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Reflexives in middles and the syntax-semantics interface

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1 Introduction

In this paper we will address one of the basic questions raised at the colloquium: the division of labour between the modules of the linguistic system and the role of interface economy. In this respect we will explore the properties of reflexive markers in middle constructions, in particular *se/si* in French/Italian and *zich* in Heerlen Dutch. Our goal is to find out which part of the interpretation is configurationally determined and how much can be achieved by independently motivated principles of interpretation.

In general, it is assumed that middles, such as in (1), have some essential properties in common with passives: that (i) the logical subject argument is syntactically absent although it is semantically present, and that (ii) the grammatical subject, such as *this shirt/dit hemd/cette chemise* in (1) is the logical object. What is more, if we consider middles in various languages, two types of middles can be distinguished, namely 'plain' and reflexive middles, as is demonstrated by the English, Standard Dutch and French example in (1a,b) and (1c), respectively (Eng=English, SD=Standard Dutch, Fr=French):

- (1) a Eng This shirt washes well
b SD Dit hemd wast goed
c Fr Cette chemise *se* lave facilement
this shirt refl washes easily

The common assumption about middle formation is that it is only acceptable if the promoted argument or the logical object is somehow affected by the action expressed by the verb, as is the case in (1) (cf. Jaeggli 1986, Tenny 1987, Roberts 1987, Hoekstra & Roberts 1993, Fagan 1992). This condition is usually called the Affectedness Constraint. If the object is not affected, middle formation will lead to an ungrammatical result. Consider, for instance, the following middles in English and Standard Dutch in (2a) and (2b), respectively. In the literature, the contrast between the examples in (1) and (2) is accounted for by assuming that the verb *wash* takes an affected object whereas the verb *see* takes an unaffected object, respectively:

- (2) a Eng *The Eiffel Tower sees easily
b SD *De Eiffeltoren ziet gemakkelijk

It is intriguing, however, that it seems that the affectedness constraint does not hold if the middle construction shows up with a reflexive, as is the case in the Romance languages. Strikingly, in French and Italian the corresponding middle based on the verb *see* gives rise to a perfect result, as can be seen in (3a) and (3b), respectively (cf. Ruwet 1972, Zribi-Hertz 1987, Cinque 1988). Hence, with respect to the affectedness constraint, middles without a reflexive are, somehow, more ‘restrictive’ than middles in which a reflexive appears.

- (3) a Fr La Tour Eiffel *se voit* facilement de ma fenêtre
 The Eiffel Tower refl sees easily from my window
 b It La luce gialla ha il vantaggio di vedersi bene anche nella nebbia più fitta
 'Yellow lights have the advantage of *si* seeing even in the thickest fog'

In this respect we will also examine middles in a regional Dutch variety that is spoken in the southeast of the Netherlands, namely Heerlen Dutch (HD).ⁱ Interestingly, Heerlen Dutch (HD) differs from Standard Dutch in that in the former a reflexive middle arises whereas in the latter the presence of the reflexive is disallowed, as is exemplified in (4) (see also (1b)):

- (4) a HD/*SD Dit hemd wast *zich* goed
 this shirt washes refl well
 b HD/*SD Dit boek leest *zich* gemakkelijk
 this book reads refl easily
 c HD/*SD Deze appel eet *zich* lekker
 this apple eats refl well

We will adopt a definition of the affectedness constraint in terms of an aspectual condition on the event structure of the whole predicate (cf. Tenny 1987). We will argue that *se/zich* plays an aspectual role in the middle construction. The hypothesis that *se*-type morphemes can play an aspectual role has been independently proposed in the case of other constructions, such as the *se-ergatif* in French (cf. Labelle 1990&1992, Zribi-Hertz 1987) and the dative *se* in Spanish (Amalgro 1993, Nishida 1994, Zagona 1994). We will briefly consider these constructions (cf. Cornips & Hulk 1996), comparing them to the middle constructions, as far as the (aspectual) role of *se/si/zich* is concerned.

Finally we will address the question how to relate the aspectual role of *se/si/zich* to the more well known syntactic characteristics discussed in the literature. In that respect our starting point will be that there is one morpho-syntactic element *se* which is a reflexive marker in the sense of Reinhart & Reuland (1993): it requires that two argument positions of the predicate be coindexed (cf. also Dobrovie-Sorin 1994). We will argue that this morpho-syntactic property is also (partly) responsible for the aspectual role of *se*. Moreover, we will assume that the dissimilarities between the different (syntactic) constructions involving *se/si/zich* can be made to follow from the modularity of the linguistic system.

