

French Reflexive *se*: Binding and Merge Locality

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In French, a dative clitic can normally be replaced by the clitic *se* yielding a reflexive interpretation:

- (1) Jean lui présente Pierre → Jean_i se_j présente Pierre
Jean to-him introduce Pierre → Jean to-himself introduce Pierre

Sometimes this substitution yields deviant results:

- (2) Pierre lui sera présenté → *Pierre se sera présenté
Pierre to-him will-be introduced → Pierre to-himself will-be introduced

To deal with this, Rizzi (1986) introduced a well formedness locality “Condition on Chains” requiring each chain link to be a case of local binding (here the link between *Pierre* and its object trace would be interrupted by the coindexed *se*). We discuss how to update this treatment within the far more restrictive current syntactic theories.

1. Theoretical Background

I assume the following background assumptions, modeled on naïve chemistry and discussed in Sportiche (2010) in relation with the syntax of the morpheme *se* in all its usages.

1. Lexical items are atomic (they have no grammatical internal substructures whatever).
2. The only combinatory operation is syntactic Merge, whose unique property is to form ordered pairs.
3. Syntactic dependencies are local. Locality effects can arise either because of Merge Locality, the hypothesis that property pairing resulting from Merge is subject to a strict sisterhood requirement (Sportiche, 2005), or because of Move Locality, the hypothesis that movement is subject to a Closest Attract requirement (perhaps via Agree) or to Phase theory.

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In other words the overall framework is parsimonious, that is both within minimalist guidelines (see e.g. Chomsky, 1993, 2000, 2001) and strictly non lexicalist.

From assumptions 1 and 2, it follows that every complex object is built by syntactic Merge.

From assumption 2, it follows that syntactic objects (like chemical objects), whether atomic or not, cannot be altered in any way. This is a Conservation Law.¹

This conservation law is systematically violated in all cases of “feature percolation, valuation or “feature checking/deletion” under Merge (or Agree – an operation that may be necessary but whose existence I do not assume). I will use the checking/valuation terminology as is customary but let it be noted that the same effects can be obtained by thinking of features much the way in which electric charges are thought of (opposite charges neutralize each other rather than value, check or delete each other).

In addition, I adopt as null hypothesis the assumption made by e.g. Manzini (1986) for Italian *si* or Wehrli (1986) for French *se*, and motivated and defended in detail in Sportiche, 2010: there is a unique *se* entering in all sorts of constructions (Reflexives, Middles etc..).

The challenge then is to formulate an empirically adequate analysis of how *se* can get bound in Reflexive Constructions meeting these requirements of parsimony.

2. The Full Reflexive Puzzle

Burzio (1986) proposes a generalization concerning the distribution of French Reflexive *se* (and cognates in other Romance languages), which is descriptively adequate, namely that thinking of *se* as a French equivalent of English *himself/themselves*, *se* must take as antecedent a deep subject of its clause.

This constraint is respected below (where, informally, *se* replaces a dative clitic object):

(3) Jean lui présente Pierre → Jean_i se_j présente Pierre

Jean to-him introduces Pierre → Jean to-himself introduce Pierre

¹ See Sportiche, 2010. This Conservation Law (arising from how Merge is defined) recalls Chomsky’s Restrictiveness as well as his No Tampering Condition (Chomsky, 2007, 2008) with different empirical effects: restrictiveness allows a “zero sum game”, i.e. property transfers between merged elements as well as tampering with atoms, while this conservation law does not.

I now illustrate how this generalization correctly excludes three different cases:

First, *se* cannot take as antecedent a DP that is a raised subject and thus is not a deep subject:

Case #1

- (4) Jean lui semble déprimé → * Jean_k se_j semble t_k déprimé (with k=j)
Jean to-him seems depressed → Jean to-himself seems depressed

Second, *se* cannot take as antecedent a DP that is neither a deep nor a surface subject: example b below is excluded if we take the direct object to be the antecedent of *se*.

Case #2

- (5) a. Jean leur présente les enfants
Jean to them introduce the children
b. *Jean se_j présente les enfants_k t_j (with j=k)
Jean to-themselves introduce the children

Third, being a surface subject derived by passivization does not suffice either, as shown by the following sentence which only differs from b by the passivization of the object making it a subject:

Case #3

- (6) Pierre_k se_j sera présenté t_k (par Jean) (with j=k)
Pierre to-himself will-be introduced (by Jean)

Burzio's proposal is thus remarkably successful. It should however be modified because being a deep subject is a necessary condition but not a sufficient condition on *se*'s antecedents. Thus, the following passive sentence is well formed with a dative clitic as in (7a), but not in (7b) where this clitic is replaced by *se* taking as antecedent this deep subject which is not a surface subject:

Case #4

- (7) a. Jean lui présente Pierre → Pierre lui sera présenté (par Jean)
Jean to-him introduce Pierre → Pierre to-him will-be introduced (by Jean)
b. * Pierre_m se_j sera présenté t_m t_j par Jean_k (with j=k)
Pierre to-himself will-be introduced by Jean

Of course, Burzio assumed a framework (distinct from what we assume here) in which the DP in a *by* phrase was not a deep subject. To handle such cases, we need to assume that the DP antecedent of *se* should be both a deep subject (of its clause) and a surface subject (of its clause).

Finally, Burzio's proposal was also formulated before subject of clauses were considered to be moved to their surface position, it should be amended accordingly. We discuss how later.

Summarizing, we need to explain away four cases of ill-formedness, where VP internal subject traces are indicated:²

- (8) a. Case #1 : raising derived subject antecedent
* Jean_k se_j semble t_j [t_k déprimé] (with k=j)
- b. Case #2 : non subject antecedent
* Jean_m se_j t_m présente les enfants_k t_j (with j=k)
- c. Case #3 : passive derived subject antecedent
* Pierre_k se_j sera t_m présenté t_k t_j (par Jean_m) (with j=k)
- d. Case #4 : *by* phrase antecedent
* Pierre_m se_j sera t_k présenté t_m t_j par Jean_k (with j=k)

Clearly, within the restrictive framework described, Burzio's proposal is unstable as a primitive. Two main approaches to the question of how to derive Burzio's (amended) proposal in the literature appear a priori both empirically successful and possibly compatible with this framework.³ Solution #1, due to Rizzi (1986), derives the deviance of (at least some of) these cases from a configurational violation of a locality principle on movement (his Condition on Chains). Solution #2, developed in Sportiche (1990) (see e.g. Cinque, 1988 for Italian), and which finds its roots in different ways in Marantz (1984) or Bouchard (1984), attributes the ill-formedness of the four cases to a violation of some intrinsic combinatory property of *se* (*se* must bear an external theta role).

Attempting to build an account of these puzzles consistent with the theoretical framework described above, I will first show why solution #2, albeit superficially quite successful, is untenable.

² To my ear, these cases do not show the same degree of deviance. Knowing what the intended meanings are, cases #2, #3 and #4 remain utter gibberish, while cases #1 are ill-formed but understandable.

