THE SCALAR READING OF *SON PROPRE* ('HIS OWN'): EVIDENCE FOR THE EXISTENCE OF A SCALARITY OPERATOR[1]

ISABELLE CHARNAVEL
University of California, Los Angeles/Institut Jean Nicod, Paris

1 Introduction

The goal of this article is to provide a new and independent argument in favor of the existence of a scalarity operator E akin to overt *even.* Besides the exhaustivity operator O (akin to *only*; cf. Chierchia *et al.*: to appear)*,* a silent focus sensitive operator E has been proposed, mainly to account for readings involving NPIs, in particular minimizers (cf. Heim 1984, Krifka 1995, Chierchia 2006). In this paper, I want to extend the empirical basis for assuming the existence of E. My argument will be based on scalar readings induced by French *propre* 'own' appearing in possessive DPs. I will show that we need to assume the presence of an operator such as E in order to derive the right scope position in which the scalarity effect induced by *propre* is computed.

The scalar reading of *propre*[2] is illustrated in (1). We observe in these examples that *propre* triggers a scalarity effect in the sense that the proposition in which it occurs is very low on a scale of expectations.

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[2] The scalar reading of *propre* is one of the two main kinds of readings triggered by *propre*: as shown in previous work (Charnavel: 2011), *propre* does not change the truth conditions but induces focus alternatives and the two main readings of *propre* differ with respect to the content of the alternative, i.e. possessum or possessor, as shown by the paraphrases in b, c and d:

> (i) a. Julie compare sa PROPRE vie à celle de Louise.　　　　　'Julie compares her OWN life to Louise's.'
>   Julie compares her own　　life to that　of　Louise
>   b. Julie compare SA vie à celle de Louise.　　　　　　　　'Julie compares HER life to Louise's.'
>   Julie compares her life to that　of　Louise
>   c. Julie compare sa vie à ELLE à celle de Louise. [clitic doubling]　'Julie compares HER life to Louise's.'
>   Julie compares her life to her　　to that　of　Louise

(1) a. Médée a   tué ses propres ENFANTS !
       Medea has killed her own   children
   'Medea killed her own CHILDREN!'
  b. Personne n' a essayé de défendre Luc. Sa propre MÈRE a   gardé le silence !
     Nobody   neg has tried   to defend   Luc his own   mother has kept   the silence
    'Nobody tried to defend Luc. 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 (1a) relies on the common assumption that it is scandalous to kill one's children (for example as compared to killing strangers or enemies); so the proposition that Medea killed her children is the least expected among a set of alternatives (e.g. "Medea killed strangers", "Medea killed her enemies"...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 ; cf. footnote 5):

(2) a. Médée a   même tué ses enfants !
       Medea has even   killed her children
    'Medea even killed her children!'
  b. Personne n'   a essayé de défendre Luc. Même sa mère a   gardé le silence!
     nobody   neg has tried   to defend   Luc. Even   his mother has kept   the silence
    'Nobody tried to defend Luc. Even his mother kept silent!'

(ii) a. Personne n' a défendu Paul. Sa propre MERE a gardé le silence.
       nobody   neg has defended Paul her own   mother has kept   the silence
     'Nobody tried to defend Paul. His own MOTHER kept silent.'
   b. Personne n' a défendu Paul. Sa MERE a gardé le silence.
      nobody   neg has defended Paul her mother has kept   the silence
     'Nobody tried to defend Paul. His MOTHER kept silent.'
   c. Personne n' a défendu Paul. Même sa MERE a gardé le silence.
      nobody   neg has defended Paul even   her mother has kept   the silence
     'Nobody tried to defend 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 her mother herself   has kept   the silence
     'Nobody tried to defend Paul. His mother HERSELF kept silent.'

In this paper, I am mainly concerned with the second reading of *propre* (the alternatives target the possessum) because only *possessum propre* typically triggers a scalarity effect; *possessor propre* (the alternatives target the possessor) can, but need not. The possessum reading of *propre* can be clearly distinguished from the possessor reading of *propre*: in the first case, there is focal stress on *propre* (focal stress will be noted by small capital letters), while in the second case, it is the noun that is stressed (and also *propre* for certain speakers) and the intonation has a specific rising contour. Even if my argumentation will hinge on the reading of *possessum propre*, it will be important to keep in mind that the possessor reading usually coexists with the possessum reading to avoid confusion; moreover, part of the argumentation will involve the possessor reading of *propre*. Moreover, the same observations hold for English *own*, which suggests that the phenomenon is more general and does not rely on an idiosyncrasy of French. I will nevertheless focus on French, as the comparison with *même* ('even') is more straightforward and will thus make the argument clearer.