2 Syntactic characterization of SE

All Romance languages have an anaphoric reflexive-reciprocal clitic, *se* (*si*), which appears in a number of constructions. As a consequence, traditionally, different *se*'s have been distinguished: reflexive *se*, ergative *se* and middle *se* in (5), (6) and (7), respectively, to mention the most well known:

(5) Fr Jean *se* lave
John *se* washes

(6) Fr La branche *se* casse
the branch *se* breaks

(7) Fr Ce vin *se* boit partout
this wine *se* drinks everywhere

Several linguists have argued that there is in fact just one *se*.ⁱⁱ We agree and follow Dobrovie-Sorin (to appear) in analyzing *se* in terms of Reinhart & Reuland's (1993) Reflexivity theory: *se* is a morphological reflexive-marker of the predicate to which it attaches, and as such it requires that the predicate be reflexive, which means that two argument positions of the predicate must be coindexed, as in (8):

(8) a (NP_i) (e_i)
b (NP_i e_i)

In middle *se* constructions as in (7) the indexing configuration corresponds to a single argument, as in (8b), just as in ergative *se* constructions like (6). In 'real reflexive' constructions, such as (5), the indexing configuration corresponds to two arguments, as in (8a).

This way of analyzing *se* entails that *se* itself is not an argument/referential element and therefore it crucially differs from other clitic pronouns. Several arguments have been given in favour of such a non-referential analysis in the literature (cf. Grimshaw 1990, Marantz 1984, Guéron & Hoekstra 1995). First, *se* is underspecified for phi-features: its only feature is third person.ⁱⁱⁱ Second, in certain constructions *se* could never have a nominal (argumental) counterpart. Third, *se* does not interact with the realization of arguments in the same way as other (accusative/dative) clitics do:^{iv}

(9) a Fr La crainte du scandale a fait *se* tuer le juge
b Fr *La crainte du scandale a fait *se* tuer au juge

(10) a Fr La crainte du scandale l'a fait tuer au juge
b Fr *La crainte du scandale l'a fait tuer le juge
fear of scandal made the judge kill him/*se*

In the words of Dobrovie-Sorin, *se* has no trace; it is a base-generated morphological reflexive marker. As such, it triggers the coindexation of two argument positions, the creation of A-chains as in (8). We propose to extend this analysis to (Heerlen) Dutch *zich*.^v In other words, the presence of *se/zich* as in (8) signals that movement of an argument NP has taken place in the derivation of the construction.^{vi} One of the predictions made by such an analysis is that *zich/se* cannot occur in constructions where A-chain formation as in (8) is impossible for independent reasons. Interestingly, middles in Standard Dutch and English may be such a case: indeed, Ackema & Schoorlemmer (1995) extensively argue in favour of a non-movement analysis of English and Standard Dutch middles. In their analysis the internal argument of the predicate is mapped directly on the subject position in these constructions and no A-chain of the type in (8) is formed. Now, the fact that *zich* cannot occur in Standard Dutch middles is exactly as expected, since the presence of *zich* would require the

coindexation of two argument positions and thus a movement analysis, which is argued to be impossible on independent grounds.^{vii}

3 Affectedness and middle formation

3.1 Defining the affectedness constraint in aspectual terms

Originally, in the late seventies, the notion of affectedness was formulated in order to account for the puzzling facts that passive nominals either allow or disallow NP-movement. Later the notion affected object has also been used with respect to middle formation. As is illustrated in (12) through (15), not all transitive verbs are able to undergo middle formation. The examples in ((12),(13)) and ((14),(15)), respectively, have been taken to show that verbs allow middle formation only if the logical object is an affected object, in the sense that it is "altered" somehow by the action expressed by the predicate (Roberts 1987, Roberts&Hoekstra 1993, Fagan 1992 e.l.):

- (12) a Eng This apple eats easily
b SD Deze appel eet gemakkelijk
- (13) a Eng This house paints easily
b SD Dit huis verft gemakkelijk
- (14) a Eng *The mountains see easily
b SD *De bergen zien gemakkelijk
- (15) a Eng *These problems consider easy
b SD *Deze problemen beschouwen gemakkelijk

In more recent literature, several definitions of the notion affected object arise. Here we will adopt the definition given by Tenny (1987):

- (16) Affectedness is the semantic property of a verb such that it describes a situation which can be delimited or 'measured out' by its direct argument. The spatial extent or volume of the object can be the property that measures the event, as in *eat an apple*.