³ I will not discuss a third one due to Mc Ginnis (2009) which attributes the deviance of b to an "irreversible" condition C violation created at the main VP phase boundary, prior to subject raising (se_j semble Jean-*j déprimé). Such an approach seems untenable for such cases, as making the raised subject anaphoric does not improve the sentence: * Jean se_j voyait se_j sembler t_j triste.

Next I will discuss general properties of *se* and of *se* reflexive constructions. I will argue that once the intrinsic combinatory properties of the elements (including *se*) entering into Reflexive constructions is taken into account, few analytical options are left, with the two solutions we mentioned (as well, in fact, as every other touching on the syntax of reflexive *se* I am aware of, e.g. Grimshaw 1982, Bouchard 1984, Marantz 1984, Manzini 1986, Wehrli 1986, Kayne 1989, Sportiche 1990, Pesetsky 1995, Reinhart and Siloni 2005, etc) not among them (see Sportiche 2010). I will conclude that these puzzles and in particular the locality effects motivating the Condition on Chains can be explained away by the intrinsic properties of a Voice associated with *se* and the selectional properties of this Voice (Merge Locality) as well as a general requirement rooted in *se*'s being underspecified demanding that *se* be bound by a closest binder⁴.

3. Puzzle Solution #2 and why it is untenable

3.1 The Plausibility of an unaccusative analysis of reflexive *se*-constructions.

Solution #2 argues that reflexive *se* is intrinsically linked to an external theta role, that is that the argument “replaced” by *se* bears the external theta role of its clause. This property straightforwardly excludes all four puzzling cases since either there is no external theta role in the clause (case #1) or the external theta role is borne by some other DP.

There is *prima facie* excellent independent evidence for such an assumption having to do with regularities found in the French (and Romance) systems. To see this, note what is predicted for simple reflexive constructions:

(9) *Jean se rase*

John himself shaves

If *se* links to the external theta role of *raser*, *Jean* must be bearing an internal theta role. In other words, the derivation of this sentence must proceed as:

(10) $Jean_j se_k [e_k rase t_j]$ (with $j=k$)

⁴ I will also show that extending approaches of anaphoric binding rooted in double agreement such as Reuland (2006b) or Uriagereka and Gallego (2006) to French reflexive binding looks unpromising.

where *se* links to *e*, and *Jean* has moved from *t*. If this is correct, the Condition on Chains cannot be right: movement of the object licitly climbs over a c-commanding coindexed element. This also makes such sentences look unaccusative: the superficial subject is an underlying object, and such a consequence is highly plausible – despite Reinhart and Siloni’s 2005 arguments to the contrary – and makes sense of a substantial array of facts in French (as discussed in Sportiche, 1990). Extending the empirical base to go beyond reflexives and include all other French constructions in which *se* is involved shows why this is plausible: *se* is also found in middles (a) and inchoatives/anticausatives (b):

- (11) a. on a bien vendu ces livres → ces livres se sont bien vendus
 they sold these books well → These books sold well
- b. le vent a dispersé les nuages → les nuages se sont dispersés
 The wind scattered the clouds → the clouds scattered

These other constructions illustrate the following properties of *se*-constructions:

- a. the addition of *se* removes the expression of what would otherwise be the highest argument of the thematic complex signaled by the verb and never any other argument.
- b. the perfect aspectual auxiliary used is always *be*, never *have*.
- c. the participle obligatorily agrees with its superficial subject.

Reflexives aside, we are, uncontroversially, dealing with unaccusative constructions as the superficial subject is an internal argument. And the last two properties are explained by the fact that these constructions are unaccusative. Indeed:

- a. there is no non unaccusative VP in French using *be* as aspectual auxiliary.
- b. in transitive structures, participle agreement in French only occurs with direct objects, and such agreement is obligatory only if a direct object moves to subject position.

If reflexive constructions are unaccusatives, we can make sense of the fact those reflexive constructions also:

- obligatorily use *be* as perfect auxiliary (like other *se* constructions)
- require participle agreement when the direct object is “reflexivized”

3.2. Arguments against an unaccusative analysis of reflexive *se*-constructions

There are two kinds of analytical arguments against this unaccusative analysis of reflexives, which I now discuss in turn. Analytical arguments against an unaccusative analysis are either of the unfulfilled prediction type or the contradicted prediction type. The former are of the following form: “Under assumption P, we should observe Q. We do not observe Q, therefore P is incorrect”.

The latter are of the form “under assumption P, we should observe Q. We observe $\neg Q$, therefore P is false”.

3.2.1. The unfulfilled prediction type are weak arguments as they may ignore the effect of some hidden variable (P is a necessary but not a sufficient condition for Q, this is why Q is not observed): Reinhart and Siloni’s 2005 are of this type, and as such unconvincing, especially given that revealing hidden variables explains these unfulfilled predictions away.

I am not going to review all such arguments of theirs. I will limit myself to one illustrative case (which they take to be their strongest).

They note that unlike unaccusatives, reflexives constructions disallow impersonal constructions with a postverbal subject but strongly disallow en-placement from such postverbal positions— a property they take – incorrectly it appears⁵ - to be a necessary property of unaccusatives. The following comparison illustrates this:

- (12) a. Plusieurs enfants arrivent
Several children arrive
b. Il arrive plusieurs enfants
There arrive several children
c. Il en arrive plusieurs
There of-them arrive several

- (13) a. Plusieurs hommes se rasent
Several men themselves shave
b. ??Il se rase plusieurs hommes
There themselves shave several men
c. * Il s’en rase plusieurs

⁵ Thus the verb *aller/go* or *aller à/ go to*, which has the archetypal semantics of unaccusative verbs and selects aspectual *be*, fails both (* il est allé plusieurs enfants au musée / * il en est allé plusieurs au musée).

There of them shave several

Why the difference? This seems unexpected on an unaccusative analysis for reflexives.

But a careful assessment of what is expected removes these problems. First the moved *en* must bind its trace inside the postverbal DP: this means this DP must remain lower than *en*. But we also need to take into account the fact that these constructions are reflexive, that is that *se* is interpreted as a variable bound by its antecedent.⁶ This requires semantic binding which in turn requires c-command. These two requirements yield contradictory demands making resulting sentences ill formed. The deviance of (13b) shows that the post verbal DP is normally too low to bind *se*. The fact that it is not as deviant as (13c) suggests that a level of attachment may be very marginally available for this binding to take place, but is excluded in the latter as the postverbal DP must remain low enough so that *en* can bind its own trace.

3.2.2. Reflexives are not unaccusative

It turns out that Reinhart and Siloni (2005) as well as several predecessors (Grimshaw 1982, Wehrli 1986, Chierchia 1989, Reinhart 1996) reached a correct conclusion (although not for the reasons they give): I now present an argument of the contradicted prediction type against the straight unaccusative analysis. It is based on a remark due to Martin Prinzhorn about German which I adapt to French. Consider the following sentences:

- (14) a. Only Pierre shaves himself
b. Seul Pierre se rase

The focus particles *only* or *seul* associates with the superficial subject *Pierre*. Notice how this can be interpreted in

- (14a). What the focus particle *only* contributes is that no contextually salient alternative to Pierre satisfies the property denoted by the VP. But what is this property? In such cases as (14a), which contain a bound reflexive, this VP can be interpreted in two ways illustrated by the two distinct ways in which (14a) could be denied:

- (15) a. No, I shave myself too
b. No, I shave him too

⁶ As can be seen in e.g. ellipsis constructions, see next footnote.

