation as maximally specific in the context, as long as it is above the indicated threshold of specificity T . This can be formalized in the lexical entry proposed in (24) associated with the structure in (26).¹¹ In a nutshell, this says that *propre* combines with the nominalization of a saturated possessive predicate and characterizes its degree argument as the contextually maximal one.

I here assume that the possessive predicate POSS (\approx 'possess') defined in (25)a is nominalized as POSSn (\approx 'possession') as in (25)b, which is gradable and thus contains a degree argument d ; the argument n of POSSn (corresponding to *-ion/-ing*) expresses the fact that nominalizations are properties; note that these arguments n and d do not syntactically project. What the adjective *propre* combines with is the gradable property POSSnP defined in (25)c and *propre* indicates that the degree of possession is maximal: $\text{max}_{C,T}$ is the function that returns the maximal value of the scale S_{POSSnP} (gradable on a dimension of specificity) in the context c and that is only defined if that maximal value is above the threshold T ; the scale corresponding to (26) is thus (23).

For simplicity and space reasons, I do not detail the rest of the syntactic derivation here (see author: 2012 for details). Basically, the argument n is existentially closed and the argument corresponding to 'a car' in (26) is (possibly head-internally) relativized (roughly yielding 'the car such that there is maximal possession of it by Claire'); that's why I note it *wh-voiture* 'wh-car' in structure (26).

(24) Lexical entry of *propre*

Definition: $|\alpha|$ is an element of the same type as α

$[[\textit{propre}]] = \lambda|\alpha|[\text{POSSnP}]. \lambda n. \exists d / [d = \text{max}_{C,T}(S_{\text{POSSnP}}) \ \& \ \text{POSSnP}(n)(d)]$

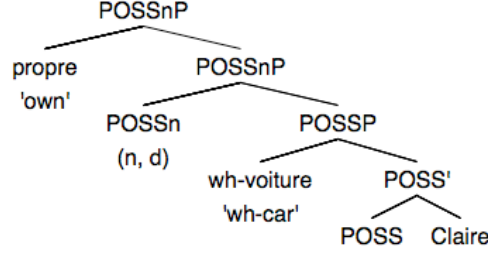
(25) Possessive predicates

a. $[[\text{POSS}]] = \lambda x. \lambda y. \text{POSS}(x)(y)$

¹¹ The possessive construction *sa propre voiture* 'her own car' has the same structure, except that it involves further syntactic movement (of the possessor argument), which I will not detail here for simplicity and space reasons.

- b. $[[\text{POSSn}]] = \lambda | \text{POSSP} |. \lambda d. \lambda n. \text{POSSn}(\text{POSSP})(n)(d)$
c. $[[\text{POSSnP}]] = \lambda d. \lambda n. n \text{ is the property of POSSP such that POSSP holds true at degree } d$

(26) Structure of *la propre voiture de Claire* ‘Claire’s own car’



(27) Derivation of *la propre voiture de Claire* ‘Claire’s own car’

- a. $[\text{POSS}' \text{ POSS Claire}]$
 $\rightarrow \lambda x. \text{POSS}(x)(\text{Claire})$
- b. $[\text{POSSP wh-voiture POSS Claire}]$
 $\rightarrow \lambda x. \text{POSS}(\text{wh-car})(\text{Claire})$
- c. $[\text{POSSnP POSSn wh-voiture POSS Claire}]$
 $\rightarrow \lambda d. \lambda n. n \text{ is the property of } \text{POSS}(\text{wh-car})(\text{Claire}) \text{ such that } \text{POSS}(\text{wh-car})(\text{Claire})$
holds true at degree } d
i.e. $\lambda d. \lambda n. n \text{ is the relation between a car and Claire at a degree of specificity } d$
- d. $[\text{POSSnP propre POSSn wh-voiture POSS Claire}]$
 $\rightarrow \lambda n. \exists d / [d = \max_{C,T} (S_{\text{POSSnP}}) \ \& \ n \text{ is the property of } \text{POSS}(\text{wh-car})(\text{Claire}) \text{ such that}$
 $\text{POSS}(\text{wh-car})(\text{Claire}) \text{ holds true at degree } d$
i.e. $\lambda n. n \text{ is the maximally specific relation between a car and Claire in the context}$
- e. $[\text{DP la propre POSSn wh-voiture POSS Claire}]$
 $\rightarrow \text{the unique individual } x \text{ such that } x \text{ is a car \& there is a maximally specific}$
relation between } x \text{ and Claire in the context}

Note that the structure and the derivation are completely parallel in the case of relational nouns like *mère* ‘mother’: *la propre mère de Claire* (‘Claire’s own mother’) ultimately means ‘the unique individual x such that x is a mother & there is a maximally specific relation between x and Claire in the context’.

In most contexts, this maximally specific relation turns out to be ownership for non-relational nouns such as ‘car’ and the relation expressed by the lexical content of the noun for relational nouns like ‘mother’.¹²

With this background on *propre* in mind, we are now equipped to examine the scalarity effect typically arising in the presence of *propre* in the case of possessum *propre*. The main point to remember from section 1 is that in all readings (irrespective of focus and the type of head noun), *propre* is a maximizer specific to possessive relations: *propre* modifies a (saturated) possessive

¹² The independent syntactic differences between relational and non-relational nouns can be explained in different ways (see a.o. Partee and Borshev 2003, Barker 2011 for reviews) : as suggested by a reviewer, we could for instance suppose that *mother* is intrinsically a two-place relation and it is here type-shifted using Barker’s (1995) detransitivization type-shifter; or we could suppose that relational nouns incorporate POSS.

relation and characterizes it as the most specific one in context as long as it is above a certain threshold of specificity.

2. Association with E of the possessive DP containing *propre*

Recall the reading that we want to account for: it is the possessum reading of *propre*, under which the possessive DP including *propre* is focused.

- (28) [=1b] Personne n' a défendu Paul. [Sa propre MERE]_F a gardé le silence.
 nobody neg has defended Paul his own mother has kept the silence
 'Nobody defended Paul. His own MOTHER kept silent.'

Example (28) exhibits a scalarity effect in the sense that as compared to alternatives, Paul's mother is the least expected individual to keep silent in this context.

As mentioned by a reviewer, note that the notion of expectation is to be refined.¹³ An example like (29) suggests that expectation cannot simply be a probabilistic notion.

- (29) Caroline est vraiment maladroite, elle abîme toujours tout. Cette fois, elle a
 Caroline is really clumsy she damages always everything this time she has
 déchiré son propre CANAPE !
 ripped her own sofa
 'Caroline is really clumsy. This time, she ripped her own SOFA!'

Supposing that Caroline spends a lot of time on her sofa, it does not seem to be less expected that she damaged her sofa rather than other things. In fact, given that she is probably more often around her own belongings and that she is more careful around other people's belongings, it is more likely that she ripped her own sofa as compared to other people's belongings. But this is still unexpected according to a certain stereotype about the behavior of people with respect to ownership, namely that people attach great value to what belongs to them and don't want it to get damaged, *a fortiori* because of themselves. In sum, the notion of expectation is dependent on the context ('expected according to c'): our scalarity effect implies that the proposition is lowest on a scale of expectation according to a certain stereotype that can pragmatically vary.

In this section, I will provide arguments for analyzing the scalarity effect of examples like (28) or (29) as deriving from the presence of an implicit focus sensitive operator E akin to overt *even*, which associates with the possessive DP containing *propre*. Then in section 3, I will explain why DPs involving *propre* typically associate with E.

2.1. The operator E in the literature

In parallel to the exhaustivity operator O akin to *only* (cf. Chierchia, Fox and Spector: 2011), an operator akin to overt *even* has been argued for, in particular by Krifka 1995 (cf. *Emph.Assert*)

¹³ The exact nature of the scale has been debated in the case of *even* (and scalar *only*). Whether we need a notion of likelihood, expectedness, pragmatic entailment, informativeness, noteworthiness or something else is still controversial. See Rullmann (2007) for a review of this issue.

and Chierchia 2006 (cf. E). Both authors propose that this operator is associated with NPIs; the basic idea is that negative polarity *any* in English has the same meaning as an indefinite like *some*, plus domain widening.

- (30) a. I didn't see any boy. (Chierchia 2006: 558)
 ≈ I didn't see even one boy.
 b. Yesterday, Mary saw any student that wanted to see her. (Chierchia 2006: 539)

In a nutshell, Chierchia (2006) hypothesizes the existence of a silent focus sensitive operator E in order to give a unified account of polarity sensitivity through domain widening (cf. Kadmon and Landman 1993, Lahiri 1998). Polarity sensitive elements include negative polarity items such as *any* in negative contexts as in (30)a and free choice items like *any* meaning 'whatever' in positive contexts as in (30)b. The intuition behind the domain-widening hypothesis is that as we communicate, we select domains of discourse as our subject matter. In (30), *any boy* or *any student* is used with such a domain in mind: the set of boys or students relevant and salient in the context could for example correspond to the boys or the students in this class. Domain widening consists of considering domains of individuals broader than what one would otherwise have considered. Thus the use of *any* in (30) invites the hearer to consider a set of boys possibly larger than expected: in (30)a, not only didn't I see any boy in this class but not even any boy in this school; similarly in (30)b, Mary saw all the students who wanted to see her, even marginal students like students on leave for instance. In technical terms, domain widening amounts to the activation of a series of domain alternatives, out of which the largest quantification domain (in quantitative and qualitative terms) gets selected. Importantly, it is only in negative contexts that such broadening of the quantificational domain yields stronger propositions, which explains the distribution of NPIs. Chierchia proposes to formalize the idea by giving to *any* a lexical entry with activation of alternatives and by assuming the existence of the modes of enrichment O and E giving rise to *only*- and *even*-like implicatures depending on the nature of the alternatives (i.e. whether they contain totally or partially ordered propositions). In short, the contribution of E is to exhaustify alternatives activated by NPIs and minimizers, and the way this works explains their distribution.

The basic idea is similar in Krifka's (1995) paper: a NPI activates alternatives with smaller domains and this triggers an implicature that the alternative selected is the strongest the speaker has evidence for. Moreover, Krifka assumes a difference between the weak use of NPIs (e.g. *any*) which associate with a scalar operator akin to O (*Scal.Assert*) and their strong use (e.g. stressed *any*, *any at all* as in (31)a): only in the second case are borderline cases taken into consideration and the assertion is not scalar, but emphatic in that it carries the implicature expressed by the word *even* in the paraphrase; this is formalized using the operator *Emph.Assert*. The same type of assertion occurs with minimizers as in (31)b and emphatic focus as in (31)c.

- (31) a. Mary didn't get ANYthing (at ALL) for her birthday. (Krifka 1995: 226)
 b. NO friend of mine lifted a FINGER. (Krifka 1995: 231)
 c. John would distrust Albert SCHWEITZER ! (Krifka 1995: 227)

My hypothesis is that E is similarly responsible for the scalarity effects arising in the presence of possessum *propre* (I will henceforth call this hypothesis the E operator hypothesis). I do not argue for the presence of E to derive a specific distribution as in the case of NPIs or minimizers

(*propre* does not behave like a NPI as will be explained in section 4.2.), but a specific interpretational effect, namely a scalarity effect, as in the case of emphatic focus.

I adopt a lexical entry for E similar to Chierchia (2006)'s and Krifka (1995)'s as shown in (32): like overt *even*, the focus sensitive operator E presupposes that the proposition p it scopes over is the lowest one on a scale of expectations (i.e. the alternatives q are more expected).

- (32) $\llbracket E \rrbracket(p) \neq \#$ iff $\forall q ((q \in C \wedge q \neq p) \rightarrow p < q)$. If $\neq \#$, $\llbracket E \rrbracket(p) = p$
 # indicates presupposition failure
 < means "less expected than"
 C is a set of contextually given alternative propositions, such that $C \subseteq \llbracket p \rrbracket^f$ and $\llbracket p \rrbracket^o \in C$ ($\llbracket p \rrbracket^o$ is the ordinary meaning of p and $\llbracket p \rrbracket^f$ is the focus meaning of p in Rooth's (1992) sense)

This meaning correctly predicts the existence of a scalarity effect in (28)' as shown in (33), which adopts Rooth's (1992) definitions of ordinary and focus meanings. The ordinary meaning of a focus-marked constituent K is noted $\llbracket K \rrbracket^o$ and corresponds to its usual denotation; the focus meaning of K is noted $\llbracket K \rrbracket^f$ and is the set of entities of the same semantic type as K. Informally, the focus semantic value for a phrase of category S is the set of propositions obtainable from the ordinary semantic value by making a substitution in the position corresponding to the focused phrase. A contextual element (antecedent) must be part of that set. This is exemplified below with (28)'.

(28)' E \llbracket His own MOTHER \rrbracket_F kept silent \rrbracket .

- (33) a. $\llbracket (28)' \rrbracket^o = 1$ iff Paul's mother kept silent
 b. $\llbracket (28)' \rrbracket^f = \{x \text{ kept silent} / x \in D_e\}$
 c. E $\llbracket (28)' \rrbracket$ presupposes that:
 $\forall q ((q \in C \text{ such that } C \subseteq \llbracket (28)' \rrbracket^f \wedge q \neq \llbracket (28)' \rrbracket^o) \rightarrow p < q)$
 i.e. for all individuals other than Paul's mother, it is more expected that they kept silent rather than Paul's mother.

Note that for simplicity, I here suppose that the domain of the scalarity effect is directly determined by the position of E. More precisely in Rooth's (1992) theory, the focus domain is delimited by the squiggle operator \sim , which is the only operator interpreting focus semantic values and constrains the denotation of C as defined in (34).