In addition, Tenny argues that the aspectual role *measure* of the affected object is part of the lexical information associated with the verb and this semantic representation is linked to the internal argument position in the syntactic configuration (see also Van Hout 1996:25).

Adopting this definition of affectedness, and assuming that verbs have this property in order to undergo middle formation, we can explain not only the clear cases of middle formation with verbs such as *eat* (12) and *paint* (13), but also the less clear cases with verbs such as *read* (17) which are problematic if the notion affected object is solely defined as being altered or modified by the action expressed by the verb:

- (17) This book reads well

In Van Hout (1996), it is argued that predicates such as *read* yield an atelic-telic event type. This aspectual ambiguity expresses that the telic event is a dynamic event that evolves along a certain temporal scale such that successive and continuous stages of the event are involved

(see also Jackendoff 1996). For *read*, this scale involves the incremental reading away at whatever is read or, in other words, the endpoint is reached when the book is finished and, as a result, this category of predicates does not need an external phrase to specify what the end state of the telic event involves. It is important to note that this aspectual ambiguity displays that every temporal quantity of a reading event is itself a reading event whereas every subquantity or a slice of 'reading a book' event is not a '*finishing a book*' event (cf. Hoekstra 1992:157). Hence, a subpart or slice of a book is not itself a book. Instead every sequence of a subevent or slice of 'reading a book' denotes a different point on a time-axis and, as a result, the object *this book* becomes quantitatively delimited. Or in other words, the object 'gets' more and more, and eventually, totally involved (or finished) in the 'reading'-event: that is it measures out the reading event (Jackendoff 1996).

Tenny's definition also makes it clear that affectedness is not a primitive notion, but is a more general, 'inner' aspectual property of the event structure (cf. Verkuyl 1993, Travis 1991) in that it states something about the relation between the verb and its arguments. Apparently, in order to undergo middle formation a verb must be in an (aspectual) relation such as defined in (16) with its internal argument. If no such a relation can be established, as in the case of stative predicates for example, middle formation is predicted to be impossible. Interestingly, this holds not only for "plain" middles, but also for "reflexive" middle constructions:

- (18) a Fr *Les pommes, ça s' aime beaucoup
 apples that *seloves* a lot
 b Fr *Ça se hait partout
 that *se* hates everywhere

- (19) a HD/SD *Die antwoorden weten *zich* gemakkelijk
 those answers know *zich* easily
 b HD/SD *Zo'n dingen haten *zich* vreselijk
 such things hate *zich* terribly

Therefore the claim made in the literature that French and Italian middles are not subject to the affectedness constraint as proposed by Zubizarreta (1987:150) and Cinque (1988:563) cannot be maintained in the strict sense. Instead we assume a more general characterization such as (16) that holds for middle formation in both plain and reflexive languages (see also §3.2). The following examples illustrate the fact that also in reflexive language such as Heerlen Dutch the (aspectual) relation between the verb and its object plays a role in determining the acceptability of the middle:

- (20) a HD/SD *Dit portret schildert *zich* prettig
 this portrait paints *zich* easily
 b HD/SD Dit plafond schildert *zich* prettig
 this ceiling paints *zich* easily

This minimal contrast indicates that only the combination of the verb *schilderen* with the object *plafond*, and not with the object *portret*, satisfies (16). Although the aspectual difference between the two predicates is rather subtle and not easy to capture, one could say that *dit portret schilderen* necessarily depicts the event as telic (bounded), whereas *dit plafond schilderen* allows both an atelic and a telic event reading.^{viii} In the next section we will consider the role of the reflexive marker *se/zich* in this respect.