Under (15a), the VP property is $\lambda x (x \text{ shave } x)$. Under (15b), it is $\lambda x (x \text{ shave Pierre})$.

I will not worry about why both of these two options are available.⁷ They are. The second shows that we can take the reference of the reflexive as fixed by its antecedent and compute alternatives on the antecedent alone.

Now here is the striking fact: French allows the same two denials and no other:

- (16) a. Non, moi aussi je me rase \equiv (15a)
b. Non, moi aussi je le rase \equiv (15b)

And in particular, the following potential denial is infelicitous as it does not deny something that was asserted:

- (16) c. Non, il me rase moi aussi.
No, he shaves me too

Under an unaccusative analysis, we would expect (16a) and (16c) to be possible and (16b) not to be. That (16a) should be possible derives from understanding the VP as $\lambda x (x \text{ rase } x)$.

To see why (16c) but not (16b) should be possible, note that, in (16b), *seul* is inducing alternatives on the superficial subject which bears an internal role. Unpacking what happens given that we can take the reference of the reflexive as fixed by its antecedent and compute alternatives on the antecedent alone should yield a sentence equivalent to:⁸

- (17) Jean rase seulement Jean
Jean shaves only Jean

which should be deniable by (16c), but not by (16b). In other words, not only are reflexive constructions not unaccusative, this is not even an option.

3.3. There is also a general theoretical argument that undermines the apparent success of the idea – now seen to be wrong – that *se* exclusively links to an external theta role. When introduced (see

⁷ That the second one is available is surprising as most people necessarily treat such reflexive as semantically bound, that is as bound variables, as shown by what happens in VP ellipsis in English or in French viz. John shaved himself and Bill did too, *shave John.

⁸ *Seul* has been replaced by *seulement* as *seul* is only available as a subject modifier.

Williams, 1994), the external argument- the bearer of the external theta role - was the argument not part of the projection of its predicate. Principles of locality (of selection, fundamentally) have excluded the very possibility of even entertaining such a notion. Such principles underlie the Predicate Internal Subject Hypothesis, and VP shells, and have rendered such an absolute notion indefinable in the restrictive framework we adopt. There is a notion of theta role/ theta position/argument higher than another one (in terms of c-command) and thus of highest theta role/ theta position/argument or internal theta role / theta position/ argument (not the highest in its clause). However, using the notion of highest theta role would fail to account for case #1: the experiencer argument of *seem* is its highest argument, yet it cannot be linked to *se*.

3.4. Conclusion

To explain away the initial puzzle about the properties of the French reflexive constructions, one alternative implied that they had to be unaccusative constructions.

We now see that they cannot be.

This conclusion raises new questions some of which I will not address here : (i) Why do reflexive constructions consistently select the aspectual auxiliary *be*⁹ and more generally what governs the have/be alternation? The behavior of reflexive constructions probably provides an important clue bearing on auxiliary selection;¹⁰ (ii) What do French (and Romance) *se* constructions share? (iii) Why can't non reflexive *se* (e.g. middles and anticausatives/inchoatives) link to an internal argument? (iv) Why must reflexive *se* link to an internal argument?¹¹ I address these questions in Sportiche 2010.

It also raises a question I will briefly address, as it directly relates to the initial puzzle: Why is participle agreement obligatory in object reflexives?

4. Properties of *se* and *se* Constructions

Before turning back to the initial puzzles and to these questions, I discuss some more basic properties of reflexives constructions.

4. 1. The Morpheme *s-*

⁹ Charnavel (2008) work on the *surcomposé* showing that *se* constructions and unaccusatives actually function differently regarding auxiliary choice is particularly significant.

¹⁰ One aspect that reflexives share with unaccusatives is that obligatory participle agreement, suggesting as we discuss below that the object moves by A-movement.

¹¹ By Internal argument, I mean an argument which is not the highest in its thematic complex.

First, I summarize Kayne's 2000 conclusions regarding *se*, which are convincingly reached:

- a. *se* is composed of a morpheme *s-* and an epenthetic *-e* (in front of consonants)
- b. the *s-* morpheme parallels first and second person morphemes *m-* and *t-* in combining with a variety of other endings yielding *moi/toi/soi*, *mien/tien/sien*, *mon/ton/son*, *mes/tes/ses*....
- c. *s-* is incompatible with gender, unmarked for number and unspecified for person (unlike third object person clitics *le/la/les/lui/leur*).
- d. *s-* is *not* intrinsically anaphoric in the sense needed for reflexivity (although its lack of person specification may be a precondition for anaphoricity) as shown by the non anaphoric character of e.g. *sien/son*.

Point d is crucial here. Adopting the idea that there is a unique *se*, this conclusion is strengthened by the following observation:

se cannot be wholly responsible for the reflexive reading (hence cannot be necessarily anaphoric in the ordinary sense) due to the existence of *se* constructions which are not reflexive, e.g. middles or inchoatives/anticausatives as in:

- (18) a. Ces choses se savent
 These things are known (lit. these things se know)
- b. Les habits se sont salis
 The clothes got dirty (lit. The clothes se are dirtied)

This raises the question to which we will now turn of how *se* constructions get to be interpreted reflexively. Before examining this question, let us examine a bit further how *se* is syntactically licensed.

4.2. Licensing *se*

While it looks initially tempting to attribute the reflexive interpretation to an atomic property of the *se* morpheme, such an assumption looks unpromising at best given Kayne's conclusions and existence of middles and anticausatives. In addition, the morpheme *auto* (which functions a bit like English *self*), normally written as a prefix, can be added to (some) verbs and nouns yielding a reflexive reading in both cases.

- (19) a. l'auto critique de ce linguiste

the self criticism of this linguist

- b. ce linguiste s'auto critique

This linguist self criticizes

The presence of *auto* in such cases requires a reflexive reading. Thus, there is no middle reading with *auto* as in (20b) corresponding to the middle reading as in (20a):

- (20) a. Ces gens se critiquent comme ça (Middle or Reflexive)

These people se criticize like this

- b. Ces gens s'autocritiquent comme ça (*Middle, Reflexive)

These people se self criticize like this

Furthermore, the presence of *auto* suffices to produce a reflexive reading in the noun case, but does not in the verbal case where the presence of *se* is also required. This further suggests that *se* does not play an anaphorizing role directly, as it would be redundant with the role of *auto* in the verbal case. What then is *se*'s role and how does the reflexive reading arise?