- (34) $\llbracket \varphi \sim C_i \rrbracket^g = \llbracket \varphi \rrbracket^0$, defined iff
 i. $\llbracket C_i \rrbracket^g \subseteq \llbracket \varphi \rrbracket^f \wedge$
 ii. $\llbracket \varphi \rrbracket^0 \in \llbracket C_i \rrbracket^g \wedge$
 iii. $\exists \varphi \neq \llbracket \varphi \rrbracket^0: \varphi \in \llbracket C_i \rrbracket^g$

In the presence of focus sensitive operators, the squiggle operator \sim is in their scope as in (28)''' since the interpretation of C in their definition requires the presence of \sim . In most cases of this paper, I will nevertheless use the notation in (28)' as a simplification for (28)'''.

(28)''' E \llbracket [His own MOTHER] \rrbracket_F kept silent $\rrbracket \sim C$.

2.2. Dissociating the scope of the scalarity effect from the position of *propre*

My main empirical argument motivating the presence of E in sentences involving possessum *propre* is based on the scope position in which the scalarity effect is computed: crucially, the E operator hypothesis predicts that the scope of the scalarity effect can be dissociated from the position of *propre* and I am going to show that this is borne out.

To first illustrate such a dissociation in a case that does not involve *propre*, let's consider sentence (35) from Heim (1984: 104), which contains the minimizer *so much as a dime*. Heim suggests that minimizers are associated with hidden *even* (namely E in our terms), and hidden *even* can have wide scope with respect to embedded minimizers as illustrated in (35).¹⁴

- (35) a. Every restaurant that charges so much as a dime for iceberg lettuce ought to be closed down.
b. ??Every restaurant that charges so much as a dime for iceberg lettuce actually has four stars in the handbook.

The contrast between (35)a and (35)b shows that the combination of E and the lowest end of a scale (e.g. minimizer *so much as a dime*) is acceptable in the restrictor of a universal only if the relation between the restrictor and the nuclear scope is non-accidental: the predicate in (35)a is something that applies to restaurants because they charge a dime or more for iceberg lettuce whereas the predicate in (35)b just happens to apply to those restaurants. In other words, E has wide scope (over the whole sentence) in (35) as represented in (35)': it does not occur in the restriction of *every* like the minimizer; that's why there is a contrast between (35)a and (35)b.

- (35)' E [Every restaurant that charges so much as a dime for iceberg lettuce ought to be closed down].

Thus the E operator hypothesis predicts that just like minimizers, possessive DPs including *propre* can be embedded while the scalarity effect has wide scope. The rest of section 2.2. will provide different types of configuration showing that this prediction is borne out.

2.2.1. Islands

This can be first tested with sentences involving islands such as (36).

- (36) Luc n'est jamais content; il n'est pas content quand ses propres ENFANTS sont là!
Luc neg is never happy he neg is not happy when his own children are there
'Luc is never happy; he's not happy when his own CHILDREN are here!'

In this case, the DP containing *propre* occurs in an adjunct island, but the scalarity effect is interpreted at the matrix level in stereotypical contexts where people are most happy when their

¹⁴ Guerzoni (2003: 95) explicitly treats similar examples containing overt *even* in terms of scope, showing that in (vii), *even* should be interpreted with wide scope (over the whole sentence).

(vii) a. Every student that even handed in one assignment, got an A.
b. # Every student that even handed in one assignment was wearing blue jeans.

children visit: what is unexpected is not that Luc's children are present, but that Luc is not happy when they are. Therefore, the scalarity effect is interpreted at a position (matrix level) where the DP with *propre* cannot appear even at LF, since movement to that position would violate the island constraint. This follows if the scalarity effect is derived from the presence of E at the matrix level as represented in (36)'.

- (36)' Luc n'est jamais content; **E** [il n'est pas content quand [ses propres ENFANTS]_F sont là!]
 Luc neg is never happy he neg is not happy when his own children are there
 'Luc is never happy; **E** [he's not happy when [his own CHILDREN]_F are here]'

A way to detect the scope of the scalarity effect is to add *même* 'even' to the sentence instead of *propre* (the same holds if we add *même* to the sentence with *propre*). *Même* indeed triggers the same scalar presupposition as E but is overt. Moreover, unlike *even*, *même* cannot scope outside an island (cf. Author 2014). This means that the scalar presupposition of *même* targets the matrix clause in (37)a, but the adjunct island in (37)b. Of course, *même* is here intended to associate with the possessive DP as represented (it could in principle associate with bigger constituents).

- (37) a. Luc n'est jamais content ; [il n'est **même** pas content quand [ses ENFANTS]_F sont là]!
 Luc neg is never happy he neg is even not happy when his children are there
 'Luc is never happy; [he's not **even** happy when [his CHILDREN]_F are here]'
 b. #Luc n'est jamais content ; il n'est pas content quand [**même** [ses ENFANTS]_F sont là]!
 Luc neg is never happy he neg is not happy when even his children are there
 'Luc is never happy; he's not happy when [**even** [his CHILDREN]_F are here]'

(37)b is unfelicitous in stereotypical contexts because it implies that Luc's children are the least expected individuals to be present; (37)a is however fine just like (36): it implies that it is least expected that Luc is unhappy when his children – as compared to other people – visit. In other words, the position of *même* makes explicit the scope of the scalarity effect. Note that *even* behaves differently: the translation of (37)b is acceptable in stereotypical contexts, suggesting that *even* can scope outside islands; this is in fact an argument against the so-called 'scope theory' of *even* as we will discuss in section 4.2. But whatever theory is adopted for *even* or *même*, the point remains: the overt position of *même* (unlike that of *even*) reveals the scope of the scalarity effect and thus the position of E.

Nevertheless note that (37)a and (36)', though equivalent with respect to the scalarity presupposition, are not synonymous. Unlike E, overt *même* also has an additive presupposition as stated in (38)b, i.e. presupposes that at least one alternative is true. This is so under the standard theory of *even* (scope theory); I will explain why I adopt this theory in section 4.2.

- (38) Lexical entry of *même* (≈ 'even' under the scope theory)

If $\neq \#$, $\llbracket \text{même} \rrbracket(p) = p$. $\llbracket \text{même} \rrbracket(p) \neq \#$ iff

- a. Scalar presupposition: $\forall q ((q \in C \wedge q \neq p) \rightarrow p < q)$.
 b. Additive presupposition: $\exists q (q \in C \wedge q \neq p \wedge q \text{ is true})$

indicates presupposition failure

< means "less expected than"

C is a set of contextually given alternative propositions, such that $C \subseteq \llbracket p \rrbracket^f$ and $\llbracket p \rrbracket^o \in C$

In (37)a, *même* thus presupposes that Luc is also unhappy when other people are present. This presupposition is however absent in (36)'. As captured by the lexical entry of E in (32), E only has a scalar presupposition, but no additive presupposition, i.e. E does not imply that more expected alternatives are true. This difference is made clearer by the contrast between (39)a and (39)b: unlike (39)b containing *même*, (39)a involving possessum *propre* (and thus E) is not a contradiction.

- (39) a. Jean a trahi ses propres PARENTS, mais il n' a trahi personne d' autre.
 John has betrayed his own parents but he neg has betrayed nobody of other
 'John betrayed his own PARENTS, but he did not betray anybody else.'
 b. #Jean a trahi même ses PARENTS, mais il n' a trahi personne d' autre.
 John has betrayed even his parents but he neg has betrayed nobody of other
 '#John betrayed even his PARENTS, but he did not betray anybody else.'

In sum, if the difference between E and *même* with respect to the additive presupposition is controlled for, *même* is a useful tool to detect the position of E, and this tool allows us to show that the position of E can be dissociated from the position of possessum *propre* when it appears in an adjunct *when*-island like (36).

The same holds in sentences involving other islands such as relative clauses:

- (40) a. Les patients qui ont vu leurs propres ENFANTS aujourd'hui ne sont pas contents.
 the patients who have seen their own children today neg are not happy
 'The patients who saw their own CHILDREN today are not happy.'
 b. Les patients qui ont vu leurs ENFANTS aujourd'hui ne sont même pas contents.
 the patients who have seen their children today neg are even not happy
 'The patients who saw their CHILDREN today aren't even happy.'
 c. #Les patients qui ont même vu leurs ENFANTS aujourd'hui ne sont pas contents.
 the patients who have even seen their children today neg are not happy
 'The patients who even saw their CHILDREN today aren't happy.'

(40)a exhibits a scalarity effect at the matrix level while possessum *propre* occurs in a relative clause: what is unexpected in stereotypical contexts is not that some patients saw their children, but that those patients that saw their children are not happy. The scope of the scalarity effect can again be made explicit by corresponding sentences with *même*: the equivalent of (40)a (ignoring the additive presupposition) does not show *même* in the relative clause (cf. infelicitous (40)c), but in the matrix clause (cf. (40)b).

2.2.2. Interaction with intermediate quantifiers

A second possible test for the dissociation between E and the position of possessum *propre* is to examine sentences where the DP containing *propre* occurs in an embedded clause and contains a variable bound by a quantifier that appears at an intermediate position and cannot move higher. If the scalarity effect can be interpreted at the matrix level, this shows that the scope of the scalarity effect and the position of the DP containing *propre* are disconnected: moving the DP with *propre* to the matrix level, i.e. above the quantifier, would unbind the variable. This case is illustrated in (41).

- (41) E [Les policiers refusent que quiconque_i accuse [son_i propre AGRESSEUR]_F] !
 the policemen refuse that anybody accuses his own aggressor
 'The policemen refuse to let anybody_i accuse [his_i own ATTACKER]_F'

In this example, *quiconque* is a NPI and must therefore be outscoped by the negative verb *refuser* 'refuse'. Moreover, *son propre agresseur* 'his own attacker' is bound by *quiconque* so that it cannot have wide scope with respect to the negative verb either. Nevertheless, the scalarity effect can be interpreted above the negative verb as represented; this is in fact the preferred interpretation in stereotypical contexts: what is unexpected is not that one accuses one's attacker (this is on the contrary quite expected), but that the policemen refuse to let people do so.

Même can also be used as a tool to detect the matrix position of the scalarity effect, but the argument requires more caution in this case. Just like before, the fact that *même* occurring in the matrix clause as in (42)a triggers the same scalar presupposition as in (41) shows that E occurs at the matrix level as represented in (41). However this time as opposed to cases involving islands like (37)b and (40)c, *même* appearing in the embedded clause can take wide scope: (42)b can trigger the same presupposition as (42)a (*même* can also have surface scope in (42)b and trigger a scalar presupposition at the embedded level, but it is unfelicitous in this case, at least in stereotypical contexts). In other words, *même* can scope out of embedded clauses when they are not islands. In those cases, there is no simple match between the position of E and the surface position of *même*. But the crucial point is that *même* can overtly appear in the matrix clause in (42)a and yield the same scalarity effect as (41): this is sufficient to prove that E occurs at the matrix level. In short, what matters here is the position of *même* at LF, where E is inserted, and the fact that the surface position of *même* can be at the matrix level to yield this reading shows that it must occur there at LF.

- (42) a. Les policiers refusent même que quiconque_i accuse [son_i AGRESSEUR]_F !
 the policemen refuse even that anybody accuses his aggressor
 'The policemen even refuse to let anybody_i accuse [his_i ATTACKER]_F'
 b. Les policiers refusent que quiconque_i accuse même [son_i AGRESSEUR]_F !
 the policemen refuse that anybody accuses even his aggressor
 'The policemen even refuse to let anybody_i accuse [his_i ATTACKER]_F'
 LF of both (a) and (b): même [les policiers refusent que quiconque_i accuse [son_i agresseur]_F]
 even the policemen refuse that anybody accuse his attacker

The same pattern obtains if one replaces the NPI by other elements that need to remain in an intermediate position for interpretive reasons. Thus, we reach the same result if the binder of *son propre* is a non-specific indefinite as exemplified in (43).

- (43) a. La nouvelle loi interdit qu'[une victime]_i dénonce son_i propre AGRESSEUR !
 the new law prohibits that a victim denounces his own aggressor
 'The new law prohibits [a victim]_i from accusing his_i own ATTACKER!'
 b. La nouvelle loi interdit même qu'[une victime]_i dénonce son_i AGRESSEUR !
 the new law prohibits even that a victim denounces his aggressor
 'The new law even prohibits [a victim]_i from accusing his_i ATTACKER!'

Once again, under the much preferred interpretation, the scalarity effect outscopes the verb *interdire* ('prohibit'), while the DP containing *propre* has narrow scope with respect to it given that it is bound by the indefinite *une victime* ('a victim') that has a non-specific interpretation (under a specific interpretation, the indefinite could however have high scope, but this is very implausible in such an abstract context).

The effect is similar when the binder is a quantifier that is not able to move by nature. For instance, modified numerals are claimed not to be able to move (cf. a.o. Szabolcsi 1997) as shown in (44)a, and when this kind of quantifier appears in an embedded clause and binds *son propre*, the scalarity effect can nevertheless be interpreted at the matrix level (cf. (44)b corresponding to (44)c with *même*).

- (44) a. Un professeur dirige plus de 5 étudiants. (*plus de 5 > un)
 a professor supervises more than 5 students
 'Some professor supervises more than 5 students.' (*more than > some)
 b. Un professeur refuse que [plus de 5 étudiants]_i présentent leur_i propre TRAVAIL !
 a professor refuses that more than 5 students present their own work
 'Some professor refuses to let [more than 5 students]_i present their_i own WORK!'
 c. Un professeur refuse même que [plus de 5 étudiants]_i présentent leur_i TRAVAIL !
 a professor refuses even that more than 5 students present their work
 'Some professor refuses to let [more than 5 students]_i present their_i WORK!'

