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Puzzles of Identity: Binding at the Interface

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1. Binding and identity*

In the Minimalist Program, derivations yield configurations, which serve as the input for interpretation at the (conceptual-interpretive) Interface. This view is not compatible with the traditional view on the Binding Theory, which assumes the independent existence of binding principles. We suggest a radical revision of the Binding Theory, according to which the morphological make-up and configurational position of anaphors and pronouns alone determine their interpretation (cf. also Safir's 1996 'atoms of anaphora'). It will be argued that the morphological complexity of anaphors is mirrored by their semantic complexity: since every element of the complex is interpreted at the Interface, morphologically complex items receive semantically complex interpretations.

This view discards the traditional view of binding in terms of referential identity of individuals 'in the world', to be expressed in terms of coindexing (see also Pica & Snyder 1997). In the view developed here, individuals are not treated as atomic: we assume that animate DPs must semantically be viewed as sets of time-slices or stages in the sense of Carlson (1977). As a consequence, relations of identity between individuals, such as those expressed by coindexing in traditional binding theory, are not the atoms of our theory either. We suggest that the interpretation of anaphors involves an operation of temporal intersection between the time-slices of anaphor and antecedent. Interpretive differences between simplex and complex anaphors can likewise be expressed in terms of the temporal interpretation of the identity relation between antecedent and anaphor.

Concretely, we argue that anaphoric linking can be established by different syntactic configurations. One sort of linking involves an identification of time-slices of the subject with those of the event expressed by the verb through mediation of the Tense node. Another type of anaphoric linking relies on the syntax of inalienable possession. The latter involves a shift from the spatial to the temporal domain: inalienable possession is spatially interpreted with respect to body-parts, but when applied to sets of time-slices this relation is interpreted temporally in terms of intersections of sets of time slices,

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which we assume to be the stuff that anaphoric linking is made of. The anaphoric relationships created by these two mechanisms are different in nature from the anaphoric relationships created by a mechanism like coindexing, ranging as they do over temporal slices or sets of temporal slices. For this reason, the evidence that we focus upon is of a sort which, though occasionally noted in the literature, has always been peripheral to the formulation of the binding theory. We attribute a central role to this evidence in the development of our analysis. The evidence shows that several forms of identity are possible as a function of temporal intersection and (morpho-)syntactic configuration, i.e. that the traditional concept of identity should be decomposed. This is, in fact, a direct consequence of the Carlsonian treatment of individuals as sets of time slices, and our application of that idea to the domain of binding theory.

This paper is a follow up on Rooryck & Vanden Wyngaerd (1998a), and is most fruitfully read against the background established there. We will, however, briefly recapitulate the main points of that paper, referring the reader to the earlier paper for more details and examples. In the present paper, we expand on our explanation for the different interpretations of Dutch *zich* and *zichzelf* in terms of the semantics of time-slices and morphological complexity, with an eye on addressing the differences between the anaphoric uses of *lui* 'him/her' and *lui-même* 'himself' in French. We show that different syntactic strategies for construing anaphoricity yield different interpretations of referential identity.

2. The questions

In nonlocative PP environments, French pronouns such as *lui* 'him' can function as anaphors, whereas English pronouns cannot (Zribi-Hertz 1980, Ronat 1982). This contrast is illustrated in (1a) vs (1b):

- (1) a $Victor_i$ a honte de $lui_{i/j}$.
 b $Victor_i$ is ashamed of $him_{*i/j}/himself_{i/*j}$.
 c $Victor_i$ a honte de $lui-même_{i/*j}$.

The sentence (1c) shows that the same PP environment can also host a complex expression *lui-même* with anaphoric properties that appear to be identical to that of the complex reflexive *himself* in English. These sentences immediately raise two questions, which are summarized in (2):

- (2) a Why can French *lui*, but not English *him*, have a local antecedent?
 b What is the difference between anaphoric *lui* 'him' and *lui-même* 'himself'?