   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!'

The gist of my argument will be to show that the only way to derive the right domain of the scalarity effect induced by *propre* is to assume the existence of an operator. By 'domain of the scalarity effect', I mean the proposition targeted for an evaluation with respect to the scale of expectations.

       Three main hypotheses may be considered to account for the scalarity effect of *propre:*
- lexical hypothesis: the scalarity effect is an entailment of the lexical entry of *propre;*
- pragmatic hypothesis: the scalarity effect is derived by a general Gricean implicature;
- operator hypothesis: the scalarity effect is due to the presence of an operator (henceforth called E).

First, I will argue against the pragmatic hypothesis by showing that the proposition targeted by the scalarity effect can be embedded. Second, I will refute the lexical hypothesis by demonstrating that the domain of the scalarity effect does not have to correspond to the proposition containing *propre,* whether at surface structure or at LF. These counterarguments will constitute the main argument in favor of the operator hypothesis, since this hypothesis can on the contrary account for all the possible scopes of the scalarity effect. Further arguments such as intervention effects with other focus particles will reinforce the operator hypothesis.

Hypothesis	Prediction	Fact	Result
Pragmatic Hypothesis: the scalarity effect is derived by a global Gricean reasoning	The proposition targeted by the scalarity effect cannot be embedded	The proposition targeted by the scalarity effect can be embedded	Wrong prediction
Lexical Hypothesis: the scalarity effect is included in the lexical entry of *propre*	The proposition targeted by the scalarity effect corresponds to the proposition in which *propre* occurs (at surface structure or at LF)	The proposition targeted by the scalarity effect does not have to correspond to a proposition that *propre* can move to.	Wrong prediction
Operator Hypothesis: the scalarity effect is due to the presence of the operator E	The proposition targeted by the scalarity effect is the proposition in the scope of E.	The proposition targeted by the scalarity effect does not depend on the position of *propre* and can be embedded. Overt focus operators in the same proposition trigger intervention effects.	Good predictions

Table 1: Structure of the Argument

2 Against the pragmatic hypothesis

A first possible hypothesis to account for the scalarity effect induced by *propre* is to derive it by a pragmatic reasoning akin to a Gricean implicature. Thus in (1), such a reasoning would amount

to assume that if the speaker chose to stress that it is her children –as compared to other people– that Medea killed, it is because it is scandalous to do so. From this perspective, contrastive focus on the possessum (Medea's children) and common assumptions about world behaviors are sufficient to derive the scalarity effect. Since my goal is to refute the pragmatic hypothesis, I will not try to articulate the reasoning in detail.

2.1 Good prediction of the pragmatic hypothesis

This hypothesis correctly predicts that a scalarity effect also arises when the possessum is focused by means other than *propre*, for instance by mere focal stress on the noun. Thus (3) exhibits the same scalarity effects as (1) if the right prosody is used (i.e. stress and rising intonation on *enfants* 'children').

(3) Médée a   tué   ses ENFANTS !
    Medea   has killed her   children
  'Medea killed her CHILDREN!'

2.2 A wrong prediction of the pragmatic hypothesis

However, the pragmatic hypothesis incorrectly predicts that the proposition targeted by the scalarity effect cannot be embedded since a Gricean reasoning has to be global: in the tradition stemming from Grice (1989), implicatures are considered to be a pragmatic phenomenon and pragmatics takes place at the level of complete utterances.[3] But in fact, the scalarity effect can locally arise as illustrated in (4).

(4) a. Les parents d'Anne refusent qu' elle trahisse ses propres ENFANTS.
      the   parents of Anne refuse   that she betrays her own   children
   'Anne's parents refuse to let her betray her own CHILDREN.'
  b. #Les parents d'Anne refusent même qu' elle trahisse ses ENFANTS.
     the   parents of Anne refuse   even   that she betrays her children
    '#Anne's parents even refuse to let her betray her CHILDREN.'
  c. Les parents d'Anne refusent qu' elle trahisse même ses ENFANTS.
    the   parents of Anne refuse   that she betrays even   her children
   'Anne's parents refuse to let her betray even her CHILDREN.'