Since verbs, unlike nouns, do not freely tolerate silent arguments, we can reduce the obligatory presence of *se* in (20b) to this requirement: the verb *critiquer* needs its two DP arguments. Taking into account *s-*'s properties, this leads to the following proposal:

s- is underspecified for person and is (linked to) the internal argument DP

There are several ways of technically incorporating these conclusions about the role of *s-*. I will select one and reason with it although it should be emphasized that several close technical alternatives would be equally compatible with the analyses I ultimately reach.¹²

In the nominal domain, *s-* combines with *-on*, as *son* in *son ami* and means *his* as in *his friend*; *-on* thus includes a definite head (and thus like definite articles *le/la/les* shows number and gender

¹² There are conflicting reasons on how to treat *s-* exactly. On the one hand there is a good reason to take *s-* to be the argument, rather than, an a priori plausible alternative, a head licensing a silent internal argument: *s-* can occur in both the nominal and the verbal system. As we discuss below, there is a restriction on verbal *s-* not found on nominal *s-*, namely, sensitivity to the presence of little *v*, a property therefore not attributable to *s-*, but readily attributable to a head licensing *s-* in the verbal system. On the other hand, there are cases in which *s-* can co-occur with an argument that *seems* to have the same thematic role such as the Italian case in XXX, or the cases of middles with by-phrases in XXX. I will treat *s-* as an argument here but everything could be straightforwardly modified to accommodate the alternative.

sensitivity, viz. *mon/ma/mes, ton/ta/tes, son/sa/ses*) and *s-* stands for the possessor (or more generally the genitive) pronoun. Similarly, (in modern French) *s+ien* as in *le sien* is the variant of *son* used when the NP is silent as in *j'ai vu le sien (d'ami)/I saw his (friend)*: *sien* must co-occur with the definite article (suggesting it must agree in [+definiteness] with the article). We can attribute this later property to *-ien*, while maintaining that *s-* is a DP. This DP being an argument of the head noun but being licensed in the determiner system suggests it is in a high (specifier) position (much like possessive pronouns in English). That it is interpreted as *his* (or *me* or *you* for *mon/ton, mien/tien*) must be linked to the presence of the definite article. A DP like *son ami* would thus have the following structure (H some head in the D system):

(21) [_{DP} le [s_k [H [_{NP} ami (de) t_k]]]]

In the middle construction (22a, b) or the impersonal middle (22c), the silent underspecified DP licenses by *se* must be the highest argument¹³ and no reflexive reading can arise (as we saw earlier, reflexives cannot be unaccusative):

- (22) a. Ces livres se vendent bien
 These books sell well (lit. These books se sell well)
- b. Le marché s'est conclu hier à cinq heures
 The deal was struck yesterday at five (lit. The deal se is concluded...)
- b. Il se vend beaucoup de livres ici
 There sell many books here (lit. it se sell many books here)

In these middle cases, *s-* is interpreted as a pronoun, indefinite existential or generic (much like French *on*, cf. Cinque's 1988 detailed discussion of *si*, the Italian cognate of *se*). Since *s-* is a clitic, I follow Sportiche (1995) in taking it that it is attracted by the head of a projection, call it HS which is situated in the functional domain above VP as in (23a) (abstracting away from various complications, e.g. V to T, etc.):

- (23) a. [s- HS ... [_{VP} ...]]
- b. [_{DP} ces livres] [s_k HS ... [t_k vendent bien]

¹³ That this is so and why this is discussed in Sportiche 2010. This also extends to inchoatives/anticausatives, not further discussed here – due to further complications irrelevant here – see again Sportiche, 2010.

Note that it is likely that the clitic character of *s-* is linked to the fact that it is underspecified as thus occupies a special position reserved for weaker elements (see Cardinaletti and Starke, 1999, Sportiche, to appear b).

Turning now to reflexives, *s-* is a deficient DP and can co-occur with *auto*. *Auto* appear as a prefix on verbs and nouns much like the French prefix *re-* (*again*). Sportiche (to appear) argues that *re-* (/again) is VP peripheral. *Auto* can appear before or after *re-*, with the expected scopal consequence e.g. *Il s'auto réévalue* (someone evaluated him and he now evaluates himself) vs. *il se re auto évalue* (he evaluated himself before and does it again) suggesting that *auto* is VP peripheral too. Let us take *auto* to be a function composing with the VP to yield a reflexive VP¹⁴ (it intersects the set denoting the relation with some diagonal).¹⁵

In the nominal or in the verbal case, this syntax/semantics for *auto* suffices to give rise to the reflexive reading. In the verbal case, *s-* is needed in addition to *auto*. For the VP relation to be understood as reflexive, one internal argument must be bound. We may understand the presence of *s-* as precisely allowing this binding to occur due to the fact that it is an underspecified DP.¹⁶ Just as above, the head HS attracts *s-* to its specifier and thus licenses the clitic *s-* argument of *auto*. We can thus think of sentence (19c) as having the syntax indicated below (again abstracting away from various complications, e.g. V to T, NP to D – see Sportiche, 2005, etc..).

- (24) a. [*s-* HS ... [_{VP} ...]]
 b. [_{DP} le linguiste] [_{s_k} HS ... [*auto* [critique _{t_k}]]]

Note that no other clitic is compatible with this structure. If for example, the third person clitic *le* was inserted instead of *s-*, there would be a mismatch between it and the effect of *auto*. It is therefore quite clear from the previous discussion that *s-* is compatible with but not intrinsically responsible for the reflexive reading: *s-* is referentially dependent but nothing intrinsic requires it to

¹⁴ Issues arise, that I leave aside here, as to how to formalize this in a way that is consistent with the Conservation Law mentioned in the introduction.

¹⁵ I leave aside the question of how this is accomplished exactly in a compositional manner, except for noting that it cannot be any diagonal: the resulting reflexive relation must involve the subject both in the verbal case (but this may be a result of the presence of *se*) and in the nominal case. Thus *la présentation de Jean* can mean the introduction of John by someone unspecified, but *l'auto présentation de Jean* cannot mean the introduction of John to himself by someone unspecified. Note that the same is true of English verbs and nouns prefixed by *self*. This casts doubts on treatments (descendants of Reinhart & Reuland 1993, relying on *self* incorporation from DP's of the form *x-self* to V (or N) to derive reflexive readings, as *x-self* is not subject oriented.

¹⁶ Cf. the idea that anaphors are ϕ -defective (Burzio 1986; 1991, Reuland 2001; 2006a; 2006b) and that *self* makes English anaphors ϕ -defective (Burzio 1991 or Reinhart & Reuland 1993).

give rise to a reflexive reading; while the presence of *auto* (with or without *se*) forces a reflexive reading, the presence of *s-* does not as we see in *son/sien* and middles.

In the absence of *auto*, the obligatoriness of the reflexive reading must be due to something else.¹⁷

The obvious suggestion is to capitalize on *s-* being defective – which allows it to be bindable – and an internal argument, that is to rely on the following syntax:

- (24) a. Ce linguiste se critique
 b. [_{DP} ce linguiste] [_{s_k} HS- ... [critique t_k]]]

We return to how below.