Finally, we observe the same pattern if the intermediate quantifier binding *son propre* gets a different interpretation depending on its scope with respect to the matrix verb. Thus in (45), *deux tiers des étudiants* ('two thirds of the students') is interpreted differently whether it scopes above or below *refuse* 'refuses'; and in the latter option (when it is question of a proportion, not of a specific group of students), the scalarity effect can still get interpreted at the matrix level.

- (45) a. Chaque président de département refuse que [deux tiers des étudiants]_i
 each president of department refuses that two thirds of_the students
 présentent leur_i propre TRAVAIL !
 present their own work
 'Each chair refuses to let [two thirds of the students]_i present their_i own WORK!'
 b. Chaque président de département refuse même que [deux tiers des étudiants]_i
 each president of department refuses even that two thirds of_the students
 présentent leur_i TRAVAIL !
 present their work
 'Each chair even refuses to let [two thirds of the students]_i present their_i WORK!'

All these examples follow the same template: the scalarity effect can be interpreted at the matrix level, while the low scope (crucially below the matrix level, i.e. at the embedded level) of the DP containing *propre* is guaranteed by different means. This demonstrates that the scope of the scalarity effect can be dissociated from the position of the DP with *propre*.

2.3. The position of E

Obviously, this does not mean that the scope of the scalarity effect is always at a propositional level different from the position of *propre*. In fact, it seems that the position of E associated with

the DP containing possessum *propre* is not constrained as long as E takes scope over the DP containing *propre*. E can have wide, narrow or intermediate scope; moreover, it is not sensitive to the polarity of the environment. In this subsection, we are going to examine all these cases.

We have already seen that E can occur in the same proposition as *propre* when there is only one proposition; this is the simplest case illustrated e.g. in (1). We have also observed in the previous subsection that E can occur in the matrix clause when possessum *propre* appears in the embedded clause. Another possibility is for E to occur in the embedded clause when possessum *propre* sits there too. This is illustrated in (46).

- (46) a. Les amis d'Anne sont choqués qu' E [elle ait trahi [ses propres ENFANTS]_F].
the friends of Anne are shocked that she has betrayed her own children
'Anne's friends are shocked that E [she betrayed [her own CHILDREN]_F].'
b. #Les amis d'Anne sont même choqués qu' elle ait trahi [ses ENFANTS]_F.
the friends of Anne are even shocked that she has betrayed her children
'#Anne's friends are even shocked that she betrayed [her CHILDREN]_F.'
c. Les amis d'Anne sont choqués qu' elle ait trahi même [ses ENFANTS]_F.
the amis of Anne are shocked that she has betrayed even her children
'Anne's friends are shocked that she betrayed even [her CHILDREN]_F.'

If this example is used in a stereotypical context, what is most unexpected is that Anne betrayed her children (based on a scale of this kind: *betray one's children* < *betray one's neighbors* < *betray strangers*, with "<" meaning: less expected than), not that her friends are shocked that she betrayed them; on the contrary, based on stereotypical behaviors, it is rather expected that they react this way. In other words, for the sentence to be felicitous in stereotypical contexts, the scalarity effect has to scope below the verb *sont choqués* 'are shocked', not above it.

This is corroborated by the fact that in the counterpart of (46)a involving *même*, *même* has to occur in the embedded clause as in (46)c; if *même* appears in the matrix clause, the interpretation is not felicitous. As explained in the case of (42), *même* can in principle take wide scope at LF so that (46)c could amount to (46)b under one of the readings; but the point here is that as opposed to (42), (46) is only felicitous when the surface scope of *même* is at the embedded level, which shows that E occurs there.

The same reasoning holds with relative clauses:

- (47) a. Les deux personnes qui ont trahi leurs propres PARENTS sont arrivées.
the two persons who have betrayed their own parents are arrived
'The two people who betrayed their own PARENTS arrived.'
b. #Même les deux personnes qui ont trahi leurs PARENTS sont arrivées.
even the two persons who have betrayed their parents are arrived
'#Even the two people who betrayed their PARENTS arrived.'
c. Les deux personnes qui ont même trahi leurs PARENTS sont arrivées.
the two persons who have even betrayed their parents are arrived
'The two people who even betrayed their PARENTS arrived.'

In (47), the scalarity effect is to be interpreted inside the relative clause: in a stereotypical context, it is not surprising that the two people in question arrived (as implied in (47)b with matrix *même*), but that they betrayed their parents (as implied in (47)c with embedded *même*).

Thus (46) and (47) show that the scalarity effect can be computed in the embedded clause when the possessive DP with *propre* occurs there. Note that this shows that the scalarity effect could not be derived through pragmatic reasoning akin to Gricean implicatures, since pragmatics is postcompositional and Gricean reasoning can only occur at the utterance level; this would wrongly predict that the scalarity effect always has wide scope. Also, I have mentioned - and I am going to show in more details in the next subsection - that the scalarity effect is a presupposition, which confirms that the scalarity effect cannot correspond to some pragmatic effect akin to a Gricean implicature.

The scalarity effect can have not only wide and narrow scope, but also intermediate scope as in (48).

- (48) Je ne pense pas que E[Luc ne soit pas content quand [ses propres ENFANTS]_F sont là].
 I neg think not that Luc neg is not happy when his own children are there
 'I do not think that E[Luc is not happy when [his own CHILDREN]_F are here].'

In (48), the scalarity effect has intermediate scope in the sense that it has narrow scope with respect to the matrix negation (*je ne pense pas* 'I do not think'), but wide scope with respect to the embedded negation (*Luc n'est pas content* 'Luc is not happy'); moreover *propre* is further embedded in an island. This can be easily explained by the E operator hypothesis: E sits at an intermediate propositional level as represented in (48).

In sum, the position of E with respect to the DP containing *propre* is quite flexible as summarized in (49): the only constraint is that E has to scope over the focused DP involving possessum *propre*, which follows from the fact that as a focus sensitive particle, E associates with this DP.

- (49) a. E [_{CP} ... [_{DP} ... *propre* ...]_F ...]
 b. E [_{CP1} ... [_{CP2} ... [_{DP} ... *propre* ...]_F ...]
 c. [_{CP1} ... E [_{CP2} ... [_{DP} ... *propre* ...]_F ...]
 d. [_{CP1} ... E [_{CP2} ... [_{CP3} ... [_{DP} ... *propre* ...]_F ...]

Furthermore, the position of E is also free with respect to negation as illustrated in (50).

- (50) a. Non ! Anne ne va pas trahir ses propres ENFANTS! neg > E
 no Anne neg will not betray her own children
 'No! Anne will not betray her own CHILDREN!'
 b. Tu te rends compte! Anne ne va pas aider ses propres ENFANTS! E > neg
 you you realize Anne neg will not help her own children
 'Can you imagine! Anne will not help her own CHILDREN!'

In stereotypical contexts, it is most unexpected to betray one's children and not to help them. Since both (50)a and (50)b are felicitous in such a context, this means that E scopes below the negation in (50)a but above it in (50)b. In this respect, E contrast with *même* (and *even*), which has to scope above negation in a PPI (positive polarity item)-like way (disregarding its surface position which can vary with respect to the negation in French).

- (51) a. #Anne ne va même pas trahir ses ENFANTS! *neg > même
 Anne neg will even not betray her children
 '#Anne will not betray even her CHILDREN!'
- b. Anne ne va même pas aider ses ENFANTS! même > neg
 Anne neg will even not help her children
 'Anne will not help even her CHILDREN!'

Thus E does not appear to have any constraint of insertion with respect to the position of *propre* or the polarity of the environment. This could come from the fact that E is presuppositional.

2.4. Presuppositionality of E

The lexical entry of E in (32) states that the scalarity effect is a presupposition, just like the scalar presupposition of *même* and *even*. This is confirmed by the following tests.

- (52) a. Si Jean a trahi son propre PATRON, il va être viré.
 if John has betrayed his own boss he is going to be fired
 'If John betrayed his own BOSS, he is going to be fired.'
- b. Est-ce que Jean trahirait ses propres ENFANTS ?
 Q John would betray his own children
 'Would John betray his own CHILDREN?'¹⁵
- c. Aucun prisonnier n' a avoué qu' il avait tué son propre FRERE.
 no prisoner neg has confessed that he had killed his own brother
 'No prisoner confessed that he killed his own BROTHER.'

First, the scalarity effect projects in conditional clauses and questions: (52)a conveys the presupposition that it is most unexpected that John betrayed his boss, (52)b that it would be most unexpected that he betrays his children. Moreover, (52)c shows that E yields a universal inference in the scope of the quantifier *aucun* 'no' and Chemla (2009) experimentally shows that the quantifier *no* provides a robust test to tease apart presuppositions and implicatures as presuppositions project universally out of the scope of the quantifier *no* while implicatures do not project universally (but only existentially). Thus (52)c implies that for every prisoner, it is most unexpected to kill his brother, not just for some of them.

2.5. Intervention effect with focus particles

The E operator hypothesis is further supported by another array of facts concerning multiple focus. The structure of the argument is as follows: the E operator hypothesis predicts an intervention effect with other focus sensitive particles in the same way as overt *même* can intervene with other focus particles such as *seulement* 'only' or *aussi* 'also'; in fact, sentences involving the possessum reading of *propre* are degraded when an overt focus particle occurs in the sentence and targets the DP containing *propre*. The following example illustrates this point with the focus sensitive particle *aussi* 'also', which is intended to associate with *ses propres*

¹⁵ This question is negatively biased under its preferred interpretation, while it is predicted to be neutral under Guerzoni's (2002) theory since to betray one's children corresponds to her "hardP". Note that this interestingly correlates with a non-PPI behavior of E as opposed to *even* as shown in (50)-(51). This is worth further investigating.

ennemis: sentence (53)a involving both *aussi* and *propres* is degraded, while (53)b without *propre* and (53)c without *aussi* are perfectly acceptable.

- (53) a. ?? Pour ses 30 ans, Jean a invité sa famille et ses amis. Il a aussi invité
 for his 30 years John has invited his family and his friends he has also invited
 ses propres ENNEMIS.
 his own enemies
 'John invited his family and his friends for his 30th birthday. He also invited his
own ENEMIES.'
- b. Pour ses 30 ans, Jean a invité sa famille et ses amis. Il a aussi invité
 for his 30 years John has invited his family and his friends he has also invited
 ses ENNEMIS.
 his enemies
 'John invited his family and his friends for his 30th birthday. He also invited his
 ENEMIES.'
- c. Pour ses 30 ans, Jean a invité sa famille et ses amis. Et il a invité
 for his 30 years John has invited his family and his friends and he has invited
 ses propres ENNEMIS !
 his own enemies
 'John invited his family and his friends for his 30th birthday. And he invited his
own ENEMIES!'

The deviant status of (53)a is explained under the E operator hypothesis, which supposes the presence of an operator E associating with *ses propres ennemis*; this creates an intervention effect since the focus sensitive particle *aussi* associates with the same DP. Under Rooth's (1992) theory, this derives from the assumption that a focus sensitive particle associates with a focused element unselectively. Thus in (53)a', *also* associates with the focused constituent *his own enemies*, thus rendering it inaccessible for a later association with E (or *vice versa* if we suppose that *also* scopes over E).

(53)a' * E also [[John invited [his own ENEMIES]_F]~C].'

Similarly, an intervention effect arises when overt *même* associates with the possessive DP without *propre* as in (54)a, while the sentence with *même* but without *aussi* is grammatical in (54)d. Sentence (54)a is meant to control for the existence of an intervention effect in configurations like (53)a, as data with multiple focus do not appear to always show intervention effects for unknown reasons as discussed a.o. in Beck and Vasisht (2009).

- (54) a. ?? Pour ses 30 ans, Jean a invité sa famille et ses amis.
 for his 30 years John has invited his family and his friends
 Il a aussi invité même ses ENNEMIS. /
 he has also invited even his enemies
 Il a même aussi invité ses ENNEMIS.¹⁶

¹⁶ The second option may appear to sound better because the most salient reading is not the intended one. Under the intended reading (which is not acceptable), both *aussi* 'also' and *même* 'even' associate with the DP *ses ennemis* 'his enemies'. There is however a second reading where *même* targets the whole VP while *aussi* only associates with the

he has even also invited his enemies
 'John invited his family and his friends for his 30th birthday.
 He also invited even his ENEMIES./
 He even also invited his ENEMIES.'

- b. Pour ses 30 ans, Jean a invité sa famille et ses amis. Il a même invité
 for his 30 years John has invited his family and his friends he has even invited
 ses ENNEMIS.'
 his enemies
 'John invited his family and his friends for his 30th birthday. He even invited his
 ENEMIES.'

Thus *même* and *E* (associating with the DP containing possessum *propre*) have the same degrading effect on the sentence in the presence of another focus particle like *aussi* targeting the same DP. This directly follows under the E operator hypothesis, assuming that E like *même* triggers an intervention effect with *aussi*.

Note that I have here illustrated the point with *aussi* 'also' rather than *seulement* 'only', because the counterpart with *même* 'even' is predicted to be unacceptable for independent reasons in the case of *seulement*: as stated in definition (38), *même* (unlike E) presupposes that some more expected alternatives are true (additive presupposition), which is in most cases incompatible with the assertion of *seulement* that excludes all other alternatives (however since E can occur if more expected alternatives are true, it should in principle be compatible with *seulement* if there was no intervention effect).