3.2 The role of *se/zich*

Above we have assumed that the affectedness constraint, defined as an (inner)aspectual property of the predicate which undergoes middle formation holds for both plain and reflexive languages. However, we have also seen that reflexive languages allow a wider range of predicates to undergo middle formation. Compare in this respect the following counterparts:

- (21) a SD *Frans verwerft gemakkelijk
b Eng *French acquires easily
c HD Frans verwerft *zich* gemakkelijk
d Fr Le français *s'*acquiert facilement
- (22) a SD *Dat herkent gemakkelijk
b Eng *That recognizes easily
c HD Dat herkent *zich* gemakkelijk
d Fr A quoi ça *se* reconnaît un flic belge? à son accent!
- (23) a SD *Dat verhaal vertelt moeilijk
b Eng *That story tells easily
c HD Dat verhaal vertelt *zich* moeilijk
d Fr Ça *se* raconte difficilement

The only difference between the grammatical and the ungrammatical examples is the presence/absence of the reflexive marker *se/zich*; this is particularly clear when we compare the Standard Dutch and the Heerlen Dutch examples. Apparently then, the predicate *zich dat herkennen* in (22c) has other aspectual properties than the predicate *dat herkennen* in (22a) and this aspectual difference is brought about by *zich*.^{ix} We would like to hypothesize that *se/zich* has the effect of presenting the situation expressed by the predicate as involving a path, a transition.^x In other words we claim that *se/zich* has an aspectual role: it does not trigger an event type shift, but it offers a different perspective on the event. Consequently, only the predicates with *zich* in (21c,d), (22c,d) and (23c,d) but not in (21a,b), (22a,b) and (23a,b) have the required property to undergo middle formation in accordance with (16).

Notice that it is important to keep apart the two factors involved in the aspectual 'makeup' of middle constructions. The first is the affectedness constraint such as we have studied it here. That is a condition which tells us which verbal predicates can undergo middle formation; it does not tell us anything about the outcome of such a formation. The notion affectedness has to do with what has been called Aktionsart: it expresses (inherent) aspectual properties of a verb. *Se/zich* has a role to play with respect to this type of aspectual impact of the affectedness constraint. The second aspectual factor involved in middles is the event type of the entire construction *after* middle formation has taken place. As is well known in most languages middles denote states. The operation of middle formation somehow abstracts over the kind of event denoted by the verb in its active voice and turns it into a state. *Zich/se* has no role to play in this operation.

The aspectual role of *se/zich* does not come as a complete surprise since above we have syntactically characterized *se/zich* as a reflexive marker which triggers a relation between two argument positions of the verb. The relation between the verb and its (internal) arguments is exactly what is at stake also in the affectedness constraint defined as an (inner) aspectual property. Moreover, middles are not the only construction where *se/zich* play an aspectual role.^{xi} It has been argued independently by a number of authors that both in the so

called *se-ergative* and in the '*consumption*' construction, the reflexive marker plays an aspectual role. In the next section we will briefly consider these two constructions.

4 The aspectual role of *zich/se* in other constructions

4.1 *Se-ergative construction*

Both in French and in Heerlen Dutch many transitive change of state verbs have two inchoative counterparts, one with and one without *se/zich*:

- (24) a Fr La branche casse
b Fr La branche *se* casse
the branch breaks
- (25) a HD De aardappels koken
b HD De aardappels koken *zich*
the potatoes cook/boil

The French constructions have had quite some attention in the literature (see e.g. Lagae 1990, Labelle 1990, 1992, Zribi-Hertz 1987, Ruwet 1972). Both Labelle and Zribi-Hertz have convincingly argued in favour of an ergative analysis for the French reflexive construction in (24b). The same has been claimed for the HD reflexive construction in (25b) (Cornips & Hulk 1996). Moreover, it has been shown that the two inchoative constructions differ aspectually in a rather subtle way: whereas both are said to be transitions expressing telicity or boundedness, in the intransitive construction the (aspectual) focus is on the process whereas in the ergative reflexive construction the (aspectual) focus is on the endpoint or final state of the event.

This can be more clearly illustrated when we combine the constructions with adverbial phrases expressing duration or a specific point in time:

- (26) a Fr Le poulet *se* cuit en 30 minutes/*pendant 3 heures
b Fr Le poulet cuit en 30 mintes/pendant trois heures
the chicken *se* boils in 30 minutes/for 30 minutes
- (27) a HD dat de aardappels *zich* in 30 minuten/* 30 minuten lang gekookt hebben
b HD dat de aardappels in 30 minuten/30 minuten lang koken

Just as in the case of middles we see here that the reflexive marker has both a syntactic role - triggering a movement analysis - and an aspectual one, triggering a different perspective on the event focussing the final state.