In the remainder of this paper, we will try to provide an answer to both questions, showing that they are related. First of all, we would like to gain a more precise descriptive understanding of the interpretive difference between anaphoric *lui* 'him' and *lui-même* 'himself', both of which are possible in environments such as (1). Zribi-Hertz (1980) describes the difference between (1a) and (1c) as follows:

"The example [(1a)] can describe a situation in which Victor experiences embarrassment upon seeing an old photograph of himself, or upon remembering a past action: even though $Victor_i$ and lui_i carry the same referential index, they refer to two distinct entities in the world (Victor-in-the-flesh looking at the photo or calling forth remembrances, and Victor-of-the-photo, or of-the-remembrance). [...] By contrast, the sentence [(1c)] seems less 'normal' than [(1a)] to describe the situation referred to above (old photo or remembrance, which Victor could 'distance' himself from). The natural interpretation of [(1c)] tends to involve a

sentiment of Victor with respect to his *actual* 'self' (actions, thoughts, ...)." (Zribi-Hertz 1980:162-3; *our translation—GVW&JR*).

The interpretive differences described by Zribi-Hertz (1980) for French *lui* 'him' and *lui-même* 'himself' in terms of temporal interpretation are strongly reminiscent of similar contrasts between the Dutch simplex and complex anaphors *zich* and *zichzelf*. Following Voskuil & Wehrmann (1990a, 1990b), Rooryck & Vanden Wyngaerd (1998a) observe that the simplex anaphor *zich* requires an 'actual', 'simultaneous' reading, and that only the complex anaphor *zichzelf* accommodates a 'dissociated' or 'nonsimultaneous' reading. In (3a), the context of the video-recording favors a nonsimultaneous interpretation of the reflexive, hence *zichzelf* is the preferred option. In (3b), the difference between *zich* and *zichzelf* corresponds to two different situations. In the *zich* reading, Noam simultaneously speaks and hears himself through headphones. By contrast, in the *zichzelf* reading, he either listens to a temporally dissociated broadcast of himself, or he is unaware of his own speech, as when drunk or dreaming or otherwise dissociated from his usual self.

- (3) a Freddy zag ?**zich/zichzelf* op de video-opname. (?*simultaneity/dissociation)
 'Freddy saw himself in the video recording.'
 b Noam hoorde *zich/zichzelf* over honkbal praten. (simultaneity/dissociation)
 'Noam heard himself talk about baseball.'

This type of contrast can be reproduced for French, as shown by (4).

- (4) a Dorian Gray zag *zichzelf*/**zich* op het schilderij zoals hij eruit gezien zou moeten hebben.
 b Dorian Gray se voyait *(*lui-même*) dans la peinture tel qu'il aurait dû être.
 'Dorian Gray saw himself in the picture the way he should have looked'

In Rooryck and Vanden Wyngaerd (1998b), we not only argue that the French equivalent of simplex *zich* is *se*, but also, perhaps more controversially, that the equivalent of the complex *zichzelf* is a complex form *se ... lui-même*. In the present paper, however, we wish to focus on the interpretive properties of *lui-même* in contexts lacking the reflexive clitic *se*. A first point to note is that, while the difference between *lui* 'him' and *lui-même* 'himself' as in (1) is clearly reminiscent of that between *zich* and *zichzelf*, the two cases are not identical. First of all, the reverse relation seems to obtain between morphological complexity and interpretation: while simplex *zich* in Dutch requires simultaneity, in French simplex *lui* requires a 'previous self' interpretation. Only the complex expression *lui-même* is compatible with simultaneous readings. But the facts are even more complicated: the sentences in (5) show that *lui* cannot always be used to refer to a dissociated self, and that *lui-même* sometimes can be used in such a manner:

- (5) a Sophie a réconcilié Victor avec *lui-même*/**lui*. (dissociated self)
 'Sophie has reconciled Victor with/distanced Victor from himself.'
 b Victor bavarde avec/s'acharne contre *lui-même*/**lui*. (dissociated self)
 'Victor talks to/fights against himself.'