The same holds if an overt focus particle targets a DP different from that containing *propre* as in (55). Note that the representation in (55) including numerical indices implicitly assumes that focus evaluation is selective as assumed in Kratzer's (1991) or Wold's (1996) theories, as opposed to Rooth's (1992) theory. I only adopt this notation for simplicity here as I do not mean to take a stand on this issue. The crucial point for my purposes is that intervention effects that arise with an overt focus particle (as controlled by the counterparts with *même*) also occur with possessum *propre*, as predicted by the E operator hypothesis. This seems to argue against selective theories of focus (which predict the possibility of multiple focus) in favor of unselective ones (which do not), but I will not draw any general conclusion about multiple focus from these facts because as shown by Beck and Vasishth (2009), the general data about multiple focus are not well established yet.

- (55) a. ?? E₂ [Cette année, Jean a seulement₁ vu [ses propres PARENTS]_{F2} [à NOËL]_{F1}].
 this year John has only seen his own parents at Christmas
 '?? E₂ [This year, John only₁ saw [his own PARENTS]_{F2} [at CHRISTMAS]_{F1}].'
 Intended: it is unexpected that this year, John saw his parents only at Christmas.

- b. Cette année, Jean a seulement₁ vu ses parents [à NOËL]_{F1}.
 this year John has only seen his parents at Christmas
 'This year, John only₁ saw his parents [at CHRISTMAS]_{F1}.'

DP; there is no intervention effect in this case, but this case does not concern us here, since we are interested in the possessum reading of *propre*, under which the DP containing *propre* is focused.

- c. # E₂ [Cette année, Jean a vu [ses propres PARENTS]_{F2} à Noël].
 this year John has seen his own parents at Christmas
 '# This year, John saw his own PARENTS at Christmas.'
- d. ?? Cette année, Jean a seulement₁ vu même₂ [ses PARENTS]_{F2} [à NOËL]_{F1}./
 this year John has only seen even his parents at Christmas
 Cette année, Jean a même₂ vu [ses PARENTS]_{F2} seulement₁ [à NOËL]_{F1}.¹⁷
 this year John has even seen his parents only at Christmas
 '?? This year, John only₁ saw even₂ [his PARENTS]_{F2} [at CHRISTMAS]_{F1}./
 This year, John even₂ saw only₁ [his PARENTS]_{F2} [at CHRISTMAS]_{F1}.'

In (55)a, *seulement* 'only' associates with *à Noël* 'at Christmas' and E with *ses propres parents* 'his own parents': the intended interpretation is that it is unexpected that John saw his parents only at Christmas this year. But while the sentence is perfectly acceptable without *propre* and focus in (55)b, the presence of *propre* in a focused DP – and thus E – yields an intervention effect similar to the intervention effect triggered by *même* in (55)d.¹⁸ These intervention effects are represented below in Rooth's (1992) notation. The alternatives introduced by the F-marking on *his own parents* cannot be used by E because they are already used by *only* and then forgotten for the purposes of the alternative sets for the larger structures: under Rooth's (1992) analysis, because association with focus is unselective, it should never be possible across an intervening operator.

- (55)a' * E only [[John saw [his own PARENTS]_F [at CHRISTMAS]_F]~C].
 (55)d' *even only [[John saw [his own PARENTS]_F [at CHRISTMAS]_F]~C].

Note that the sentence without *seulement* is infelicitous in (55)c. This is only the case because the scalarity effect in (55)a is precisely intended to be made felicitous by the presence of *seulement*: in stereotypical contexts, it is not unexpected to see one's parents, but to see them only at Christmas. In fact, if the scalarity effect does not depend on the presence of *seulement* as in (56), the sentence without *seulement* is fine: in stereotypical contexts it is unexpected to invite one's enemies to one's wedding.

- (56) a. ?? E₂ [A son mariage, Jean a seulement₁ invité [ses propres ENNEMIS]_{F2}
 at his wedding John has only invited his own enemies
 [au vin d' HONNEUR]_{F1}.
 at the wine of honor
 '?? E₂ [For his wedding, John only₁ invited [his own ENEMIES]_{F2} [to the RECEPTION]_{F1}.'
 Intended: it is unexpected that for his wedding, John invited his enemies, though
 only to the reception.

¹⁷ The same remark holds as for (54)a, as explained in footnote 16.

¹⁸ If the DP with *propre* is topicalized, the intervention effect vanishes (cf. viiia). This is consistent with the E operator hypothesis since the same happens with *même* (cf. viiib).

- (viii) a. Ses propres PARENTS, Jean les a seulement₁ vus à NOËL₁.
 his own parents John them has only seen at Christmas
 'His own PARENTS, John has only seen at CHRISTMAS.'
 b. Même ses PARENTS, Jean les a seulement₁ vus à NOËL₁.
 even his parents John them has only seen at Christmas
 'Even his PARENTS, John has only seen at CHRISTMAS.'

- b. A son mariage, Jean a seulement₁ invité ses ennemis [au vin d' HONNEUR]₁.
 at his wedding John has only invited his enemies at the wine of honor
 'For his wedding, John only₁ invited his enemies [to the RECEPTION]_{F1}.'
- c. A son mariage, Jean a invité [ses propres ENNEMIS]_{F2} au vin d'honneur.
 at his wedding John has invited his own enemies at the wine of honor
 'For his wedding, John invited [his own ENEMIES]_{F2} to the reception.'
- d.?? A son mariage, Jean a seulement₁ invité même₂ [ses ENNEMIS]_{F2}
 at his wedding John has only invited even his enemies
 [au vin d'HONNEUR]_{F1}./
 at the wine of honor
 A son mariage, Jean a même₂ invité [ses ENNEMIS]_{F2}
 at his wedding John has even invited his enemies
 seulement₁ [au vin d' honneur]_{F1}.
 only at the wine of honor
 '?? For his wedding, John only₁ invited even₂ [his ENEMIES]_{F2} [to the RECEPTION]_{F1}./
 ?? For his wedding, John even₂ invited [his ENEMIES]_{F2} only₁ [to the RECEPTION]_{F1}.'

Still, the same intervention effect arises when *seulement* is present even if the intended interpretation is perfectly plausible: it is unexpected that John invited his enemies to his wedding, and he invited them only to the reception.

Thus (55) and (56) show that even if the sentences can be grammatical when only the focused DP containing possessum *propre* (argued to associate with E) or only *seulement* is present, they are not when both occur, even though the intended interpretation is perfectly plausible. This supports the E operator hypothesis, which predicts an intervention effect with E similar to that occurring with *même*.

2.6. Independence of E and *propre*

I have provided several empirical facts arguing for the hypothesis that the scalarity effect derives from the presence of the implicit focus sensitive operator E, which is presuppositional and associates with the DP containing possessum *propre*. A theoretical argument of economy for this hypothesis can be added to these arguments: by dissociating the scalarity effect from the lexical entry of *propre*, the E operator hypothesis is compatible with a unified analysis of *propre* under all its readings. Recall from section 1.1. that *propre* does not only exhibit a possessum reading that typically triggers a scalarity effect, but also other readings that do not typically give rise to scalarity effects, such as the truth-conditional reading or the possessor reading. The E operator hypothesis allows us to keep constant the lexical entry of *propre* in all these cases; it is the presence of E that can additionally trigger a scalarity effect. Thus DPs containing truth-conditional or possessor *propre* are usually not associated with E, i.e. no scalarity effect typically arises in their presence, as examples (3) and (4) from section 1.1. already illustrated and (57)a and (58)a further show. But (57)b and (58)b show that a scalarity effect can arise in those cases too.¹⁹

¹⁹ More generally, focused *propre* (unlike possessum *propre* included in a focused DP) can freely associate with any focus sensitive operator, such as *seulement* 'only', *toujours* 'always' as illustrated below.

- (ix) a. Paul conduit toujours sa PROPRE voiture. 'Paul always drives his OWN car.'
 b. Paul conduit seulement sa PROPRE voiture. 'Paul only drives his OWN car.'

- (57) a. Julie a proposé d'organiser la fête dans son PROPRE appartement
 Julie has proposed to organize the party in her own apartment
 plutôt que dans celui de Paul.
 rather than in this of Paul
 'Julie proposed to organize the party in her OWN apartment rather than in Paul's.'
- b. Mes soeurs m'ont dit que Julie avait d'abord cambriolé l'appartement de Paul,
 my sisters me have said that Julie had first burglarized the apartment of Paul
 et qu'ensuite, E[elle avait cambriolé son PROPRE appartement]!
 and that then she had burglarized her own apartment
 'My sisters told me that Julie first burglarized Paul's apartment and then E [she burglarized her OWN]!'
- (58) a. Julie a proposé d'organiser la fête dans son PROPRE appartement
 Julie has proposed to organize the party in her own apartment
 plutôt que dans l'appartement qu'elle loue.
 rather than in the apartment that she rents
 'Julie proposed to organize the party in her OWN apartment rather than in the apartment she rents.'
- b. Mes soeurs m'ont dit que Julie avait d'abord cambriolé l'appartement qu'elle
 my sisters me have said that Julie had first burglarized the apartment that she
 louait, et qu'ensuite, E[elle avait cambriolé son PROPRE appartement]!
 rented and that then she had burglarized her own apartment
 'My sisters told me that Julie first burglarized the apartment she rented and then E [she burglarized her OWN]!'

As opposed to (57)a and (58)a, (57)b and (58)b presuppose that it is highly unexpected to burglarize your own apartment as compared to the apartment of other people (possessor *propre* in (57)b) or another apartment of yours that you do not own (truth-conditional *propre* in (58)b). This can be derived by postulating the presence of E in the embedded clause as represented in (57)b and (58)b. Thus the E operator hypothesis is theoretically economical because it explains why a scalarity effect does not have to occur in the presence of *propre* under the other readings than possessum *propre*, but it can, even if the lexical entry of *propre* remains the same in all cases. Note that the E operator hypothesis seems to similarly predict that E does not have to associate with DPs containing possessum *propre* either; I will address this question in section 3.

Conversely, the E operator hypothesis predicts that scalarity effects can arise in the absence of *propre* and this is borne out. All the examples I have mentioned involving E and possessum *propre* can give rise to the same scalarity effect without *propre*. For instance, consider (1), (36) and (46) repeated below and their counterparts without *propre*.

- (59) [= (1)] a. Personne n' a défendu Paul. Sa propre MERE a gardé le silence.
 nobody neg has defended Paul his own mother has kept the silence
 'Nobody defended Paul. His own MOTHER kept silent.'
- b. Personne n' a défendu Paul. Sa MERE a gardé le silence.
 nobody neg has defended Paul his mother has kept the silence
 'Nobody defended Paul. His MOTHER kept silent.'

- (60) [= (36)] a. Luc n'est pas content quand ses propres ENFANTS sont là !

- Luc neg is not happy when his own children are there
 'Luc is never happy; he's not happy when his CHILDREN are here!'
- b. Luc n' est pas content quand ses ENFANTS sont là !
 Luc neg is not happy when his children are there
 'Luc is never happy; he's not happy when his CHILDREN are here!'

- (61) [(46)a] a. Les amis d'Anne sont choqués qu' elle ait trahi ses propres ENFANTS.
 the friends of Anne are shocked that she has betrayed her own children
 'Anne's friends are shocked that she betrayed her own CHILDREN.'
- b. Les amis d'Anne sont choqués qu' elle ait trahi ses ENFANTS.
 the friends of Anne are shocked that she has betrayed her children
 'Anne's friends are shocked that she betrayed her CHILDREN.'

(59)b, (60)b and (61)b, which do not contain *propre*, can give rise to the same scalarity effect as (59)a, (60)a and (61)a, which contain possessum *propre*. This follows if the scalarity effect is not directly due to *propre*, i.e. is not included in the lexical entry of *propre*, but to E, which can associate with possessive DPs with *propre*, but also with other elements.

In fact, E can also associate with possessive DPs involving other adjectives as illustrated in (62).

- (62) J'ai appris que E[le patron a insulté [son adorable SECRETAIRE]_F]!
 I have learned that the boss has insulted his adorable secretary
 'I heard that E[the boss insulted [his adorable SECRETARY]_F]!'

(62) implies that it is highly unexpected for the boss to insult his adorable secretary. This scalarity effect can be derived by postulating that E associates with the DP containing *adorable*.

Note that scalarity effects can similarly arise with postnominal *propre*.

- (63) E[Cette tribu veut renoncer à [ses coutumes PROPRES]_F]!
 ' E[This tribe want to give up [its peculiar CUSTOMS]_F]! '

(63) conveys that it is highly surprising that a tribe would give up its peculiar customs: E here associates with the DP containing postnominal *propre*. But unlike our target case of prenominal possessum *propre*, association with E is not typical: all the examples from section 1.2. containing postnominal *propre* do not give rise to any scalarity effect.

In sum because it separates the scalarity effect from *propre*, the E operator hypothesis correctly predicts that DPs involving *propre* do not always give rise to scalarity effects – and this is indeed the case with truth-conditional and possessor *propre* - and conversely that elements that do not involve *propre* can give rise to scalarity effects.

However, we are now left with a puzzle: if the scalarity effect arising in the presence of possessum *propre* can arise without it, what is the contribution of possessum *propre*? And why do scalarity effects typically arise in its presence but not as typically under the other readings of *propre*? This is what we are going to address in the next section.