4.2 *Dative se-consumption construction*

Consider the following alternating transitive predicates denoting consumption in HD:

- (28) a HD/*SD Zij eet *zich* een boterham
she eats refl a sandwich
b HD/SD Zij eet een boterham
she eats a sandwich

- (29) a HD/*SD Zij drinkt *zich* een bier
 she drinks refl a beer
 b HD/SD Zij drinkt een bier
 she drinks a beer

The dative reflexive construction in HD is ill formed if it is combined with an adverbial phrase expressing duration (cf. (30a)), whereas the construction is fully grammatical if it is linked to an adverbial phrase indicating an endpoint of the action expressed by the predicate (cf. (30b)). Note that the alternating HD/SD constructions without *zich* are again fully acceptable with both types of adverbial phrases:

- (30) a HD/SD *Zij eet *zich* 5 minuten lang een boterham
 she eats refl for 5 minutes a sandwich
 b HD/*SD Zij eet *zich* binnen 5 minuten een boterham
 she eats refl in 5 minutes time a sandwich
 c HD/SD Zij eet 5 minuten lang/binnen 5 minuten een boterham
 she eats for 5 minutes/in 5 minutes time a sandwich

Recently, it has been argued that also in Spanish *se* acts as an aspectual marker (Nishida 1994, Zagona 1994, Almagro 1993). According to Almagro (1993: 136) the information expressed by the (a)- and (b)-sentences in (31) is essentially the same. But, the presence of *se* in the (a)-sentences refers to the delimitation of the event, or rather, it expresses the consumption of the totality of the drank/food. Nishida (1994: 442) also claims that the constructions with *se* highlight the fact that the totality of an object is involved in the situation or that the event is completed. In other words, the HD and the Spanish reflexive dative construction exhibit the same aspectual properties:

- (31) a Sp Ella *se* bebe el vino
 she refl drinks the wine
 'She drinks (all) the (whole) wine'
 b Sp Ella bebe el vino
 she drinks the wine

- (32) a Sp El niño *se* comió una manzana
 the child refl eats an apple
 'The child eats (all) the (whole) apple'
 b Sp El niño comió una manzana
 the child eats an apple

Furthermore, Nishida (1994: 428/431) argues that the aspectual features of the dative reflexive construction are linked to the fact that *se* overtly marks a particular class of situations that is quantitatively delimited. According to Almagro (1993:146) *se* involves a change in the stretch of time a situation is placed upon, adds the feature [+transitional]. Just as we have seen above, *se/zich* does not trigger an event type shift, but merely presents a different perspective or focus on the event.

The role of *se/zich* in the 'consumption' construction reminds us of the role of certain prefixes and particles in similar constructions in Standard Dutch:

- (33) a SD Zij drinkt een biertje *op*
 she drinks a beer *un*

b SD Zij *besmeert* een boterham
she *besmeers* a sandwich

In the next section we will consider these similarities and their consequences for a syntactic analysis of *se/zich*.

5 Suggestions for a structural analysis

It has been proposed (Hoekstra, Lansu & Westerduin 1987, Mulder 1992 among others) that prefixes and particles such as *be* and *op* are the head of a resultative small clause, as in (34a) and (34b):

- (34) a HD/SD_{sc}[boterham *be*] smeer
b HD/SD_{sc}[een appel *op*] eet

Elsewhere, (Cornips & Hulk 1996) we have considered a similar structural analysis for *zich/se* in ergative and consumption constructions:

- (35) HD/*SD_{sc}[het riet *zich*] buigt

However, we reject such a structure, since it incorrectly predicts that constructions with *zich* cannot be combined with (another) resultative small clause. Compare in this respect the following sentences:

- (36) a HD/SD Jan (*be-*) smeert de boterham
b HD/SD Jan smeert de boterham *kapot*
c HD/SD *Jan *be-* smeert de boterham *kapot*
Jan (*be-*) smears the sandwich in pieces

- (37) a HD/SD Het riet buigt krom
 b HD/*SD Het riet buigt *zich* krom
 the reed bends *zich* crooked

- (38) a HD/*SD Jan eet *zich* een appel
 b HD/*SD Jan eet *zich* een appel op
 Jan eats *zich* an apple *up*

If we assume that *be* occupies the same structural position inside the small clause as *kapot/vol*, we can explain the ungrammaticality of examples like (36c). However, clearly *zich* does not occupy the same structural position as these elements, because they are not mutually exclusive. At the same time this shows that *zich/se* does not have exactly the same aspectual role as the resultative prefixes and particles either. Whereas adding *be* or *op* to a verb creates an event type shift from atelic to telic (cf. van Hout 1996), adding *zich/se* only present a different perspective/focus on the same event.