In sum,

- *s-* is a DP underspecified for person (which makes it dependent)
- As an underspecified element, it is a clitic in the verbal system, and is attracted to a head HS above VP.
- *s-* is either interpreted like a regular definite pronoun (in the presence of a definite article such as with *son* for example), as a (generic or existential) pronoun as in middles or as a bound reflexive.
- In the middle case, *s-* is the highest argument of the verb phrase, in the reflexive case *s-* is some internal argument.

We now are in a position to tackle some of the puzzles we started with.

5. Puzzle Solution #1 and why it needs to be modified

5.1 Rizzi's proposal can be illustrated with case #1, a standard raising to subject structure.

- (25) a. * Jean_j se_j semble t_j déprimé
 Jean to-himself seems depressed
 b. Jean_j lui_k semble t_j fier de Pierre-*k
 Jean to-him seems proud of Pierre

¹⁷ It is difficult to exclude the possibility that French possesses a silent *auto*. The text assumes not but if there was such a silent morpheme, it would, just like its overt counterpart, only be available in reflexive constructions. When it is present, we revert to the previous case. Of course, postulating a silent *auto* in reflexives constructions is not sufficient: what needs to be explained is why it is only licit when *s-* is an internal argument.

To give rise to the reflexive interpretation in (25a), *Jean* must bind the argument linked to *se* (as signaled by coindexing). This argument – the experiencer – structurally c-commands everything to its right. This is shown by the fact that in (25b), *lui* can't bind *Pierre* without creating ill formedness (a Condition C violation). Subject raising in (25a) then moves *Jean* over a c-commanding and coindexed experiencer argument linked to *se*.

Rizzi (1986) attributes the incurred violation to a locality condition violation - his “condition on chains” prohibiting movement dependencies across a c-commanding coindexed element.¹⁸ This account immediately extends to case #2 (passive derived subject antecedent) and to case #1 (non subject antecedent) as the indirect object clitic moves across the coindexed object¹⁹, and even to case #4 (by-phrase antecedent), as the indirect object clitic moves across the coindexed subject.²⁰

5.2. Given our assumptions, Rizzi's Condition on Chains must be a special case of a general locality condition. Phase theory seems irrelevant, as it deals with absolute movement prohibition over too great a syntactic distance, unlike what is observed here: in case #3 for example, both indirect object cliticization and passivization are allowed. Instead, Rizzi's Relativized Minimality (or one of its numerous descendants: minimal link, shortest step, shortest move, closest attract etc.. all roughly equivalent) must be involved. But subsuming the condition on chains under Relativized Minimality requires getting rid of the requirement that the intervener be coindexed with the mover. This cannot be done without losing the intended effects. This can be seen in several ways.

First, in all cases, deviance is created by an indirect object reflexive clitic moving illegally, or its trace intervening in the movement of something else. If we eliminate the coindexing requirement build in the Condition on Chain, we expect that a non reflexive dative clitic would create equally deviant structures. But this is incorrect. In all cases, the results are fine:

(26) Case #1 : raising derived subject antecedent

¹⁸ This is a summary description good enough for our purposes (as there is no concept of chain different from movement path in the framework we adopt): Rizzi in fact assumes that movement is possible but that chain formation is not due to the intervener; as a result the theta role at the bottom of the chain cannot be assumed by the argument (which he assumes clitics to be) at the top of the chain. In addition, Rizzi takes the clitic to be the intervener in his text but alludes elsewhere, in particular in his footnote 17 to the alternative given here - whereby the trace of the clitic is actually the intervener. This is also what Fontana and Moore (1992) does, who also take into account VP internal subjects.

¹⁹ Rizzi gives tentative arguments (which will not be relevant here) against treating Cases #1 and #2 via the condition on chains.

²⁰ It may be, as Sportiche (1995) argues, that a DP moves to the clitic instead of the clitic itself moving. This has no effect on the present discussion.

Jean_k lui_j semble t_j [t_k déprimé]

Case #2 : non subject antecedent

Jean_m lui_j t_m présente les enfants_k t_j

Case #3 : passive derived subject antecedent

Pierre_k lui_j sera t_m présenté t_k t_j (par Jean_m)

Case #4 : by phrase antecedent (same as Case #2)

Pierre_m lui_j t_k sera présenté t_m t_j par Jean_k

Secondly, there are even more minimal pairs for cases such as Case #1. Let us complete the paradigm with non reflexive cases as follows:²¹

(27) a. * Ces gens_j se_k semblent t_i coupables (facilement)

Intended: These persons seem to one (=people in general) guilty (easily)

b. Ces gens_j s_k' imaginent coupables (facilement)

One (easily)imagines these people guilty

(27a) is excluded both with j=k (an intended reflexive reading) and with j≠k, an intended middle reading. While b is possible whether j=k (reflexive) or j ≠ k (inchoative/anticausative reading or middles²²).

This points to several conclusions.

First Case#1 is not plausibly due to the Condition on Chains: even a middle *se* is excluded even though the experiencer argument, which is both [+human] and the highest argument of the main verb (as is required for a middle), does not bind (and thus is not coindexed with) the raising argument.

Secondly, the fact that a middle *se* is excluded in the first sentence but not in the second shows that we cannot be dealing with a general prohibition on (thematic) *se* in raising to subject constructions: the second example is well formed in the middle reading and does involve raising to subject.

²¹ Rizzi attributes the difference between these two to the second involving an idiomatic, non thematic *se*. This option is not available to us (there is of course nothing wrong for there to be an idiomatic meaning; what is at stake here is its internal syntax). Furthermore the different behavior of middle *se* in the two examples cannot be addressed by invoking idiomaticity.

²² We disagree here with the judgments on middle examples with small clauses given in Ruwet's 1972, p. 113. He gives **un acte pareil, ça se juge odieux/ such an action se judge odious* (which I agree is somewhat strange – although the star is overstated - but becomes perfect to my ear if it is made more generic: *ce genre d'actes, qui se jugeaient odieux autrefois, n'est même plus puni/this kind of action which once se used to judge odious is not even punished anymore*).

5.3. How to limit the distribution of *se*?

The contrast in (27a and b) illustrate sensitivity to the choice of verb taking *se* as argument: some verbs allow *se*, others do not. This recalls the idea that *se* should always link to an “external” theta role (which, as we saw is untenable). *Sembler* and *imaginer* differ in transitivity and passivizability. *Sembler* is neither, *imaginer* is both. *se* cannot occur on verbs such as *être* (*Jean lui est loyal* t → **Jean s’est loyal*/*Jean to him/himself is loyal*), unaccusatives taking a dative (?*Jean reste à Pierre*, ?*Jean lui reste*, **Jean se reste*/there remains *Jean to Pierre/to him/to himself*). The same is true of middles *se*, of inchoative/anticausative *se* etc..

On the other hand, *se* can appear with thematically transitive verbs of course, but also with ECM verbs, or verbs lacking a direct object in some instances but having an indirect object, as long as such verbs allow a direct object in other instances.