3. Association of possessum *propre* with E

By hypothesis, the association of E with the focused DP containing possessum *propre* is not lexical; otherwise, this would wrongly predict that DPs with *propre* always associate with E under all readings of *propre* assuming a unified analysis of *propre*. I therefore hypothesize that the typical association of E with possessum *propre* is pragmatic. As I am going to explain in this section, the association derives from the maximizer meaning of *propre* that introduces a scale interacting with the scale required by E; the quasi systematicity of the association is due to the focus configuration and the absence of truth-conditional effects that are typical to possessum *propre*. In a nutshell, possessum *propre* neither has a truth-conditional effect nor bears the focal marker itself; thus it must have another contribution, which I argue is pragmatic relevance in the construction of the scale required by E: as a maximizer of possessive relation, *propre* ranks the possessive DP at the top of a scale of relational specificity, which pragmatically correlates with the unexpectedness scale required by the semantics of E.

3.1. Contribution of possessum *propre* and principle of minimization

As shown in section 2.6, the scalarity effect that we observe with possessum *propre* can obtain in the absence of *propre*; moreover, I mentioned in section 1.1. that possessum *propre* does not have any truth-conditional effect. What is then the contribution of possessum *propre*? This is a pressing question given the principle of minimization in (64).

(64) *Minimize Restrictors!* (Schlenker 2005: 3)

A definite description *the A B* is deviant if A could be dropped without affecting (i) the denotation of the description, and (ii) its various pragmatic effects.

This is presumably a special case of a Gricean principle close to what Levinson (1998) calls the 'Maxim of Minimization', which he states as the following injunction: "Produce the minimal linguistic clues sufficient to achieve your communicational ends". For instance, *the small (American) President* is deviant if it is assumed that there is a single (American) President and the information that he is small does not add anything to the message. Similarly, *Mary's tall mother* is deviant unless one assumes that Mary has several mothers or the height of Mary's mother is likely to produce a significant pragmatic effect in the context.

If we apply this principle to *propre*, it means that if *propre* does not have any truth-conditional effect, it should have a pragmatic effect.

Example (1)b repeated below illustrates that possessum *propre* does not have any truth-conditional effect: this sentence is perfectly fine in a context where Paul only has one mother associated with him; in fact, this is the most plausible situation.

(65) [=1b] *Personne n' a défendu Paul. [Sa propre MERE]_F a gardé le silence.*
nobody neg has defended Paul his own mother has kept the silence
'Nobody defended Paul. His own MOTHER kept silent.'

As noted by a reviewer, tests on non-at-issueness (see a.o. Tonhauser 2012) confirm that *propre* is non-restrictive here. For instance, the content of *propre* cannot be assented or dissented with as illustrated in (66).

- (66) A. Personne n' a défendu Paul. [Sa propre MERE]_F a gardé le silence.
 nobody neg has defended Paul his own mother has kept the silence
 B. # Non, ce n' est pas vrai, ce n' est pas vraiment sa mère, c' est sa belle-mère.
 no this neg is not true this neg is not really his mother, this is his stepmother
 'A. Nobody defended Paul. His own MOTHER kept silent.
 B. # No, this is not true, she is not really his mother, she is his stepmother.'

The absence of truth-conditional effects with possessum *propre* follows from the interaction between focus projection (see Selkirk 1996) and another economy principle as I am going to explain. Consider the following example.

- (67) Louise a trahi ses propres enfants !
 Louise has betrayed her own children
 'Louise betrayed her own children!'

Suppose that Louise is associated with different children, say, her biological children and the children she takes care of, and we want to rank them with respect to each other in terms of how unexpected it is to betray them; in that case, the focus would have to fall on *propres* 'own' as in (68)a. Suppose now that we want to compare Louise's children with other people's children, the F-marked element should be *ses propres* 'her own'; note that for space reasons, I cannot here explain how focal stress on *own* seems to project to *her own*, which is not a constituent (see Author 2012 for details about that). (68)c, i.e. the case of possessum *propre*, is uttered in cases where we want to compare Louise's children with other individuals.

- (68) a. E [Louise betrayed her [OWN]_F children] (vs. the children that are not her own)
 b. E [Louise betrayed [her OWN]_F children] (vs. other people's children)²⁰
 c. E [Louise betrayed [her own CHILDREN]_F] (vs. other individuals)

Crucially, the alternatives evoked in (68)c (individuals different from Louise's children) include the alternatives in (68)a and (68)b since children are individuals. The general economy principle I hypothesize in (69) is based on this fact.²¹

- (69) Economy in focus: do not put the focal stress in a place where you create more alternatives than you need, i.e. choose the focus configuration that creates the smallest set of alternatives without changing the truth or felicity conditions of the sentence.

²⁰ We could wonder why (x) does not rule out (68)b since the alternatives are the same (possessors).

(x) E [Louise betrayed [HER]_F children] (vs. other people's children)

The difference between (x) and (68)b is that the children in (x) could be children related to her in a loose way as opposed to (68)b due to the semantics of *propre*. Also, note that in French, it is phonologically dispreferred to stress a possessive pronoun.

²¹ This economy principle is reminiscent of Schwarzschild's (1999) economy principle « Avoid F! ». But *Avoid F!* is formulated in terms of F-marking, which interacts with givenness (non-F-marked elements have to be given); the notion of alternatives does not play a role in Schwarzschild's (1999) theory.

The economy principle in (69) states that the representation inducing the most restricted set possible of alternatives must be chosen. Thus if the relevant alternatives to Louise's own children in the context are other children associated with Louise, representation (68)a must be selected, not (68)c, which induces a larger set of alternatives than is needed; similarly if the relevant alternatives are other people's children, (68)b must be chosen over (68)c. This means that (68)c is only selected if other children associated with Louise or other people's children are not relevant alternatives.²²

In sum, possessum *propre* does not have any truth-conditional effect because when it has, the focus representation involving focused *propre* 'own' has to be selected by principle (69) about economy in focus. Since possessum *propre* does not affect the denotation of the description, it must therefore have a pragmatic effect according to the principle of minimization in (64).

A possible pragmatic effect we could think of is related to focus. For example, Eckardt (2001: 382) assumes that the contribution of German *selbst* (\approx English intensifier *himself*) relies on focus: as *selbst* denotes the identity function, it does not have any truth-conditional effect; only in focus does it contribute to the meaning of the sentence by evoking focus alternatives that enter in the meaning of the respective focus construction. But crucially, possessum *propre* does not bear the focal accent itself - unlike truth-conditional *propre* when focused and possessor *propre* as shown in section 1.1. - but it is included in a constituent that is F-marked through focus projection from the head noun and could be focused in the same way in the absence of *propre*. Therefore the contribution of possessum *propre* cannot be to induce focus.

My hypothesis is that the contribution of possessum *propre* is indirectly related to focus though: its lexical meaning of maximizer makes it relevant in the construction of the scale required by E.

3.2. Relevance of possessum *propre* in the construction of the scale required by E

Recall from section 1.2. that I have argued for the lexical entry of *propre* stated in (24) and repeated below: basically, *propre* is a maximizer specific to possessive relations, i.e. it modifies a possessive relation and characterizes it as maximally specific in context (as long as it is above a certain threshold of specificity), ranking the possessum at the top of a scale of relational specificity (whose exact content can depend on the noun if it is relational).

$$(70) [= (24)] \text{ Lexical entry of } propre \\ [[propre]] = \lambda |POSSnP|. \lambda n. \exists d / [d = \max_{C,T} (S_{POSSnP}) \ \& \ POSSnP(n)(d)]$$

²² We could wonder what happens if both children (associated with Louise) and adults seem to be relevant alternatives as in (xi).

(xi) Louise est folle. Il y a un mois, elle a trahi mon facteur, il y a deux semaines, elle a trahi les enfants dont elle s'occupe à l'école, et voilà qu'hier, elle a trahi ses propres enfants !
'Louise is crazy. One month ago, she betrayed my postman, two weeks ago, she betrayed the children she takes care of at school, and yesterday, she betrayed her own children!'

In this context, both the postman and the children Louise takes care of at school are salient alternatives to Louise's own children. But in that case we observe that the stress must fall on *propre*, i.e. representation (68)b is required. This shows that the postman is here ignored as a relevant alternative: salience does not necessarily mean relevance. In fact, it is uninformative to include it in the set of alternatives given that for Louise to betray him is already not as unexpected as to betray the children she takes care at school: the unexpectedness effect is stronger if only the children are computed as the relevant alternatives.

My hypothesis is that the lexical scale of possessive specificity created by *propre*, the maximal degree of which it points to, is what provides possessum *propre* its pragmatic contribution: this scale makes it relevant in the association with E as I am going to explain.

First, I appeal to a theory of relevance of non-restrictive adjectives. I assume that non-restrictive adjectives, which do not have any truth-conditional effect, can play a pragmatic role by drawing the addressee's attention to relevant pieces of information. Relevance can correspond to various rhetorical functions, like explanation for instance in (71) (from Leffel: 2012).

- (71) a. The savanna is a beautiful place to visit—many colorful cheetahs live there.
 b. # The savanna is a dangerous place to visit—many colorful cheetahs live there.

As mentioned by Leffel, the second clauses of (71)a and (71)b are truth-conditionally equivalent but (71)b is odd because the fact that cheetahs are generally colorful is irrelevant to the danger of the savanna; however, the non-restrictive adjective *colorful* is relevant in (71)a because it gives an explanation for the fact that the savanna is a beautiful.

This kind of relevance can be at play in the association with E as in (72).

- (72) a. [Le Président noir]_F a prononcé un discours raciste !
 the president black has pronounced a discourse racist
 'The black President gave a racist talk!' [talking about Obama]
 b. Tu te rends compte, [le brillant fils de Paul]_F a raté l' examen !
 you realize the brilliant son of Paul has failed the exam
 'Can you imagine, Paul's brilliant son failed the exam!' [Paul has only one son]

In (72), the adjectives *noir* 'black' and *brillant* 'brilliant' do not have any truth-conditional effect since we already know that President Obama is black and it is assumed in the context that Paul only has one son. But these adjectives do not violate the maxim of minimization as they have the following pragmatic effect: they point out the relevant property to be considered to create a scale of expectedness and rank the proposition including the President/Paul's son at the bottom; both sentences indeed induce a scalarity effect and the source of the surprise is given by the meaning of the adjective. In (72)a, it is because the President is black that he is particularly unexpected to give a racist discourse; in (72)b, it is because Paul's son is brilliant that he is particularly unexpected to have failed the exam. In other words, the adjectives *noir* 'black' and *brillant* 'brilliant' do not impact the truth conditions of the sentence, but play a pragmatic role by justifying the unexpectedness of the proposition: it is in that sense that they are relevant.

Possessum *propre* plays a similar role of relevance in examples like (1)b repeated below.

- (73) [= (1)b] Personne n' a défendu Paul. [Sa propre MERE]_F a gardé le silence.
 nobody neg has defended Paul his own mother has kept the silence
 'Nobody defended Paul. His own MOTHER kept silent.'

Just like *noir* 'black' or *brillant* 'brilliant' in (72), *propre* in (73) justifies the unexpectedness of the proposition: it is because of the highly specific relation between Paul and his mother that it is extremely unexpected that she did not defend him.

Thus the contribution of *propre* is to draw attention to the fact that what matters for unexpectedness is the possessive relation (i.e. the descriptive content of the DP), not its denotation. In fact, note that two possessive DPs with the same denotation but a different intension are not equivalent with respect to the scalarity effect as illustrated in (74).

- (74) a. [= (67)] E [Louise a trahi [ses propres ENFANTS]_F !
 Louise has betrayed her own children
 ‘E [Louise betrayed [her own CHILDREN]_F!’
 b. # E [Louise a trahi [les personnes qui ont livré son MARI]_F !
 ‘# E [Louise betrayed [the people who handed over her HUSBAND]_F!’

In stereotypical contexts, it is highly unexpected to betray your children, but not to betray people who handed over your spouse. That’s why (74)a is perfectly acceptable with E, i.e. it gives rise to a scalarity effect, unlike (74)b. This is crucially so even if Louise’s children are precisely the people who handed over her husband. In other words, it is the intension of the possessive DP that matters in (74)a, not its denotation. Interestingly, this suggests that E is an intensional operator: E does not associate with individuals but with concepts, namely with functions from worlds to individuals; similarly, alternatives are not simply individuals, but concepts.²³

There are nevertheless several differences between (72) and (73), which indicate that the relevance at play with *propre* is more complex than that with *noir* ‘black’ or *brillant* ‘brilliant’.²⁴ While *noir* ‘black’ or *brillant* ‘brilliant’ may serve to provide additional information that may not be supplied by the context, non truth-conditional possessum *propre* never adds any additional criterion, since the possessive relation is already expressed by the possessive pronoun and the relational noun. Thus (75) and (76), which do not contain *noir* ‘black’/*brillant* ‘brilliant’ and *propre* respectively differ from (72) and (73) in different ways.

²³ Beaver and Clark (2008; 95-106) discuss the issue of intensionality for the framework of Alternative Semantics. The basic problem is illustrated by (xii): if *only* quantifies over the domain of individual concepts, there are too many individual concepts for uniqueness to be achievable, i.e. (xii)a would be false because of (xii)b and *vice versa*.

(xii) a. Sandy only met the President.
 b. Sandy only met Obama.

Note that a similar issue arises with the additive presupposition of *even*: under an intensional approach, it would be trivially satisfied since you could always find another concept extensionally identical to the target: the additive presupposition of *even* in (xiii)a would be satisfied because it entails (xiii)b and *vice versa*.

(xiii) a. Sandy even met the President.
 b. Sandy even met Obama.

Beaver and Clark propose ways to solve the problem exemplified in (xii) (by movement or presupposition). But note that this problem does not arise in the case of E anyway, since it does not have an additive presupposition, but only a scalar one, and the scalarity presupposition is not subject to this problem.