In this example, what is unexpected[4] is that Anne wants to betray her children (based on a stereotypical scale of this kind: *betray one's children < betray one's neighbors < betray one's enemies*, with "<" meaning: less expected than), not that her parents refuse to let her betray them; on the contrary, based on stereotypical behaviors, it is rather expected that they do so. In other

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[3] If we were to adopt a cyclic view of pragmatics like Chierchia (2006) attempted to do, the availability of local implicatures or local scalarity effects would not go against a pragmatic hypothesis any more. I will ignore this possibility in this paper, but it is worth noting that the empirical extension of focus sensitive operators that this paper contributes to actually further raises the question of the justification for hidden operators. Even if I argue in favor of a silent operator here, I would not be opposed at all to the idea of converting these operators into pragmatic phenomena under an enriched view of pragmatics. I believe that proving the existence of silent operators under the standard view is a first step in this direction.

[4] "Unexpected" is here (and later on) an abbreviation to actually mean "lowest on a scale of expectations".

words, for the sentence to be felicitous in stereotypical contexts, the scalarity effect has to scope below the negative verb *refuser* 'refuse to let', not above it.

This is further suggested by the fact that in the paraphrase of (4a) involving *même, même* has to occur in the embedded clause (4c); if *même* appears in the matrix clause, the interpretation is not felicitous. I will make further use of paraphrases with *même* in the rest of this paper as it conveniently indicates the scope of the scalarity effect. This does not mean, however, that *même* and E are identical,[5] nor necessarily that *même* always has surface scope. But it will be a convenient and good enough tool for my purposes if used cautiously: thus (4c) is certainly ambiguous between a reading where *même* scopes below *refuser* (surface scope) and another reading where it scopes above it (or at least, it seems so even if this does not necessarily have to be explained in terms of scope; cf. NPI *even* theory (cf. footnote 6)), but it is sufficient for my argument that the first reading exists and corresponds to the interpretation of (4a); the important point is that the interpretation of (4a) does not correspond to that of (4b), which is crucially not ambiguous: under the only possible interpretation, *même* scopes over *refuser*. Therefore, based on the stereotypical scale mentioned above, (4a) cannot be interpreted if the scalarity effect occurs at the matrix level: it has to be embedded, which is not compatible with a global Gricean reasoning.

So this example shows that the proposition targeted by the scalarity effect can be embedded, which is predicted not to be possible under the pragmatic hypothesis since Gricean reasonings are global. Now, the challenge is to argue against the lexical hypothesis by demonstrating that the scalarity effect can actually have higher scope than *propre*.

3 Against the lexical hypothesis

According to the lexical hypothesis, the scalarity effect is contained in the lexical entry of *propre*. This predicts that the scalarity effect occurs at the same propositional level as *propre*. However, I will show that this prediction is not borne out: the scalarity effect can arise at a position where *propre* does not occur whether at surface structure or at LF.

3.1 *Propre* **and the scalarity effect can be disconnected**

3.1.1 Islands

This can be first tested with sentences involving islands such as (5).

(5) a. 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!'

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[5] In particular, contrary to what is standardly assumed for *even* (existence presupposition), E does not imply that the more expected alternatives are true, as shown by the contradiction in (iiib) vs. (iiia):
    (iii) 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.'

b. Luc n'est jamais content ; il n'est même pas content quand ses ENFANTS 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 are here!'
c. #Luc n'est jamais content ; il n'est pas content quand même ses ENFANTS 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 are here!'
d. Luc n'est jamais content ; il n'est pas content quand ses ENFANTS sont là !
   Luc neg is never   happy   he neg is not happy   when   his children   are   there
   'Luc is never happy; he's not happy when his CHILDREN are here!'

In this case, the DP containing *propre* occurs in an adjunct island so that it arguably cannot move out of it at LF. Moreover, the scalarity effect is interpreted at the matrix level in stereotypical contexts: what is unexpected is not that Luc's children are present, but that Luc is not happy when they are. That's why in the correct paraphrase, *même* appears in the matrix clause, not in the adjunct clause (5b vs. 5c).[6] 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 is an argument against the lexical hypothesis as the scalarity effect and the DP containing *propre* are irreparably disconnected. Furthermore, note that this argument is theory-neutral since there is in any case a contrast between (5c) and (5a): a scalarity effect can occur in the highest proposition when *son propre* appears in an adjunct clause (5a), but not when *même* does (5c); this shows that the scalarity effect induced by *propre* cannot be derived in the same way as that induced by *même*, which most theories assume is one of the presuppositions constituting the lexical entry of *même*.