By contrast, the sentence (1a) suggests that *lui* can only be used to refer to a temporally dissociated, previous part of the self. The various interpretations of simplex and complex anaphors in French and Dutch can be recapitulated as in (6):

- | | | |
|-------|---------------------------------|---|
| (6) a | <i>zich/se</i> | 'simultaneous self' (3b) |
| b | <i>zichzelf/se ... lui-même</i> | 'dissociated self' (3a), (3b), (4) |
| c | <i>lui</i> | 'previous self' (1a) |
| d | <i>lui-même</i> | 'actual self' (1c)/'dissociated self' (5) |

Notably the contrast between (1a) and (5) with respect to *lui* is intriguing, and suggests that several forms of dissociation are possible. Looking at these two examples, one can find a difference in their interpretation that can be cast in terms of temporal subsets: in (1a) *lui* refers to a past self, i.e. one that constitutes a subset of the entire Victor; Victor's shame does not extend to the present Victor. In (5), on the other hand, the interpretation necessarily implies that Victor has become reconciled with his entire self, not just his past self. This in turn suggest that *lui* refers to a dissociated but partial self (e.g. a past self), whereas *lui-même* can refer to the entire individual. The analysis to be developed below will account for this contrast.

With this in mind, we can return to the question (2b), and reformulate it as follows:

- (7) What determines the range of temporal interpretations of simplex and complex anaphoric expressions in French and Dutch?

In section 3, we briefly recapitulate our analysis of anaphoric *zich/se*. In section 4, we shall argue that the reasons for the anaphoric behavior of the French pronoun *lui*, as well as for the correlated restrictions on its interpretation, are to be sought in the syntax of inalienable possession. In section 5, we shall address the issue of complex anaphoric expressions. Both in French and Dutch, complex reflexives consist of a pronominal part (*zich/lui*) and a Focus marker (*zelf/même*). It will be shown that the different domain of application of the Focus marker, viz. the anaphor *zich* in Dutch and the pronoun *lui* in French, derives the differences in interpretation between them.

3. Simultaneity

Part of the answer to the question raised in (7) lies in the linguistic representation of animate entities in terms of time-slices. In the philosophical and semantic literature, it is often assumed that individuals are to be viewed as spatio-temporal regions or 'sausages', which are composed of stages or time-slices (cf. Goodman 1951, Quine 1960, Carlson 1977, Hinrichs 1985). The '(non-)dissociation' effects discussed above are the result of differences in the way simplex and complex anaphors are temporally identified with respect to the slices that their antecedents are composed of.

With respect to the spatio-temporal view on individuals, we find that language encodes a difference between animate and inanimate NPs as regards the representation of time-slices. For example, subject positions reveal an interpretive difference between animate and inanimate NPs, as shown in (8) (due to Hoekstra 1991) and (9):

- (8) a John (just) stated that empty categories must be properly governed.
 b The ECP (*just) stated that empty categories must be properly governed.
- (9) a Nixon (just) gave Mailer a book. (Nixon = 'animate' Agent) (Oehrle 1976)
 b Nixon (*just) gave Mailer a book. (Nixon = 'inanimate' Cause)
 c The book (*just) gave Nixon an ulcer.

Animate DPs can function as agentive subjects associated with punctual tense of the predicate, whereas 'inanimate' causal subjects in the same position seem to stativize the

predicate. Hoekstra (p.c.) suggests that this contrast can be explained in terms of temporal slices if we assume a difference in the linguistic representation of the time-slices (henceforth T-slices) of animates and inanimates which is operative at the level of TP. Subject positions are syntactically characterized by the feature [person] in AGR_S/T, absent in e.g. AGR_{OP}. Rooryck (1998) and Hoekstra (p.c.) furthermore argue that only animate DPs possess a [person] feature. The apparent [3p] agreement of inanimate NPs is in fact default agreement triggered by the absence of [person]. We assume that the feature [person] is the morphosyntactic realization of the set of animate T-slices, informally represented as {t₁...t₂...t_n}. Both cognitively and linguistically, a distinction between animate and inanimate entities exists with respect to the passing of time: thus if John states A today and not-A tomorrow, we still assume he is the same person. But if the ECP stated A today and not-A in 6 months' time, we would assume either of two things: (i) there are really two different conditions, ECP-I and ECP-II, or (ii) the ECP is an animate being, sliceable just like John, and capable of making statements (see Hoekstra 1991). Concerning (ii), we find that the grammar routinely treats one and the same NP as either animate or inanimate, depending on the context. Thus the process of animisation may turn inanimate NPs into sliceable, hence animate NPs. The converse process can be observed in (9b), where an animate NP is treated as nonsliceable, hence inanimate. Similarly, animate subjects of individual level predicates are presented as if the factor time, in the sense of internal temporal progression or sliceability, is inapplicable to them.