²⁴ An anonymous reviewer points out that the difference is revealed by the contrast between these dialogs:

(xiv) a. A: The PRESIDENT just gave a racist speech!
 B: Why is it particularly surprising that the president would do that?
 A: Because he's black!
 b. A: Paul's SON failed the exam!
 B: Why is that particularly surprising?
 A: Because he's brilliant!
 (xv) A: Paul's MOTHER betrayed him!
 B: Why is that particularly surprising?
 A: # Because she's his own! / Because she's his mother!!

- (75) a. [Le Président]_F a prononcé un discours raciste !
 the President has pronounced a discourse racist
 '[The PRESIDENT]_F gave a racist talk !' [talking about Obama]
- b. Tu te rends compte, [le fils de PAUL]_F a raté l' examen !
 you realize the son of Paul has failed the exam
 'Can you imagine, [Paul's SON]_F failed the exam!' [Paul has only one son]
- (76) Personne n' a défendu Paul. [Sa MERE]_F a gardé le silence.
 nobody neg has defended Paul his mother has kept the silence
 'Nobody tried to defend Paul. [His MOTHER]_F kept silent!'

In (75), the justification for unexpectedness is not explicitly given: the hearer needs to accommodate that the reason why the sentence is surprising is that the President is black in (75)a and that Paul's son is brilliant in (75)b. In principle, these propositions could be surprising for very different reasons, say because the President is known to support anti-racism associations, or because Paul's son knew the subject of the exam beforehand; nothing besides the context allows us to decide between these different interpretations. In (76) however, the default interpretation is that it is surprising that Paul's mother kept silent because an individual as closely related to you as your mother usually defends you. In other words, even without *propre*, we already know what the relevant criterion is to justify unexpectedness. This does not mean that no other interpretation is possible: in fact in (76), unexpectedness could arise from the fact that Paul's mother is generally really talkative and never keeps quiet in any situation; the corresponding sentence with *propre* (i.e. (1)b) containing *propre* would be infelicitous in such a context. However this interpretation is not the default one in (76), but requires a much richer context, while the range of different interpretations in (75) are equally available.

I explain the difference between *noir* 'black' / *brillant* 'brilliant' and *propre* with respect to relevance by the specific nature of *propre*, which I have hypothesized to be a maximizer of possessive relation. What *propre* does is not to provide additional information on the referent of the DP, but to characterize the possessive relation it modifies as the most characteristic one in context. In other words, while *noir* 'black' and *brillant* 'brilliant' introduce the criteria to be used to construct the scale required by E, *propre* introduces the scale (and its maximum degree) for a criterion already expressed by the DP (possessive relation), which will interact with the scale (and its maximum degree) required by E: *propre* directly satisfies the scalarity of E. For instance, *propre* in *sa propre mère* 'his own mother' lexically generates the scale (22) repeated below.

(77) [= (22)] Scale of possessive relations involved in 'his/her mother'

- ^
 | woman who gave birth to the possessor ('mother')
 |
 | woman married to the possessor's father and didn't give birth to the possessor ('stepmother')
 |
 | -----: threshold for the use of *propre* 'own'
 |
 | woman who gave birth to someone and is in some circumstantial relation to the possessor
 |

Nevertheless in a context like (1)b where Paul only has one mother associated with him, this scale only contains one individual, i.e. Paul's mother: there is no other mother of Paul that can be compared. In other words, unlike superlatives, *propre* does not require an explicit comparison class as was shown in (21) repeated below.

- (78) [= (21)] a. Personne n' a défendu Paul. Sa propre MERE a gardé le silence.
 nobody neg has defended Paul his own mother has kept the silence
 'Nobody defended Paul. His own MOTHER kept silent.'
 b. Personne n' a défendu Paul. Le meilleur AVOCAT a gardé le silence.
 nobody neg has defended Paul the best lawyer has kept the silence
 'Nobody defended Paul. The best LAWYER kept silent.'

While (78)a does not require Paul to have other mothers, (78)b is only felicitous in a context involving several lawyers.²⁵ This is why I analyzed *propre* as a maximizer rather than a superlative.

My hypothesis is that in such cases, i.e. when there is only one contextual element that can be ranked on the scale POSSNP, this scale has to be exploited in some way: it is therefore used to rank the alternatives evoked by focus. Thus in (78)a since the maximizer *propre* is not truth-conditional (it does not rank the relevant mother on the scale with respect to other mothers) as opposed to the superlative *meilleur* 'best' in (78)b (which ranks the relevant lawyer as compared to other lawyers), the criterion for the scale that *propre* lexically generates in (79)a (i.e. the degree of specificity of the relation with the possessor)²⁶ is used to rank the alternatives to the focused DP containing *propre* as in (79)b.

(79) Scale introduced by *sa propre mère* 'his own mother'

^ POSSNP	^ POSS
Paul's own mother	Paul's own mother
	Paul's lawyer
	my postman

²⁵ There are however some specific cases of superlatives discussed by Fauconnier (1975) that do not seem to require an explicit class of comparison and resemble maximizers/minimizers:

(xvi) Tommy will not eat the most delicious food.

(xvi) most naturally means that Tommy refuses to eat any food at all, disregarding whether the context mentions different kinds of food or not.

²⁶ The same holds with non-relational nouns as illustrated in (29) repeated in (xvii)a and in (xvii)b.

(xvii) a. Caroline a abîmé son propre CANAPE.

'Caroline ripped her own SOFA!'

b. Pierre a un vrai problème de pyromanie: il a brûlé sa propre MAISON!

'Pierre has a real issue of pyromania: he set fire to his own HOUSE!'

In (xvii)a assuming that Caroline is only related to one sofa in the context, there is no other sofa to rank on the scale of specificity of relations that hold between Caroline and sofas. We therefore use this scale of specificity to rank the other relevant objects (focus alternatives to Caroline's sofa), which end up lower on the scale because the relation between Caroline and the sofa (possession) is the most specific one. We proceed similarly in (xvii)b. Note that this implies that for the examples to be felicitous, other objects owned by (in a relation of possession with) Caroline (resp. Pierre) should not be relevant alternatives.

a. Scale of possessive/relational specificity
between Paul and mothers in (78)a's context

b. Scale of possessive/relational specificity between
Paul and focus alternatives to *her own mother*

The same happens with other kinds of maximizers such as the (non-productive) adjectival suffix *-issime* 'extremely' in (80)a or the colloquial modifier *hyper* 'extremely' in (80)b.

(80) a. [*Julie has several suitors: a doctor, a peasant, a student and a banker, and she is known to love money.*]

E [Julie a refusé d' épouser [le richissime BANQUIER]_F!

Julie has refused to marry the extremely_rich banker

'E [Julie refused to marry [the extremely rich BANKER]_F!'

b. [*Louis is on a diet. There is only one cake in the context.*]

E [Louis a mangé [l' hyper gros GATEAU]_F !

Louis has eaten the hyper big cake

'E [Louis ate [the extremely big CAKE]_F!'

In (80)a, there is only one banker in the context, so that the adjective *richissime* does not affect the denotation of *le banquier* 'the banker'. The scale introduced by the maximizer *-issime*, which modifies the adjective *riche* 'rich', is thus not useful to rank several bankers as represented in (81)a. But it is used to rank the contextually determined focus alternatives to the banker as in (81)b, which will ultimately serve to rank the propositions containing them on an unexpectedness scale as required by E. In other words, by pointing out the extreme degree of richness of the banker, the maximizer *-issime* indicates that richness is the relevant criterion to rank the focus alternatives; since Julie is known to love money, this explains why the proposition in (80)a is particularly unexpected given that it includes the highest individual on a scale of richness.

(81) Scale of richness for *richissime* 'extremely rich'

^ richnP
|
the banker
|
|
|
|
|
|
|
|
|

a. Scale of richness applied to
bankers in (80)a's context

^ rich
|
the banker
|
the doctor
|
the peasant
|
the student
|
....

b. Scale of richness applied to
focus alternatives to *the extremely rich banker*

The same holds in (80)b; the maximizer *hyper* 'extremely', which ranks the cake at the top of a scale of quantity, does not affect the denotation of the cake since there is only one cake in the context. But the focus alternatives to the cake are also ranked on this scale so as to justify unexpectedness: it is highly surprising that Louis, who is on a diet, ate that cake as compared to other things, because it is extremely big.

The maximizer *propre*, which modifies the possessive relation POSS, is thus similar to the maximizers *-issime* and *hyper*, which respectively modify the adjectives *riche* 'rich' and *gros* 'big'. When such modifications do not affect the denotation of the noun, i.e. when the class of comparison is empty, and the modified DP is in focus, the scale they introduce is put to use in the

ranking of the focus alternatives, as I state in principle (82).

- (82) If the scale introduced by a maximizer contained in a focused DP does not contribute to the truth conditions, it is used to rank the focus alternatives to this DP.

In short, possessum *propre* satisfies the economy principle of minimization in (64) even if it does not have truth-conditional effects because it is relevant in the association of the possessive DP with E in providing the scale ranking the focus alternatives to the possessive DP containing it.

The last step to understand the relevance of possessum *propre* with respect to the scalarity effect is to explain the interaction with the scale required by the semantics of E. As stated in (32), recall that E presupposes that the proposition it scopes over is the lowest one on a scale of expectations (and recall that by expectation, I do not mean strict likelihood, but expectation according to a certain stereotype). My hypothesis is that the scale POSS ranking the focus alternatives to the possessive DP and the scale of unexpectedness UNX required by E pragmatically interact. This is so because the propositions ranked on the scale of unexpectedness include (the alternatives of) the possessive DP; in other words, there is a function f that maps each element on POSS to a proposition in UNX. Thus in the by now very familiar example (1)b involving Paul's mother, f is defined as $\lambda x. x \text{ kept silent}$ and the two scales at stake can be schematized as follows:

(83) Scales at stake in (1)b

^ POSS	^ UNX
Paul's own mother	Paul's own mother kept silent
Paul's lawyer	Paul's lawyer kept silent
my postman	My postman kept silent
....	...

- a. [= (79)b] Scale of possessive/relational specificity applied to focus alternatives to *her own mother* b. Scale of unexpectedness required by E

There is a correlation between the scale introduced by *propre*, which ranks the focus alternatives to the possessive DP, and the scale of unexpectedness required by E, in the sense that the possessive DPs are ranked in the same order in (83)a as the propositions containing them in (83)b. This is so because of pragmatic reasons: this relies on the stereotypical world situation that the more closely related you are to someone, the more expected you are to defend him/her. Let's call F_c the contextual function mapping degrees on the scale POSS (e.g. (83)a) to degrees on the scale UNX (e.g. (83)b). This function is essentially order preserving ((84)a) and maps a maximum of POSS onto a maximum of UNX ((84)b).²⁷

²⁷ It seems that in context, the scales POSS and UNX must even contain a strict upper bound. In the context of (1)b, a reviewer notes that if there were someone else who could have spoken up for Paul and who stood in a relation to Paul that is as close as the mother-child relation, then it would be weird to point out that even his own mother didn't defend him. For example, if his father had been there and had not spoken up, it would be odd to draw attention to the mother only. This does however not mean that the scales have to be totally ordered: it does not seem to be the case that any individual (resp. the proposition containing it) in this context could be ranked with respect to the others on POSS (resp. on UNX).

- (84) $\exists F_c: \text{POSS} \rightarrow \text{UNX}$
 a. $\forall d, d' \in \text{POSS} / d > d', F_c(d) > F_c(d')$
 b. $\forall D \in \text{UNX}, \forall d, d' \in \text{POSS} / \neg \exists d' \in \text{POSS} / d' > d, \neg \exists D \in \text{UNX} / D > F(d)$

(84) implies for (1)b that just as Paul is related to her mother at an extreme degree, the proposition that Paul's mother did not defend him is unexpected at an extreme degree.

Note that the same holds in (80)a if the scale POSS is replaced by the scale of richness RICH: just as the banker is rich at an extreme degree, the proposition that Julie refused to marry the banker is unexpected at an extreme degree. This relies on the contextual situation according to which Julie loves money, so that the richer her suitor is, the more expected she is to marry him.

In sum, the relevance of *propre* in the construction of the scale required by E can be described in three steps: (i) as a maximizer specific to possessive relations, *propre* lexically introduces a scale of relational specificity and places the possessive DP including it at the top; (ii) by principle (82), the focus alternatives to the possessive DP are ranked on this scale too; (iii) there is a pragmatically established correlation between this scale and the scale required by E as schematized in (84).

The case of possessum *propre* is thus favorable to the presence of E, which requires focus and scalarity, because *propre* contained in a focused possessive DP introduces a scale and points to its contextual maximum. For the scalarity effect to arise, the only other necessary condition is a contextual interaction between the scale introduced by *propre* (relational specificity) and the unexpectedness scale. In cases that do not involve elements like *propre* introducing a scale, the context must also provide the scale ranking the alternatives to the focused element that correlates with the scale of unexpectedness and this is more costly for the hearer.

Conversely, E typically associates with DPs including possessum *propre*, because the scale *propre* introduces is thereby exploited, which makes it relevant. Given that possessum *propre* does not have any truth-conditional effect, this satisfies the principle of minimization stated in (64). E associates with possessum *propre* much more typically than with truth-conditional or possessor *propre*, because both satisfy the principle of minimization in a different way: the former always has a truth-conditional effect, and the latter has a pragmatic effect in bearing the focal stress itself and thus inducing focused alternatives to the possessor.

3.3. Association of possessum *propre* with other elements

My hypothesis, according to which the association between E and possessum *propre* is not lexical but pragmatic, predicts that possessum *propre* is in principle able to associate with other elements if the right pragmatic conditions are fulfilled. This is borne out.