3.1.2 Interaction with intermediate quantifiers

A second possible test 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 is an argument against the lexical hypothesis: moving the DP with *propre* to the matrix level, i.e. above the quantifier, would unbind the variable; so as in the previous case, the scalarity effect and the DP containing *propre* are irreparably disconnected. In fact, this case turns out to be attested as shown in (6).

(6) a. Les policiers refusent que quiconque$_i$ accuse son$_i$ propre AGRESSEUR !
      the policemen refuse   that anybody   accuses his   own   aggressor
     'The policemen refuse to let anybody$_i$ accuse his$_i$ own ATTACKER!'
   b. Les policiers refusent même que quiconque$_i$ accuse son$_i$ AGRESSEUR !
      the policemen refuse   even   that anybody   accuses his   aggressor
      'The policemen even refuse to let anybody$_i$ accuse his$_i$ ATTACKER!'

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[6] It seems however that the English translation of (5c) can be interpreted like (5a) (matrix scope of the scalarity effect) even if *even* occurs in the adjunct clause. This kind of sentence constitutes an argument for theories assuming the existence of two *even* (regular *even* and NPI *even;* cf. Rooth 1985, Rullmann 1997, Herburger 2000, Schwarz 2005, Giannakidou 2007…) against scope theories of *even* (cf. Horn 1971, Karttunen and Peters 1979, Wilkinson 1996, Lahiri 1998, Guerzoni 2003, Nakanishi 2006…): the latter theories would have to assume that *even* moves out of an island at LF. However, French *même* does not seem to behave the same (the scalarity effect cannot have matrix scope when *même* occurs in the adjunct clause, cf. 5c); to my knowledge, this difference between French and English has not been explained nor even noticed.

   c. Les policiers refusent que quiconque$_i$ accuse son$_i$ AGRESSEUR !
       the policemen refuse   that anybody   accuses his aggressor
     'The policemen refuse to let anybody$_i$ accuse his$_i$ ATTACKER!'

In this example, *quiconque* is a Negative Polarity Item and must therefore be outscoped by the negative verb *refuser*. 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; 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. Thus the paraphrase with *même* in the matrix clause is correct (the paraphrase would also be acceptable if *même* occurred in the embedded clause: two interpretations are here possible).

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 an indefinite that is not specific as exemplified in (7).

(7) 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!'
   c. La nouvelle loi interdit qu'[une victime]$_i$ dénonce son$_i$ AGRESSEUR!
       the new   law prohibits that a   victim   denounces his aggressor
     'The new law prohibits [a victim]$_i$ from accusing his$_i$ ATTACKER!'

Once again, under the much preferred interpretation, the scalarity effect outscopes the negative verb *interdire* ('prohibit'), while the DP containing *propre* has narrow scope with respect to the negation as 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 (8a), and when this kind of quantifier binds *son propre*, the scalarity effect can nevertheless scope high (cf. 8b paraphrased by 8c).

(8) 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!'

d. Un professeur refuse que [plus de 5 étudiants]$_i$ présentent leur$_i$ TRAVAIL !
   a professor   refuses 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 (9), *deux tiers des étudiants* ('two thirds of the students') is interpreted differently whether it scopes above or below *refuser*; 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.

(9) 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!'
    c. Chaque président de département refuse que [deux tiers des étudiants]$_i$
       each   president of department   refuses that two thirds of_the students
       présentent leur$_i$ TRAVAIL !
       present   their work
       'Each chair refuses to let [two thirds of the students]$_i$ present their$_i$ WORK!'

So 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 position of the scalarity effect and that of the DP with *propre* can be irreparably dissociated, which is a strong argument against the lexical hypothesis that predicts this situation to be impossible.