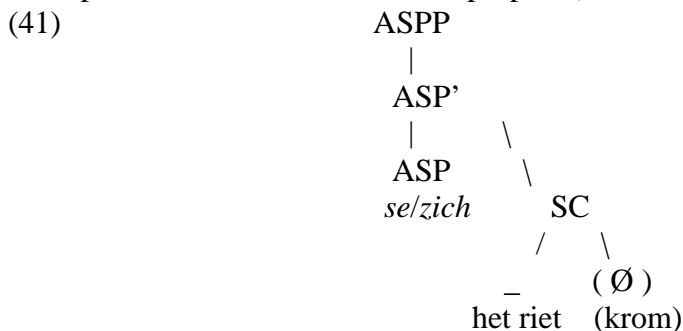
Now, the questions arises, what the structural position is of *se/zich* in middles? We have seen that HD has reflexive middle formation with *zich*:

- (39) HD Deze appels eten *zich* gemakkelijk
 these apples eat *zich* easily

However, the reflexive middle in HD does not allow resultative particles such as *op*:

- (40) HD *Deze appels eten (zich) gemakkelijk op
 these apples eat *zich* easily *up*

This again indicates that *zich/se* is not the head of a SC such as (34) and (35). Above we have seen that *se/zich* plays an aspectual role in the first step of middle formation, when the affectedness constraint is at stake, in relation to the Aktionsart of the verbal predicate. Therefore we assume that *se/zich* occupies the ASP-position. In other words, we propose to combine the two main characteristics of *se/zich* - its syntactic role as reflexive marker triggering chain formation between two argument positions and its aspectual role as focussing on the transitional part of the event - in adopting the following structure (cf. Cornips & Hulk 1996 for an earlier proposal):^{xii}



We have also seen that the second step, the actual formation of the middle^{xiii}, turns the entire sentence type into a state. Consequently, structures such as (40) are out because of the presence of the resultative small clauses with *be/op*. The absence/presence of *se/zich* has nothing to do with the ungrammaticality of (40).

6 Concluding remarks

In the present article we have explored the idea that *se/zich* is a morpheme heading an (aspectual) functional projection. It has no case- and phi-feature other than a [person] feature. Presumably it also has an (underspecified) aspectual feature, the exact nature of which has not been established here. The only thing we have shown is that the aspectual properties of *zich/se* play a role with respect to what is called the Aktionsart - the relation between a verb and its (internal) arguments.

Crucially any verb may merge with *se/zich*. As a morphological marker in the sense of Reinhart and Reuland it triggers the coindexation of two argument positions, which can be the result of overt movement of the (closest) argument to subject position. The differences between the ergative *zich/se* construction and the “reflexive” middle are not related to the role of *zich/se* which is the same in all cases. It is the interaction of the aspectual perspective created by the presence of *zich/se* with the structural and aspectual properties of the construction under consideration that determines the overall interpretation. In sum, elements such as *se/zich* constitute a (morphological) device to determine (part of) the interpretation of sentences in a configurational way. In establishing a relation between two argument positions, *zich/se* creates a “transitional” aspectual perspective on the event as expressed by the verbal predicate and its arguments. As a morphological marker it allows a language to express different perspectives on the Aktionsart of a verb in a structural way. Some languages use the reflexive marker to mark subtle aspectual differences, e.g. Romance languages, German and Heerlen Dutch, other languages don't, e.g. Standard Dutch and English. Such languages have to use other devices to distinguish the possible aspectual perspectives of their verbal predicates.