First, possessive DPs including possessum *propre* can unsurprisingly associate with *même* 'even'.

- (85) Personne n' a défendu Paul. Même [sa propre MERE]_F a gardé le silence.
 nobody neg has defended Paul Even his own mother has kept the silence
 'Nobody tried to defend Paul. Even [his own MOTHER]_F kept silent.'

This is expected given that as explained in section 2.2, *même* has the same scalar presupposition as E. Thus the scale introduced by possessum *propre* can (and must) be exploited in a similar way as with E.

Possessive DPs including possessum *propre* can also associate with *seulement* ‘only’.

- (86) a. La présidente Archer fusilla le secrétaire du regard et se ravisa aussitôt.
 the president(fem) Archer shot the secretary of_the look and changed_her_mind immediately
Seuls [ses *propres* ENFANTS]_F osaient ainsi la couper. Si ce blanc-bec osait le faire,
 only her own children dared so her cut if that greenhorn dared it do
 c’est que c’était vraiment important. Dans le cas contraire, il le regretterait.
 it is that it was really important in the case opposite he it would_regret

'President Archer gave the secretary a dirty look and then immediately changed her mind. Only [her *own* CHILDREN]_F would dare interrupt her like this. If that greenhorn dared do it, it had to be because it was really important. Otherwise, he would regret it.' [from google]

- b. ... ?? Seuls même [ses ENFANTS]_F osaient ainsi la couper./
 only even her children dared so her cut
Même seuls [ses ENFANTS]_F osaient ainsi la couper....
 even only her children dared so her cut
 '...?? Only even [her CHILDREN]_F dared interrupt her like this./
Even only [her CHILDREN]_F dared interrupt her like this...'

- (87) a. Paul sait seulement écrire [son *propre* NOM]_F.
 Paul knows only write his own name
 'Paul only knows how to write [his *own* NAME]_F.'

- b. ?? Paul sait même seulement écrire [son NOM]_F./
 Paul knows even only write his name
 Paul sait seulement même écrire [son NOM]_F.
 Paul knows only even write his name
 'Paul even only knows how to write [his NAME]_F./
 Paul only even knows how to write [his NAME]_F.'

In (86) and (87), the possessive DP containing *propre*, i.e. *ses propres enfants* ‘her own children’ and *son propre nom* ‘his own name’ respectively, associates with *seulement* ‘only’, not with E. The controls in (86)b and (87)b including *même* ‘even’ also associating with the possessive DP show that E is not present: given that they are degraded presumably because of an intervention effect between *seulement* and *même*, the same would hold in the presence of E in (86)a and (87)a as explained in section 2.5. I hypothesize that possessum *propre* plays a role in the association with *seulement* in the same way as in the previous examples involving E, because *seulement* is scalar here. I thereby adopt scalar analyses of *only* (Lerner and Zimmerman 1981, König 1991, Klinedinst 2004, Guerzoni 2003, Beaver and Clark 2008)²⁸ that attribute to *only* a scalar presupposition opposed to that of *even*: scalar *only* presupposes that the proposition it scopes over is high on a scale of expectation, namely the alternatives are less expected. For instance in (88), it would be more expected for Bill to have a PhD.

²⁸ Scalar analyses of *only* differ in whether they suppose that *only* is always scalar or assume that *only* has two lexical entries, one that is scalar and one that is non-scalar. This issue is irrelevant here.

- (88) (After 10 years at the university) Bill only has [a master's DEGREE]_F.
(from Klinedinst 2004)

Given that *seulement* requires a reverse scale as compared to *même/E*, the scale introduced by possessum *propre* correlates with it in a reverse way; otherwise, the role of *propre* in the association with *seulement* is exactly the same as in the association with *E* or *même*. For instance, *seulement* in (87)a presupposes that it is most expected to know how to write one's name as compared to other words. *Propre* is relevant in the association of *son propre nom* 'his own name' with *seulement* because it points out the extreme degree of relational specificity between Paul and his name, and this pragmatically interacts with the scale of expectedness required by *seulement*: the more closely related you are to a word, the more easily it is for you to write it. In other words, the only difference in the role played by *propre* in the association with *E/même* and with *seulement* is the contextual function F_c : in the case of *E/même*, F_c preserves the order, i.e. is monotonically increasing, while in the case of *seulement*, F_c reverses the order, i.e. is monotonically decreasing.

Note that the association with *E/même* and the association with *seulement* are also similar with respect to the domain of the scalarity effect. Just as in the case of *E* (as shown in section 2.2.), the scope of *seulement* can be dissociated from the position of *propre*: example (89) is similar to example (40) in this respect.

- (89) [Seuls²⁹ les patients qui ont vu [leurs propres ENFANTS]_F aujourd'hui sont contents].
Only the patients who have seen their own children today are happy
'Only the patients who saw their own CHILDREN today are happy.'

These cases involving *seulement* are important in two respects: first, they support the idea that *propre* participates in the construction of an expectedness scale by ranking the focused constituent at an extremity of a possessive scale that correlates with it; second, they empirically confirm that possessum *propre* does not obligatorily (thus not lexically) associate with *E*.

They also suggest that possessum *propre* is only compatible with scalar elements (*E*, *même*, *seulement*): I hypothesize that because of the scale it lexically introduces, possessum *propre* can only be relevant in the association with scalar particles.

Thus possessum *propre* is not very felicitous in the case of purely contrastive focus even in cases where the meaning of *propre* could seem to contribute to the fulfillment of the condition of contrast between alternatives (cf. Wagner 2006, Büring 2008) as illustrated in (90).

- (90) ?? Sonia n' a pas pris le métro pour aller en ville, elle a pris [sa propre VOITURE]_F.
Sonia neg has not taken the metro for go to_the town she has taken her own car
'Sonia did not take the subway to go to town, she took [her own CAR]_F.'

Here, the whole DP *sa propre voiture* 'her own car' (possessum) is in focus and contrasts with *le métro* 'the subway'. It would be plausible to suppose that *propre* points out the property relevant to the contrast between them: Sonia's car and the subway contrast not just because they are two

²⁹ The adjectival form *seuls* is here used instead of the adverbial form *seulement* because it attaches to the subject. The fact that *seulement* preferably takes an adjectival form in French when associating with the subject is an independent issue orthogonal to my point here.

types of transportation (subway vs. car), but also in the way they relate to Sonia (private vs public means of transport), and *propre* indicates private ownership (the possessive pronoun is not sufficient for that since *son métro* ‘her subway’ can be used to mean the metro line that she usually takes). Nevertheless, the example is degraded. This is, I hypothesize, because the scale introduced by *propre* as a maximizer remains unused.

The same holds with non-scalar particles like *aussi* ‘also’. In section 2.5 about intervention effects with overt focus particles, I have implicitly shown that DPs involving possessum *propre* cannot directly associate with *aussi* in examples like (53)a repeated below.

- (91) [= (53)a] ?? Pour ses 30 ans, Jean a invité sa famille et ses amis. Il a aussi
 for his 30 years John has invited his family and his friends he has also
 invité [ses propres ENNEMIS]_F.
 invited his own enemies
 ‘??John invited his family and his friends for his 30th birthday. He also invited
 [his own ENEMIES]_F.’

I have demonstrated that this sentence is degraded because *aussi* ‘also’ and E intervene in both associating with *ses propres ennemis* ‘his own enemies’. The unacceptability of this sentence also shows that *ses propres ennemis* ‘his own enemies’ cannot directly associate with *aussi* ‘also’. This is because *aussi* ‘also’ is not a scalar particle, unlike E, *même* or scalar *seulement*, and *propre* cannot therefore be relevant in the association with it by introducing a scale of relational specificity.³⁰

In sum, the association of E with DPs including possessum *propre* is due to a complex pragmatic process. Because *propre* as a maximizer lexically introduces a scale of relational specificity and ranks the DP containing it at its extremity, it is relevant in the activation of the maximum of the unexpectedness scale required by the semantics of E since the two scales pragmatically interact. This pragmatic role of relevance explains why possessum *propre* can lack truth-conditional effects. Thus the combination of the lexical entry of *propre* (maximizer of possessive relation), the lexical entry of E (requiring a scale of unexpectedness), the focus configuration of possessum *propre* (included in a focused possessive DP) and principles of relevance and economy explains why the association of possessum *propre* with E is quasi systematic. It is not obligatory though: possessum *propre* can associate with other scalar particles such as *même* or *seulement*. This supports the hypothesis that the association is not lexical, which is highly desirable given that under its other readings (truth-conditional *propre*, possessor *propre*), *propre* only occasionally associates with E.

4. Problems of alternative analyses

³⁰ Recall that focused *propre* (esp. possessor *propre*) however freely associates with focus since it does not have to be relevant in the same way as possessum *propre* (given that it satisfies the principle of minimization by being focused itself and thus inducing focus). Focused *propre* can thus associate with *aussi* ‘also’.

(xviii) Jean a invité mes amis. Il a aussi invité ses PROPRES amis.
 John has invited my friends he has also invited his own friends
 ‘John invited my friends. He also invited his OWN friends.’

To account for the scalarity effect arising in the presence of possessum *propre*, I have hypothesized that the focused possessive DP containing *propre* is associated with the implicit focus sensitive operator E similar to overt *even*, and *propre* is relevant in this association due to its maximizer meaning. I have thereby argued for the existence of E and thus supported theories proposing covert focus sensitive operators. In this final section, I am going to examine the problems that would be encountered by alternative analyses that would not involve (the same) E.

4.1. The issues of analyses without E

Let's first consider what would be the consequences of fully abandoning the E operator hypothesis. Under this approach, the scalarity effect would either have to be directly induced by *propre* or to have a purely pragmatic source.

The first option (*propre* would directly induce the scalarity effect) poses two main challenges. As we have already mentioned, this would first lead us to postulate several lexical entries for *propre*, given that *propre* is not associated with a scalarity effect in all cases, in particular in the cases of truth-conditional *propre* or possessor *propre*. This would also lead us to postulate several mechanisms giving rise to the same scalarity effect, given that we have observed that it can also arise in the absence of *propre*. In short, this approach would be theoretically undesirable as it would strongly go against Occam's Razor.

More problematically, this approach makes wrong empirical predictions. The scalarity effect has to target a proposition while *propre* has to appear in a possessive DP. Supposing that *propre* lexically induces the scalarity effect raises a problem of compositionality, which could only be solved by covert movement: *propre* would have to move at LF to a position scoping over the proposition subject to the scalarity effect. But in section 2.2, we have observed that the scope of the scalarity effect can be dissociated from the position of *propre* based on two types of configuration schematized in (92): the scalarity effect (represented by E in (92)) has matrix scope while *propre* occurs in an island or the possessive pronoun combining with *propre* is bound by a fixed intermediate element (QP).

- (92) a. E [CP₁ ... [CP_{2-island} ... [DP *son propre* N]_F ...]]
 b. E [CP₁ ... [CP₂ ... QP_i [DP *son_i propre* N]_F ...]]

Both cases show that pied-piping of the possessive DP by *propre* is impossible: this would wrongly predict these types of sentences to be unacceptable since the possessive DP would either have to cross an island or to be unbound by its binder. Furthermore, the first configuration shows that we cannot even suppose that *propre* moves by itself (which would already be controversial since it is not syntactically obvious that an adjective can move at LF by itself), since this would also yield an island violation. In sum, these kinds of examples demonstrate that the scalarity effect cannot be directly induced by the lexical entry of *propre*.

A purely pragmatic approach, which would derive the scalarity effect by some pragmatic reasoning akin to a Gricean implicature, is problematic for other reasons. Unlike the previous approach, it would easily account for the possible occurrence of scalarity effects in the absence of *propre*. But this view also presents fatal issues. First, given that pragmatic reasoning is postcompositional and is computed at the level of complete utterances, this would predict that scalarity effects cannot be embedded. This is not borne out as we have observed in section 2.3: as

represented in (93), the scalarity effect can arise at the level of an embedded clause containing *propre*.

(93) [CP₁ ... E [CP₂ ... [DP *son propre* N]_F ...]]

Second, a pragmatic approach is incompatible with the presuppositionality of the scalarity effect.

In sum, analyses that would not incorporate E present fatal flaws. Finally note that it would not be obvious under this kind of analyses to account for the intervention effects with focus particles examined in section 2.5.

4.2. Analyses with a different E

The final alternative analysis I will consider and question is an analysis that would define E in a different way. In particular, given that I have argued that E has the same scalar presupposition as *even* and that *even* has been analyzed in different ways, it is legitimate to wonder why I adopted one of these analyses for E.

In a nutshell, the two main theories about *even* diverge in cases where *even* occurs in the scope of the negation but gets interpreted higher than the negation. This case is illustrated in (94), (95), and (96).

(94) Julie didn't even invite her best friend.

(95) They hired no linguist who had even read *Syntactic Structures*.

(From Rullmann 1997: 48)

(96) a. Every student that even handed in one assignment, got an A.

b. # Every student that even handed in one assignment was wearing blue jeans.