3.2 Two weaker arguments against the lexical hypothesis

Two weaker arguments also militate against the lexical hypothesis. First, given that *propre* typically triggers a scalarity effect only under one of the two main possible readings, i.e. when the focus alternatives target the possessum (cf. footnote 1), the lexical hypothesis predicts the existence of two homonymous lexical entries for *propre*, one including the scalarity effect, the other one excluding it. But this is not desirable for theory-internal reasons of economy. As we will see, the operator hypothesis, however, does not have this consequence (I will assume that E is independent from *propre*).

Furthermore, the lexical hypothesis does not provide any explanation for why the same scalarity effect can occur without the presence of *propre*. Thus the following examples in (10) are identical to some of the previous examples except that they do not contain *propre*; however, a similar scalarity effect arises. This means that under the lexical hypothesis, another mechanism is needed to explain these cases.

(10) a. Médée a tué   ses ENFANTS! (cf. 1a)
      Medea has killed her   children
      'Medea killed her CHILDREN!'
   b. Luc n'est jamais content ; il n'est pas content quand ses ENFANTS sont là ! (cf. 5d)
      Luc neg is never   happy   he neg is not happy   when his children   are there
      'Luc is never happy; he's not happy when his CHILDREN are here!'
   c. Les policiers refusent que quiconque$_i$ accuse son$_i$ AGRESSEUR ! (cf. 6c)
      the policemen refuse   that anybody   accuses his aggressor
      'The policemen refuse to let anybody$_i$ accuse his$_i$ ATTACKER!'

4 In favor of the operator hypothesis

According to the operator hypothesis, the scalarity effect induced by *propre* is due to the presence of the scalarity operator E (akin to *even*) proposed by Chierchia. This focus sensitive operator implies[7] that the proposition p that it scopes over is lowest on a scale of expectations (i.e. the alternatives q are more likely):

$$\llbracket E \rrbracket \,(p) \neq \# \text{ iff } \forall q\,((\,q \in C \wedge q \neq \llbracket p \rrbracket^o) \rightarrow \llbracket p \rrbracket^o < q). \text{ If } \neq \#, \llbracket E \rrbracket \,(p) = p$$

\# 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. $\llbracket p \rrbracket^f$ is the focus meaning of p.

4.1 First good prediction: the scope of the scalarity effect

The operator hypothesis is superior to the previous ones in that it makes correct predictions when the pragmatic and the lexical hypotheses fail to do so. In particular, this hypothesis correctly predicts that the scalarity effect can either have matrix scope or embedded scope disregarding the position of *propre*: E derives the scalarity effect at the right level both in problematic examples for the pragmatic hypothesis (11) and in problematic ones for the lexical hypothesis (12).

(11) Les parents d'Anne refusent que E[elle trahisse ses propres ENFANTS].
     the parents of Anne refuse   that   she betrays   her own   children
    'Anne's parents refuse to let E[her betray her own CHILDREN].' (cf. 4)

(12) Luc n'est jamais content ; E[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; E[he's not happy when his own CHILDREN are here!]' (cf. 5)

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[7] The following tests suggest that the scalarity effect is a presupposition:
    (iv) 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?'
The scalarity effect projects in conditional clauses and questions: (iva) conveys the presupposition that it is unexpected that John betrayed his boss, (ivb) that it would be unexpected that he betrays his children.

Moreover, these two cases can be combined in the same sentence. In (13), E 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 means that neither the pragmatic hypothesis nor the lexical hypothesis could account for this case. The operator hypothesis however can.

(13) Je ne pense pas que E[Luc ne soit pas content quand ses propres ENFANTS 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 are here].'

4.2 A second good prediction: intervention effects with overt focus particles

In addition, the operator hypothesis is further supported by another array of facts concerning multiple focus. The structure of the argument is as follows: the 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 reading of *propre* that is of interest here (the alternatives target the possessum) 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'.[8]

(14) a. ?? Pour ses 30 ans, Jean a   invité sa famille et ses amis. Il a   <u>aussi</u> invité
        for   his 30 years John has invited his family   and his   friends he has also   invited
        ses <u>propres</u> ENNEMIS.
        his own   enemies
        'John invited his family and his friends for his 30th birthday. He <u>also</u> invited his <u>own</u>
        ENEMIES.'
    b. ?? Pour ses 30 ans, Jean a   invité sa famille et ses amis. Il a   <u>aussi</u> invité
         for   his 30 years John has invited his family   and his   friends he has also   invited
         <u>même</u> ses ENNEMIS. /Il a   <u>même</u> <u>aussi</u> invité ses ENNEMIS.'[9]
         even his enemies   he has even   also   invited his enemies
         'John invited his family and his friends for his 30th birthday. He <u>also</u> invited <u>even</u> his
         ENEMIES./He <u>even</u> <u>also</u> invited his ENEMIES '
    c. Pour ses 30 ans, Jean a   invité sa famille et ses amis. Il a   <u>aussi</u> invité
       for   his 30 years John has invited his family   and his   friends he has also   invited
       ses ENNEMIS.'
       his enemies