Jean lui parle → *Jean se parle* → *Jean lui parle l’anglais* → *L’anglais lui est parlé*

As first approximation, it looks like *se* is only allowed on verbs allowing (in principle) an accusative direct object. It seems however that a weaker requirement suffices. Indeed, consider a verb like *plaire à* (appeal to). it takes a dative object (*lui plaire*) and allows a reflexive *se*, but does not allow an overt direct object. It is however morphologically related to the noun *plaisir*²³ and is thus plausibly denominal built on *faire plaisir* /cause pleasure).

If, following much recent work, we assume that licensing a direct object is the property of what is customarily called little *v* (perhaps of the right flavor), a particular type of verbal atom combining with other verbs to yield what seems to surface as a single VP.

We can implement the restriction on the distribution of *se* by attributing the following property to the head attracting it in the verbal system:²⁴

(28) HS selects a little *v*²⁵

²³ *plaire* is irregular and the –s of the nominal reappears in various form, e.g. present participle *plaisant*.

²⁴ Ultimately, this cannot be the whole story because the verbs seemingly lacking direct objects and allowing reflexives do not allow middles or impersonal middles (e.g. *plaire*, viz **il se plaisait au roi*). This indicates – surprisingly- that even in impersonal constructions, some DP must be attractable to T – which datives are generally not, a conclusion seriously affecting the standard analysis of impersonal passives and unaccusatives in a way that we will not discuss here.

The presence of little *v* allows but does not guarantee that a direct object can surface. For example, if *v* is part of an idiom, a direct object will not be able to surface: this is what happens with expressions such as *s'évanouir* or with incorporated objects as *plaire*.

The consequence of these observations is that case #1 is indeed due, albeit indirectly, to an intrinsic combinatory property of *se*: such cases are ill formed because their structure fails to satisfy one of HS's basic selectional property. In this respect, their deviance is similar to that of passivized unergatives in French.

As a consequence, since case #1 is independently excluded, it does not bear on whether the Condition on Chain is relevant, and how it should be formulated, or subsumed.

As last remark about case #1 and how we exclude it, the following minimal difference between English and French is unsurprising:

- (29) John_j seems to himself_j to be sick
 * John_j se_j semble être malade

English reflexives simply need to be bound, while French *se* can only survive with certain predicates. Furthermore, the English case is unlikely to constitute a problem for the Condition on Chains: since raising to subject across the experiencer is allowed regardless of whether it is an anaphor, this means that the experiencer can be made not to intervene.

6. Reflexive Puzzles

6.1. Double Voice: Reflexive Passive

Of the four puzzling cases involving a "reflexive" *se*, case #1 is excluded by the selectional properties of *se* and the following three remain to be explained away.

(30) Case #2 : non subject antecedent

*Jean_m se_j t_m présente les enfants_k t_j (with j=k)

²⁵ This may mean that *se* is immediately above little *v* and some independent evidence supports this assumption. As Homer et al. (2009) discuss, the fact that *se* can, in faire causative constructions, remain on the lower verb (*Cela fait se raser Jean*) shows that it is (or originates) low in the functional structure of its clause. The Italian facts Kayne (2000, example 152, p.148) reports alluded to in fn **Error! Bookmark not defined.** points to a similar conclusion.

Case #3 : passive derived subject antecedent

*Pierre_k se_j sera t_m présenté t_k t_j (par Jean_m) (with j=k)

Case #4 : by phrase antecedent

* Pierre_m se_j sera t_k présenté t_m t_j par Jean_k (with j=k)

Case #3, which originally motivated Rizzi's condition on chains, and #4 both involve passive.

The obvious idea on how to handle their deviance is that French reflexives, and more generally HS is incompatible with passives.

As we saw, HS selects for v. In traditional terms, HS is a voice: it affects the ways in which thematic roles are mapped on surface grammatical functions - ways differing in reflexive voice or middle voice etc...

Passive constructions also involve a voice, the passive voice PV. Somehow HS and PV are incompatible. This incompatibility does not seem to be related to the presence of a *by*-phrase. HS cannot occur with short passives (without an expressed *by* phrase)²⁶. Furthermore Ruwet (1972) reports that in earlier stages of French, it was possible to combine middle *se* with *by*-phrases:

(31) Ce genre de choses se disaient par les pauvres

This kind of things se said by the poor

Similarly, Authier and Reed (1996) report Eastern Canada dialects productively allowing middles with *by*-phrases :²⁷

(32) Ce costume traditionnel se porte surtout par les femmes

this garment traditional se wears mostly by the women

'This traditional garment is worn mostly by women.'

Not all constructions are passivizable in French. Apart from a couple of unclear cases (*obéir/obey*), only verbs having direct objects can. This means that the passive voice PV, which, following Collins

²⁶ The fact that *by*-phrases can also occur in nominals for example independently demonstrates the relative independence of PV and *by* phrases.

²⁷ We do not discuss here how exactly this takes place. The text implies that this *par* phrase cannot be the underlying highest argument of the verb and bears on whether *s-* should really be viewed as a DP argument or as a Voice. Understanding this important issue is complicated by the fact that, unlike English, French *par* phrases are not compatible with every underlying theta role.

(2005), we take to be a head in the functional layer of a clause responsible for the appearance of participial morphology and, indirectly, the *by* phrase (and *smuggling* in Collins' terms) selects for a v. Having both HS and PV in the same structure means having two heads each requiring as complement the same vP: under standard locality of selection requirements, such a structure cannot surface. What we witness in case #3 and #4 exemplifies the crosslinguistic prohibition against double voice (which of course does not preclude combining passives and reflexives if two such voices are not involved, as e.g. in English).

One consequence of this view is a straight prohibition against double reflexive constructions:

- (33) * Jean se se montre (OK se montre à lui-même/ OK Jean se montre lui-même)
 Jean himself to-himself shows (shows himself to himself)

Each *se*- must be licensed, requiring two HS heads, with conflicting selectional properties.

Equally excluded, for the same reason is any combination of two *se*'s, e.g. of a reflexive and a middle:²⁸

- (34) * Ces gens se se montrent facilement
 These people se to-themselves show
 One shows these people to themselves easily

6.2. Binding and Subject Orientation

Case #2 remains. It does not involve two voices. Rather, it violates what seems to be a core property of reflexive constructions, namely subject orientation. To understand this property, we must take into account two further properties of *se*.

Across all of its uses, *se* displays two more properties:

- *se* agrees with the superficial subject of its clause.
- except in dative reflexive constructions²⁹, participle agreement with the superficial subject is obligatory.

6.2.1. Agreement with subject

²⁸ These are possibly excluded on other grounds too. Each HS must be able to attract its own underspecified DP. This may lead to Closest Attract violations.

²⁹ French differs from Italian here (where the agreement facts are complex but where participle agreement is possible with a dative *si*). We return to this point.

It is tempting to tie the presence of a reflexive reading of *s-* and its subject orientation to the fact that *s-* agrees with the subject. Early attempts assumed *s-* to be somehow attached to T which would both agree with *s-* and with the subject of the clause.