(cf. footnote 14)

The scope theory (a.o. Horn 1971, Karttunen and Peters 1979, Wilkinson 1996, Lahiri 1998, Guerzoni 2003, Nakanishi 2006...), which I have adopted in this paper, proposes that *even* covertly moves to the position where it gets interpreted. The ambiguity theory (a.o. Rooth 1985, Rullmann 1997, Herburger 2000, Schwarz 2005, Giannakidou 2007...) assumes the existence of two lexical entries for *even*: regular *even* (corresponding to the *even* of the scope theory) that presupposes that p is the least likely among the alternative propositions, and NPI *even* (thus occurring in downward entailing environments) that conversely presupposes that p is the most likely among the alternatives. In (94) and (95), *even* scopes over the negation under the scope theory; under the ambiguity theory, these sentences involve NPI *even* that remains *in situ*. Given that my goal here is not to take a stand on this general issue about *even*, but simply to argue that this debate does not affect my take on E,³¹ I am not going to mention all the arguments for and

³¹ My conclusion that we do not need an implicit operator corresponding to NPI *even*, but we need one corresponding to regular *even* (E) could nevertheless constitute a (weak) argument for the scope theory. The fact that French *même* does not raise the problems of *even* with respect to island violation under the scope theory could also point towards this direction (see author 2014).

against each theory (see Rullmann: 2007 for a review). But for instance, note that the scope theory problematically predicts an island violating movement in (95) (*even* would move out of the relative clause over the matrix negation) while the ambiguity theory cannot predict the contrast between (96)a and (96)b since the scalarity presupposition is supposed to target the relative clause.

At first glance, the possibility of the existence of NPI *even* could appear to question one of my main arguments in favor of the existence of E: recall that I have argued that the scope of the scalarity effect can be dissociated from the position of *propre*, so that the scalarity effect cannot be directly induced by *propre* but comes from E. However, since I mainly illustrated these cases by using negation for reasons of clarity (narrow and wide scopes with respect to the negation are clearly distinguishable), it could be argued that apparent cases of high scope of the scalarity effect actually correspond to cases of NPI *even*. For instance, consider (41) repeated below.

- (97) [= (41)] Les policiers refusent que quiconque_i accuse [son_i propre AGRESSEUR]_F !
the policemen refuse that anybody accuses his own aggressor
'The policemen refuse to let anybody_i accuse [his_i own ATTACKER]_F!'

It could be hypothesized that this case does not argue for the insertion of E in the matrix clause as explained in section 2.2., but for the existence of NPI E in the embedded clause as defined in (98) (the only difference with regular E defined in (32) being the orientation of the scale): it is indeed highly expected that anybody would accuse his own attacker. Even more, this could suggest that the scalarity effect can in fact be directly induced by *propre* since the argument of the dissociation between the scope of the effect and the position of *propre* vanishes in those cases.

- (98) Lexical entry of NPI E (to be discarded)
 $\llbracket \text{NPI E} \rrbracket(p) \neq \#$ iff $\forall q ((q \in C \wedge q \neq p) \rightarrow p > q)$. If $\neq \#$, $\llbracket \text{NPI E} \rrbracket(p) = p$
indicates presupposition failure
> means "more expected than"
C is a set of contextually given alternative propositions, such that $C \subseteq \llbracket p \rrbracket^f$ and $\llbracket p \rrbracket^o \in C$ ($\llbracket p \rrbracket^o$ is the ordinary meaning of p and $\llbracket p \rrbracket^f$ is the focus meaning of p in Rooth's (1992) sense)

This hypothesis is however not tenable for several reasons.

First, it is clear that possessum *propre* does not exhibit the distribution of a NPI as illustrated by examples (1) repeated below, which do not contain any NPI-licensing element scoping over *propre*.

- (99) [= (1)] a. Médée a tué ses propres ENFANTS !
Medea has killed her own children
'Medea killed her own CHILDREN!'
b. Personne n' a défendu Paul. Sa propre MERE a gardé le silence.
nobody neg has defended Paul his own mother has kept the silence
'Nobody defended Paul. His own MOTHER kept silent.'
c. Le propre FILS de la victime a été mis en examen !
the own son of the victim has been put in examination
'The victim's own SON has been indicted!'

Therefore, such a hypothesis would uneconomically require to postulate two silent operators, regular E and NPI E, or two lexical entries for possessum *propre* (besides other ones for the other readings of *propre*).

Second, the possible objection is due to an artefact of the particular example chosen in (41). In fact, there are cases like (100) showing that the scope of the scalarity effect can be dissociated from the position of *propre* even if they do not involve any negative element.

- (100) a. La directrice n' a aucun sens de la probité : elle a accepté que les chefs
the director neg has no sense of the integrity she has accepted that the heads
d'équipe proposent une promotion à ses propres ENFANTS sans test préalable !
of team propose a promotion to her own children without test preliminary
'The boss has no sense of integrity: she let the team leaders promote her own
CHILDREN without a preliminary review!'
- b. #La directrice n' a aucun sens de la probité : elle a accepté que les chefs
the director neg has no sense of the integrity she has accepted that the heads
d' équipe proposent une promotion même à ses ENFANTS sans test préalable !
of team propose even a promotion to her children without test preliminary
'#The boss has no sense of integrity: she let the team leaders promote even her
CHILDREN without a preliminary review!'
- c. La directrice n' a aucun sens de la probité : elle a même accepté que les
the director(fem) neg has no sense of the integrity she has even accepted that the
chefs d' équipe proposent une promotion à ses ENFANTS sans test préalable !
heads of team propose a promotion to her children without test preliminary
'The boss has no sense of integrity: she even let the team leaders promote her
CHILDREN without a preliminary review!'
- d. *La directrice n' a aucun sens de la probité : elle a accepté que les chefs
the director(fem) neg has no sense of the integrity she has accepted that the heads
d' équipe proposent une promotion à qui que ce soit sans test préalable !
of team propose a promotion to anybody without test preliminary
'*The boss has no sense of integrity: she let the team leaders promote a single
person without a preliminary review!'

In (100), there is no downward entailing environment that could license a NPI as shown in (d) which exhibits the NPI *qui que ce soit* ('anybody', 'a single person'). However in (a), the scalarity effect is interpreted at the matrix level (as shown by the controls involving *même* in (b) and (c)) while *propre* occurs in the embedded clause: what is unexpected is not that the team leaders promote the boss' children without a preliminary review, but that she accepted it. This means that even if we assume the existence of NPI E, we have to conclude that the scope of the scalarity effect and the position of *propre* can be dissociated. We thereby discard the hypothesis under which we would have two lexical entries for possessum *propre* inducing opposite scalarity effects, but not yet the hypothesis of two operators, namely regular E and NPI E.

But while the hypothesis of overt NPI *even* may be attractive in avoiding some problems of the scope theory, in particular the issue of island-violating movements, that of covert NPI E does not have this advantage. Consider examples (36) and (37) again.

- (101) [= (36)] Luc n'est pas content quand ses propres ENFANTS sont là!
Luc neg is not happy when his own children are there

'Luc is not happy when his own CHILDREN are here!'

- (102)[=(37)] a. [Luc n'est **même** pas content quand ses ENFANTS sont là]!
Luc neg is even not happy when his children are there
'Luc is never happy; he's not even happy when his CHILDREN are here!'
b. #Luc n'est pas content quand [**même** ses ENFANTS sont là]!
Luc neg is not happy when even his children are there
'Luc is never happy; he's not happy when even his CHILDREN are here!'

First, given that E is inserted at LF, it would obviously not trigger any island violating movement as opposed to overt *even* appearing in the adjunct clause at surface structure (as in the translation of (102)b); the hypothesis of NPI E cannot thus have the advantage of solving this problem. Second, as we have mentioned already, French *même* cannot occur in the adjunct clause here as shown by (102)b; postulating NPI E there would therefore break the parallel between E and *même*. Furthermore, the meaning of the embedded clause does not necessarily license the presence of NPI E: in (100)a, it is not particularly expected that the team leaders promote the boss' children; just as in (96), the hypothesis of NPI E/*even* makes a wrong prediction with respect to the domain of the scalarity effect.

In sum, while there are many cases (positive contexts and cases like (100)a raising an issue of domain) where regular E is required and cannot be replaced by NPI E, there is no case where NPI E is required and cannot be replaced by regular E.³² Postulating NPI E would therefore seem to be really redundant.

As a final remark, we could wonder why other elements that have been argued to associate with E such as minimizers exhibit a restricted, NPI-like distribution, while the maximizer possessum *propre* does not. Previous analyses (Lahiri 1998, Chierchia 2006, 2013) assume that minimizers only occur in negative environments because in combination with E they would systematically produce contradictory implicatures in upward entailing contexts like (103).

(103)# E [Paul lifted a finger].

This is so because a proposition containing a minimizer is entailed by its alternatives: if Paul did more than lifting a finger, he necessarily did less too (i.e. he lifted a finger); this is a semantic entailment based on the quantitative scale induced by *a finger*. But E implies that the alternatives are more expected. This is contradictory since nothing can be less expected than what entails it; lifting a finger cannot be less expected than lifting more than a finger since the former entails the latter.

The difference between possessum *propre* and minimizers seems to be due to the fact that possessum *propre* is not sensitive to logical entailment as opposed to minimizers. There is no logical entailment relation between propositions involving different possessums, only a pragmatic relation, as opposed to propositions containing minimizers that are part of quantitative scales. No

³² Moreover, if we supposed that NPI E is in fact not constrained in distribution like a NPI, but simply has the reverse scalar presupposition as compared to regular E, this would wrongly predict the possibility of reverse scalarity effects similar to those triggered by scalar *only*. (xix) exemplifies that this is not borne out.

(xix) [vs. (1)a] # E [Médée adore [ses propres ENFANTS]_F].
Medea loves her own children
'Medea loves [her own CHILDREN]_F.'

contradiction can thus obtain in positive contexts in the case of possessum *propre*.

For a contradiction to obtain with minimizers in upward entailing environments, note that we crucially need to use a logical notion of expectedness for E, i.e. a strict notion of likelihood. I have however explained that this cannot be the case for possessum *propre*. Does this mean that the operator E postulated for minimizers cannot be defined in the same way as the one used in this paper?

Fortunately, we do not have to reach this conclusion. Indeed, the notion of semantic entailment does not seem to be the only one structuring scales at stake with minimizers as shown by the paradox of pecuniary polarity items (see Israel: 2001).

- (104) a. He won't spend a red cent on your wedding.
b. He somehow got Madonna to play for peanuts. (from Israel 2001, ex. 15a, 16a)

Examples (104)a and (104)b demonstrate that pecuniary minimizers (*a red cent*, *peanuts*) can behave both as NPI ((104)a) or PPI ((104)b), which shows that there is no correlation between being a minimizer and a NPI (or being a maximizer and a PPI). Crucially, this depends on the role that the minimizer plays in the proposition, which has an effect on the scale at stake. In (104)a, the NPI behavior of *a red cent* derives from its position as object of *spend*, which leads to the use of a quantitative scale based on semantic entailment: spending a sum entails spending less than this sum. In (104)b however, the PPI behavior of *peanuts* comes from its position as object of *to play for* which favors the use of a scale based on pragmatic, non-logical implication: accepting to play for a sum does not imply accepting to play for less. I do not have space to explain in details which frames correlate with which kinds of scales (see Israel: 2001 for more details on this point), but what matters here is that these remarks suggest that my analysis of possessum *propre* seems perfectly compatible with that of minimizers. If minimizers usually have a NPI distribution as opposed to possessum *propre*,³³ it is because they typically appear in a fixed frame (e.g. *lift a finger*); note that if we considered *love his own CHILDREN* as a fixed expression, it would similarly behave like a NPI; but if we considered *hate his own CHILDREN* it would behave like a PPI.³⁴ This is so because most frames involving minimizers induce the use of logical scales based on semantic entailment. But examples like (104)b show that this is not necessarily the case. In sum, we can still assume that the expectedness notion required by E is not fixed, but can be expressed as “expected according to x”, where the contextual variable x can correspond to logical likelihood (“expected according to probability”) as in most cases of minimizers, but also to pragmatic standards (“expected according to a certain stereotype”) as in most examples of this paper. If a logical scale of entailment is much more often used with minimizers than with possessum *propre*, it is because minimizers contain a notion of quantity subject to logical entailment, while possessive relations are not subject to it.

³³ However, NPIs like *any* always have an NPI distribution. This can be derived from the fact that their alternatives is exhausted by the operator O, not E, which necessarily involves logical entailments.

³⁴ Israel (2001) mentions one example of possessive DP with *own* (*his own shadow* in (xx) below) and characterizes it as a “minimalistic emphatic PPI”.

(xx) Godfrey is afraid of his own shadow.

(Israel 2001, ex. 12)

Surprisingly, while Israel (2001) argues that different propositional roles may be associated with different scalar orderings, he does not mention that the distribution of possessive DPs containing *own* is not necessarily PPI-like but crucially depends on the contextual proposition it appears in.

5. Conclusion

In this paper, I have explored a new empirical domain to argue for the existence of the focus sensitive operator E akin to overt *even*: I have shown that the scalarity effect typically arising under certain readings of French *propre* ‘own’ derives from the association of the focused possessive DP containing *propre* with E.

The argument is based on empirical and theoretical considerations: unlike alternative analyses without E, the E operator hypothesis correctly predicts that the domain for the scalarity effect does not depend on the position of *propre* and that the simultaneous presence of overt focus particles gives rise to intervention effects; furthermore, this hypothesis is economical since it makes it possible to analyze *propre* under all its readings in a unified way (i.e. using a single lexical entry), and to account for all cases of scalarity effect with a single mechanism (namely E). The typical association of E with possessive DPs containing *propre* is argued to be due to a complex pragmatic process involving the lexical entry of *propre* (argued to be a maximizer of possessive relation), the lexical entry of E (requiring a scale of unexpectedness), the focus configuration of possessum *propre* (included in a focused possessive DP) and pragmatic principles of economy and relevance.

I hope to have thus clarified both the behavior of the understudied element *propre* ‘own’ (at least under one of its readings) and that of E, and thereby contributed to the understanding of the role of scalarity in grammar and its interaction with pragmatics.

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