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[8] I illustrate the point with *aussi* 'also' rather than *seulement* 'only', because the paraphrase with *même* 'even' (which is meant to control for the existence of the intervention effect in the example at hand, as data with multiple focus do not seem to always show intervention effects for unknown reasons, cf. Beck: 2009) would be bad for independent reasons in the case of *seulement*: as we will see, *même* unlike E presupposes that some more expected alternatives are true, which is in most cases incompatible with the assertion of *seulement* that excludes all other alternatives.

[9] 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 DP; there is no intervention effect in this case, but this case does not concern us here, since the scalarity effect induced by *propre* necessarily targets the DP including *propre*.

'John invited his family and his friends for his 30th birthday. He <u>also</u> invited his ENEMIES.'

  d. Pour ses 30 ans, Jean a invité sa famille et ses amis. Il a <u>même</u> 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 <u>even</u> invited his ENEMIES.'

  e. 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 <u>propres</u> ENNEMIS !
    his own   enemies
    'John invited his family and his friends for his 30th birthday. And he invited his <u>own</u> ENEMIES!'

In (14a), *aussi* is supposed to associate with *ses propres ennemis*. But the sentence is degraded, while the same sentence without *propre* (c) or without *aussi* (e) is perfectly acceptable. This suggests that there is an intervention effect induced by the presence of *propre* in the DP targeted by the focus particle *aussi*. As a matter of fact, an intervention effect arises when *propre* is absent but *même* associating with the possessive DP is present instead (b), while the sentence with *même* but without *aussi* is grammatical (d). So it seems that *même* and *propre* have the same degrading effect on the sentence in the presence of another focus particle *aussi* targeting the same DP. This directly follows under the operator hypothesis, assuming that E like *même* triggers an intervention effect with *aussi*.

The same holds if the focus particle targets a DP different from that containing *propre*:

(15) a. ?? [Cette année, Jean a   seulement$_1$ vu ses propres$_2$ PARENTS$_2$ [à NOËL$_1$]$_2$.
        this   year   John has only   seen his own   parents   at Christmas
    '?? [This year, John only$_1$ saw his own$_2$ PARENTS$_2$ [at CHRISTMAS]$_1$ $_2$.'
      Intended: it is unexpected that this year, John saw his parents only at Christmas.

  b. Cette année, Jean a   seulement$_1$ vu ses PARENTS [à   NOËL]$_1$.
    this   year   John has only   seen his parents   at Christmas
    'This year, John only$_1$ saw his PARENTS [at CHRISTMAS]$_1$.'

  c. # Cette année, Jean a vu ses propres PARENTS 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   seulement$_1$ vu même$_2$ ses PARENTS$_2$ à NOËL$_1$./
      this   year   John has only   seen even   his parents   at Christmas
    Cette année, Jean a   même$_2$ vu ses PARENTS$_2$ seulement$_1$ à NOËL$_1$.[10]
     this   year   John has even   seen his parents   only   at Christmas
    '[This year, John only$_1$ saw even$_2$ his PARENTS$_2$ [at CHRISTMAS]$_1$ $_2$./
    '[This year, John even$_2$ saw only$_1$ his PARENTS$_2$ [at CHRISTMAS]$_1$ $_2$.'