We can duplicate this idea in terms of the present analysis by taking the *s-* voice head HS to agree both with *s-* (which it attracts), and also to attract another DP, DP*, which, by locality, would have to be the subject of the verb phrase and would end up in subject position of the clause.

(35) DP_j* [t_j s_k HS [t_j t_k]]

This double agreement of HS with *s-* and DP* would force $j=k$. It would come remarkably close to implementing the analytic intuition stated in Chomsky and Lasnik (1991:553) who write “It is plausible to regard the relation between a reflexive and its antecedent as involving agreement. Since agreement is generally a strictly local phenomenon, the reflexive must move to a position sufficiently near its antecedent. This might happen in the syntax, as in the cliticization process of the Romance languages”. Such an analysis would be an extension to *s-* of Reuland’s 2006 proposal that co-agreement with the same probe mediates anaphor binding. It would be similar to Uriagereka and Gallego’s 2006 proposal of *Probe-Goal Binding* (α binds β if they are both Goals of a single relevant Probe; otherwise, α and β are obviative).

However, two sets of facts show that tying the reflexive reading to this double agreement is neither necessary nor sufficient.

First, agreement can occur independently of any referential link between the subject and the DP *s-*. This is visible in middle constructions such as (36a), as well as in impersonal middle constructions as in (36b):

- (36) a. Je me/*se lis facilement
 I read easily
 b. Il se lit beaucoup de livres ici
 There reads many books here

The first sentences could be uttered by a book talking in a commercial. Here the agreement between *se* and the subject is not a reflex of a referential dependency between the subject and the object. In the second sentence, the subject is a 3rd person expletive, and *se* seems to agree with it.

Thus, double agreement it is not necessarily interpreted as binding.³⁰

Second, reflexive readings with *s-* can arise even in the absence of agreement between the reflexive and its antecedent (and agreement is in fact prohibited). This is demonstrated by the following paradigm:

- (37) a. Jean et moi, qui t nous rasons/ *se rase / *se rasons le matin
John and me who shave ourselves
b. Jean et moi, que cela a fait se / *nous raser t le matin
Jean and me, who this makes shave ourselves

Its significance is that when the “causative rule” applies inverting the subject of the embedded infinitive with the infinitival VP (see the trace position), this embedded VP can get a reflexive reading with *s-* but agreement between *s-* and its antecedent is prohibited. These facts are discussed in Homer and Sportiche (2009). What they suggest is that agreement of *se* with the subject is not a property of the HS/*s-* system alone,³¹ and thus that an attempt to reduce binding of reflexives to this double agreement is misguided.

6.2.2 Subject orientation

How then is subject orientation derived?

The causative paradigm above suggests that subject orientation is not achieved in the functional layer above the verb phrase. Indeed, as is widely acknowledged, in the causative case, the functional structure of the infinitive complement under *faire* is impoverished (see e.g. Homer and Sportiche, 2009). Rather subject orientation must be achieved inside the verb phrase.

Without going into details (see Sportiche, 2010), the proposal we have here already possesses nearly all the ingredients necessary to derive this property. Indeed, consider the syntax of *son* (*sien*, *soi*), middle *se* and reflexive *se*:

(38) *se* in the nominal domain

son ami : [_{DP} le [s_k [H [_{NP} ami (de) t_k]]]]

³⁰ The conception of binding of reflexives as double agreement in English would have to deal with the facts in fn 15.

³¹ Several examples from Kayne (2000) (e.g. example 152, p.148) drawn from various Italian dialects supports the same conclusion. So probably does the fact that middle *sì* in Italian cannot be first or second person.

(39) *se* in the verbal domain

a. Middle

ces livres *se* vendent bien : [DP ces livres] ... Asp [s_k HS ... [t_k vendent bien]

b. Reflexive

ce linguiste *se* critique : [DP ce linguiste]_j ... Asp [s_k HS ... [t_j [critique t_k]]]

These *s-* only differ with respect to how high they are merged. As underspecified DPs, they must be bound in a sense to be specified: binding must be able to provide what suffices to make *s-* “interpretable” and it is not necessarily referential binding, although referential binding is of course an option. We see that in each case, there is no choice for what the local binder of *s-* must be. In the nominal domain, *s-* is licensed DP internally, hence must be bound by something related to definiteness (here, *-on*, *-ien* for *sien*).³² In the verbal domain, the interpretation of middle *s-* (or rather of its trace t_k) depends on the Aspect (noted Asp here), *s-* being generic with habitual aspect, existential with punctual aspect, suggesting that *s-* is bound by Aspect. In all cases (this is also true with inchoatives/anticausatives), the relevant binder is the closest available binder. If we extend this to the case of *s-* an internal argument, *s-* will have to be bound by the closest possible binder, here t_k. This yields the reflexive reading.³³

Requiring a closest binder derives why an internal argument *s-* will always yield a reflexive reading but does not resolve the problem raised by Case #2, as the closest binder for the trace of a dative *s-* would be the Accusative object (as it is clearly the case that in an S V O IO structure in French, S asymmetrically c-commands O, and O c-commands IO). Subject orientation is thus not (yet derived) Furthermore, this closest binder requirement now creates a further problem since a dative *s-* by a subject (instead of a direct object) is possible even though this is not the closer binder.

6.2.3. Reflexives, Participle Agreement and Auxiliary Choice

I would like to look at Case #2, the impossibility of binding of a *s-* IO by an O, and the allowed binding of an *s-* IO by S violating the closest binding requirement as two sides of the same coin. The idea is the following: in the structures relevant to Case #2, structures involving a Subject S a direct object O and an indirect object IO, the c-command relations among A-positions between S, O

³² It would be *-oi* for *soi*. The *-oi* suffix restricts the reference of *soi* to humans (similar to the *-ui* found in strong *lui* or *autrui*/someone else) and behaves like an indefinite logophoric pronoun (which must be +human). I conclude that *-oi* also found in the alternations *me/moi- te/toi* (but significantly not in *le/*loi*) is a marker of logophoricity.

³³ That a closest binder is required could perhaps be reduced to phase theory if DP, vP and AspP were phases and binding domains formulated in terms of phase.

and IO are $S > O > IO$ for full DPs. But cliticization of *s-* (whether of O or of IO) transits through an intermediate c-commanding A-position altering this hierarchy: this position is lower than S but higher than O yielding the following hierarchy of A-positions in the (most relevant) case of IO cliticization of *s-*:

(40) $S > IO > O > t_{IO}$

Assume for now that this view is correct. First it would be clear why binding of an indirect object *s-* by S would not violate the closest binding requirement: *s-* would be bound by S in the position of IO rather than in the position of t_{IO} . But why couldn't *s-* be bound by O in the position t_{IO} ?

An examination of similar situations shows that such binding is not possible. Consider for example the following sentence:

- (41) a. Marie_m s'_k imagine lui_j sembler [t_k triste] *j=k / ok m=k
 Lit. Marie imagine himself seem to him (to be) sad
 b. * Mary believes himself_k to seem to Bill_j [to have been seen t_k]

Reasoning on the comparable English case (41b), *himself* has raised from the position t_k where it could have been bound by *Bill* to an A-position c-commanding *Bill*. The result is deviant. This observation is, as far I know, completely correct generally.³⁴

If the hierarchy in (40) is justified, it is clear that Case #2 is excluded, and that subject orientation of *s-* in the verbal case is derived in full generality.