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Notes

i¹ Heerlen Dutch is the result of a process of language shift with the local dialect as the source and Standard Dutch as the target language. Heerlen Dutch differs from Standard Dutch in that reflexives occur in a much wider range of constructions than Standard Dutch for instance in impersonal passives, ergative and double object constructions (Cornips 1994).

ii² Certain null subject Romance languages also have a nominative/subject *se* ("one") which has characteristics that are different from the ones of accusative/dative *se* (see Cinque 1988, Doborovie-Sorin 1994).

iii³ Even this characteristic could be considered as a "default" value.

iv⁴ Finally the presence of *se* triggers selection of the auxiliary *être*, in constructions where otherwise *avoir* would have been selected:

(i) Jean s'est/*l'est lavé

(ii) Jean l'a/*l'est lavé

In itself this does not necessarily imply that *se* is not argumental; it just shows that *se* is different from other clitics in this respect and it suggests a possible link with aspectual properties (see below).

v⁵ Abraham (1986) also suggests that German *sich* (in middle constructions) is a lexical expletive with case that does not have a semantic role.

vi⁶ A proviso has to be made for constructions with so called dative *se*, where there is no coindexation of a lexical and an empty position, but between two lexical positions. Therefore, we will probably have to assume that in those constructions, the presence of *se/zich* does signal chain-formation, but no movement:

(i) Hij_i kamt zich het haar_i
he brushes SE the hair

vii⁷ Standard Dutch has yet another type of middle construction, the so called *laten*-middle, in which *zich* is obligatory present:

(i) HD/SD a Dat *laat zich* moeilijk verklaren
that let *zich* hard explain

HD/SD b Zijde *laat zich* niet gemakkelijk strijken
Silk laat *zich* not easily iron

According to the analysis presented here, *zich* signals movement. Let us consider the question which movement this can be. It is plausible to assume that the subject of *laten* is in fact an argument of *verklaren/strijken* in the underlying structure and that it has been raised. Now, the coindexation of these two positions can fulfill the requirement imposed by the presence of *zich*. In that perspective, *laten* would just be some kind of *light verb* which has no theta-roles to assign, but only provides a position for the embedded argument to raise into. Ter Meulen has proposed a similar analysis for *laten* in these constructions (see also Everaert 1986).

viii⁸ The portrait painting can not be conceived of as incremental in the same way as ceiling painting since in the former the portrait comes into existence and, hence, it can not be measured out as in the latter. Further, these aspectual differences can be verified in combining these predicates with certain adverbials, as illustrated in the following examples:

(i) Ik schilder dit portret in een uur/*een uur lang
I paint this portrait in an hour/for an hour

(ii) Ik schilder dit plafond in een uur/een uur lang
I paint this ceiling in an hour/for an hour

ix⁹ Unfortunately, verbs like *herkennen* 'recognize' are not very extensively discussed in the literature on aspect: one might characterize them as psych verbs, or as non-dynamic, others might qualify them as wavering between processes and states, or quantized states (see Nishida 1994). Furthermore, Levin & Rappaport demonstrate that one and the same verb may differ aspectually in various languages. Therefore, it is not surprising that reflexive languages may differ among themselves with respect to middle formation. The contrast between Heerlen Dutch and French in (i) "demonstrate that verbs that are considered translation equivalents in two languages can differ in subtle ways" (1995:159-160) (see also (2) and (3)):

(i) a HD *De Eiffeltoren ziet *zich* gemakkelijk
the Eiffel Tower sees refl easily

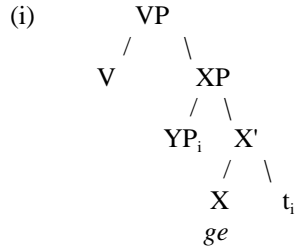
b Fr Le Tour Eiffel se voit facilement de ma fenêtre

the Eiffel Tower refl sees easily from my window

^{x10} Rooryck and van den Wyngaerde (1997) assume that “*zich* opens up the time slices of the internal argument DP which is moved to subject position”. Although they only consider Standard Dutch real reflexive constructions, their general characterization of *zich* resembles the one proposed here.

^{x11} See Cornips and Hulk (1995) for arguments showing that Standard Dutch *zich* also has an aspectual role.

^{x12} Interestingly, Sybesma & Vanden Wyngaerd (1997) propose a structure similar to (41) for Standard Dutch constructions with the element *ge* that is prefixed to most past participles. They argue that this element *ge* indicates realization of the end point of the activity expressed by the predicate. They make the distinction between adding an endpoint and adding the semantic aspect of realization. They argue in favour of the following structure (1997: 210):



The verb is complemented by a small clause, XP, the head of which is *ge*, which indicates 'realized'. The head X is in turn complemented by a small clause YP. Here too, just as we have seen in our own proposal, aspectual properties provide evidence for structural positions.

^{xiii13} The exact nature of which is outside the scope of this paper.