In (15), *seulement* ('only') associates with *à Noël* ('at Christmas'): the intended interpretation is that it is unexpected that John saw his parents only at Christmas this year (the bracketing is meant to indicate that the domain of the scalarity effect ($_2$) includes the focus effect of *seulement*;

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[10] The same remark holds as in (15b), cf. footnote 9.

the indices clarify the target of the focus).[11] But while the sentence is perfectly acceptable without *propre* in (b) (the contrastive focus on *parents* only needs to be justified, for instance by a continuation of that sort: "and he only saw his SISTER for NEW YEAR"), the presence of *propre* seems again to yield an intervention effect similar to the intervention effect triggered by *même* in (d).[12]

Note that the sentence without *seulement* is infelicitous in (c). This is only the case because the scalarity effect was precisely made felicitous by the presence of *seulement*: in stereotypical contexts, it is not unexpected to see one's parents, but it is unexpected to see them only at Christmas. In fact, if the scalarity effect does not depend on the presence of *seulement* as in (16), the sentence without *seulement* is fine, as in stereotypical contexts it is unexpected to invite one's enemies to one's wedding.

(16) a. ?? [A son mariage, Jean a   seulement$_1$ invité ses propres$_2$ ENNEMIS$_2$]$_2$
        at his wedding John has only   invited his   own   enemies
        [au   vin d' HONNEUR]$_1$.
         at_the wine of honor
   '?? [For his wedding, John only$_1$ invited his own$_2$ ENEMIES$_2$]$_2$ [to the RECEPTION]$_1$.'
     Intended: it is unexpected that for his wedding, John invited his enemies, though
               only to the reception.
   b. #A son mariage, Jean a   seulement$_1$ 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 only$_1$ invited his ENEMIES [to the RECEPTION]$_1$.'
   c. A son mariage, Jean a   invité ses propres ENNEMIS 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$_2$ ENEMIES to the reception.'
   d. ?? A son mariage, Jean a   seulement$_1$ invité même$_2$ ses ENNEMIS$_2$
        at his wedding John has only   invited even   his enemies
        [au   vin d'HONNEUR]$_1$./ A son mariage, Jean a   même$_2$ invité ses ENNEMIS$_2$
        at_the wine of honor   at his wedding John has even   invited his enemies
        seulement$_1$ [au   vin d' honneur]$_1$.
        only   at_the wine of honor
    '?? For his wedding, John only$_1$ invited even$_2$ his ENEMIES$_2$ [to the RECEPTION]$_1$./
    ?? For his wedding, John even$_2$ invited his ENEMIES$_2$ only$_1$ [to the RECEPTION]$_1$.'

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[11] This representation implicitly assumes that focus evaluation is selective, which is one possible theory (cf. Kratzer: 1991, Wold: 1996), while Rooth (1992)'s theory rather implies that focus evaluation affects all foci in the scope of the evaluating operator. Even if I do not mean here to take a stand on this issue, the facts that my argument is based on seem to support the former theory (focus evaluation is selective). But as shown by Beck and Vasishth (2009), the data are tricky and the story may need to be more complex. In any case, the important point for my purposes here is that intervention effects indeed occur in my specific examples with overt focus particles (as controlled by paraphrases with *même*) and also with hypothesized E as well. I do not aim at making a point with respect to multiple focus in general.

[12] If the DP with *propre* is topicalized, the intervention effect vanishes (cf. va). This is consistent with the operator hypothesis since the same happens with *même* (cf. vb).
   (v) a. Ses propres PARENTS, Jean les a   seulement$_1$ vus à NOËL$_1$.
        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   seulement$_1$ vus à NOËL$_1$.
        even   his parents John them has only   seen at Christmas
      'Even his PARENTS, John has only seen at CHRISTMAS.'

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. But conversely, the sentence without *propre* (16b) is infelicitous in stereotypical contexts: since it is already unexpected to invite one's enemies at all, the downward oriented nature of *seulement* does not fit.

But taken together, these two examples (15) and (16) show that even if the sentences are grammatical when only *propre* or only *seulement* is present, they are not when both occur, even though the intended interpretation is perfectly plausible. This supports the operator hypothesis that predicts an intervention effect similar to that occurring with *même*, which can explain the degraded status of the sentences.

5 Conclusion

To summarize, several arguments support the operator hypothesis: the best way to account for the scalarity effect induced by *propre* is to assume the existence of the scalarity operator E. Thus E supports the theory of covert focus sensitive operators since it seems to fill a hole: just as O corresponds to *only*, E is the covert counterpart of *even*; and *only* and *even* are the two main focus sensitive particles.

I leave two further issues for my future research. The first one is the question of why *possessum propre* typically cooccurs with E. The second one concerns the relationship between E and the rising intonation associated with the noun combining with *propre*.

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