I will now discuss why it seems plausible that *s-* movement to HS proceeds with an A-movement step, although it should be noted that the evidence is more suggestive than demonstrative.

The relevant facts involve auxiliary choice and participle agreement.

As is known since the early work on unaccusativity, the central fact about participle agreement in French (and Italian and some other Romance languages) is that it is an agreement with an object. Descriptively, consider first the case of clauses in which the aspectual auxiliary is *be*, which is always the case with passives, reflexives, and some unaccusatives.

³⁴ It is sometimes, incorrectly in my view, described as an impossibility of A-movement reconstruction for the purpose of A-binding: this is extensively discussed in Sportiche 2005.

In non reflexive such constructions, in both Italian and French, participle agreement with a superficial subject is always required. This can be readily interpreted as agreement with an object that has moved past the participle.

In reflexive constructions, the standard description is that participle agreement with the subject is obligatory if a direct object is reflexivized, impossible otherwise. Again, keeping in mind that in all cases, a reflexivized object takes the subject as antecedent so that agreement with a subject can in fact be agreement with a reflexivized object, we see that the participle always agrees with an object. We can thus reformulate this description as follows: in French, the standard description is that participle agreement with a reflexivized object is obligatory if it is a direct object, impossible otherwise.

Finally, and this is what makes the case for stating that participle agreement is always with an object, participle agreement with a direct object also occurs when the aspectual auxiliary is *have*.

In such cases, participle agreement is with a direct object only. It occurs optionally but only with a pronominal direct object, optionally and at a somewhat higher register with wh-moved direct objects.

I conclude, with almost all the literature on the subject, that participle agreement is with objects.

How does agreement take place?

Direct object agreement only occurs if this object can reasonably be postulated to have moved leftward. I interpret this fact (as did Kayne, 1989 or Sportiche, 1990) to mean that agreement is established when an object raises to become the subject of the inflected participle.

Following Sportiche (1990), I take this position to an A-position and I repeat here the reasoning leading to this conclusion. This conclusion is required in the case of passives and unaccusatives since the moving object goes on to become the subject of the clause (and movement from an A-bar position to an A-position is prohibited on general grounds).

This can also be seen in other cases: participle agreement can never take place between a participle and a direct object if leftward movement of this object is of the A-bar type. This is seen both with direct object clitics and with wh-moved direct objects. Thus we have minimal contrasts (due to Nicolas Ruwet) as in the b and c sentences, with agreement excluded when movement must have had an A-bar step (see Sportiche, 1990):

- (42) a. cette femme, on l'a dit(e) [_{AP} t_i belle]
Lit. this woman, we said her beautiful (= she was said beautiful)

- b. cette femme, on l'a dit(?- /*e) [_{CP} être belle]
a woman that we said to be beautiful

- (43) a. une femme_i qu'on a dit(e) [_{AP} t_i belle]
a woman that we said beautiful
b. une femme_i qu'on a dit(*e)[_{CP} être belle
a woman that we said to be beautiful
c. une femme qu'on a dit(*e) [_{CP} que tu a vu(e)
a woman that we said that you saw

From this, I conclude that the possibility of agreement with an object indicates that this object has A-moved to become the subject of the inflected participle.³⁵ How do we account for the fact that Participle agreement is obligatory with reflexive direct objects but not with non reflexive pronominal direct objects? The natural suggestion is to duplicate what happens in case of raising to subject of object in passives or unaccusatives: the subject position of the Reflexive Voice head HS is an A-position. Locality would force s- to transit through the t position to reach HS

- (44) a. s_j HS .. [t_j Infl_{part} [.. V.. t_j]
b. le_j .. [t_j Infl_{part} [.. V.. t_j]

Applied to the case of indirect object reflexivization of s_{IO}, this means that we derive the following c-command hierarchy of A-positions which is the one we need (cf. (40)):

- (45) S > s_{IO} > t_S > O > t_{IO}

Several problems remain however, the complexity of which precludes even an attempt to address them thoroughly.

First, couldn't cliticization of the direct object modify this hierarchy? We must assume not, and it seems reasonable, although we have no principled reason why not.

We must assume not because an A-position for O higher than s_{IO} would again allow binding of s- by the DO.

It is reasonable because of what happens in Italian, and, in perhaps a substandard way, in French.

³⁵As noted many times, this left/right asymmetry in agreement triggering poses problems for an Agree approach, but not for the "spec/head" approach assumed here, but see D'Alessandro and Roberts (2008).

Standard Italian works very much like French except if an indirect object is reflexivized: in such a case agreement can either be with the indirect object or with the direct object unless the direct object is a (weak) pronoun. In this case, agreement must be with the direct object pronoun. The relevant aspect here is that there is a preference with the direct object clitic over an indirect object reflexive. In our terms, this means that the closest possible element attractable to the subject position of an inflected participle is, unsurprisingly, the direct object. Since HS is higher than v, it looks like the direct object could not A-move higher than HS. Further movement of the direct object clitic would have to be by A-bar movement.

While standard descriptions of French prohibit participle agreement with indirect object reflexives, it is not clear what this means. Normative grammars explicitly prohibit such agreement, which suggests that it does occur naturally. Indeed, Google searches on naturally occurring corpora of French on the web returns what looks like *large* numbers (at least in the tens of thousands – I examined the first few hundreds) of unambiguous participle agreement with dative *se* (in case where it is phonetically detectable e.g. *Marie s’est offerte un chapeau/ Elle s’était couverte le visage/Elle s’est prise un choc*). Tellingly, if the direct object is cliticized (*Marie se l’est offerte / Elle se l’était couverte /Elle se l’est pris*, I found *no* hit showing unambiguous agreement with the dative reflexive. I take this to demonstrate that the Italian pattern is robustly present in spoken French, with the difference of course that agreement with a non cliticized direct object does not *seem* to occur.³⁶

Secondly, if the subject is an A-position, raising of a reflexive *s-* to HS must be able to occur despite the presence of the subject of *v*. This suggests that reflexivization involves smuggling in Collins’ 2005 sense in a way that non reflexive cliticization does not.

7. Summary

Here are the ingredients of the analysis we propose of how reflexive *s-* gets bound.

s- is the same element across all *s-* constructions in the verbal and nominal domains (reflexive *se*, middle *se*, inchoative/anticausative *se*, possessive *son* and *sien* and pronominal *soi*).

s- is an underspecified DP (marked for person) and a clitic

As underspecified element, *s-* must be bound by the closest binder

In the verbal system, it is licensed as a clitic by a head HS embodying (reflexive or middle) Voice

³⁶ This difference could be related to the different height that Italian and French participles occupy (Belletti, 1990).

HS selects little *v*, and takes an A-position as subject

Movement of *s-* to HS can transit through a high A-position at the periphery of “big” VP.

8. References

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