The above assumptions allow us to derive the difference between animate and inanimate DPs in (8) and (9). In Minimalist terms, the T-slices of animate DPs can be checked by the feature [person] in AGR_S/T, while the T-slices of inanimate DPs cannot. Via checking, the T-slice of an animate DP that is simultaneous with sentential T 'hooks up' with that sentential T. This checking allows for punctual tense, and for the interpretation of the subject as an Agent at the interface. In the absence of such checking, T cannot be made punctual, and the predicate is stativized, resulting in an interpretation of the subject as a Cause.

This analysis can be applied to the relation between simplex anaphors and their antecedents. Following Everaert (1986) and Kayne (1988), we represent Dutch *zich* and Romance *se/si* as clitic heads in an unaccusative configuration. Reinterpreting slightly, we propose that *zich* is an unaccusative head in T establishing a relation of identity between a time-slice of an animate DP in SpecAGR_S/TP, and a time-slice of the activity expressed in V. Featurewise, *zich/se* only has an interpretable [person] feature, representing an animate time-slice simultaneous with its host T. Reflexive *zich/se* is represented as in (10c), where the index T on *zich/se* should not be taken as an anaphoric index, but as an indication of the checking of simultaneity:

- (10)a Jan wast/scheert/{kleedt} zich {aan}.
 b Jean se lave/rase/habille.
 'John washes/shaves/dresses.'
 c [TP DP zich/se_T [VP V t_{DP}]]
 |
 {t₁...t₂...t_T...t_n}

This analysis now derives the temporally 'simultaneous' reading of the simplex anaphors *zich/se* noted in (6a) and the corresponding sentences. Another consequence of the analysis is that reflexive *zich* in T is only compatible with subjects possessing T-slices, and with nonstative verbs (see Rooryck & Vanden Wyngaerd 1998a, 1998b for discussion and examples).

4. 'Anaphorization' of pronouns as 'inalienabilization'

Let us now turn our attention to the simplex pronoun *lui* 'him'. As we have noted before, this pronoun can be used anaphorically in nonlocative PP contexts as in (1a), whereas its English counterpart *him* cannot:

- (1) a Victor_i a honte de lui_{i/j}
 b Victor_i is ashamed of him_{*i/j}

By contrast, in the context of locative PPs, pronouns can be 'anaphorized' in both languages:

- (11) a Victor_i a tiré la couverture [PP-LOC à lui_i]
 b Victor_i drew the blanket [PP-LOC towards him_i]

Importantly, a correlation can be observed between the behavior of 'anaphorized' pronouns as in (1) and (11) and the syntax of inalienable possession in both French and English. Both in French and English, definite DPs may mark inalienable possession in specific syntactic contexts (Kayne 1975, Guéron 1985). Interestingly now, in both languages definite DPs marking inalienable possession share with anaphorized pronouns a sensitivity to the contrast between nonlocative contexts, as in (12) and (13), and locative PP contexts as in (14):¹

- (12) a Victor_i a levé [DP le_{i/j} doigt]
 'Victor_i lifted his_{i/j} finger.'
 b Victor_i lifted [DP the_{j/*i} finger]
 (13) a Victor_i a fait un signe [PP de la_{i/j} tête]
 'Victor_i made a sign with his_i head'
 b Victor_i made a sign [PP with the_{j/*i} head]'
 (14) a Victor a frappé Jean_i [PP-LOC sur la_i tête]
 b Victor hit John_i [PP-LOC on the_i head]

We would like to suggest that this correlation is not a fortuitous one. We argue that the mechanism responsible for Inalienable Possession in (12) through (14) is the same mechanism that ensures 'anaphorization' of the pronoun in (1) and (11). Since both the syntactic mechanisms ensuring Inalienable Possession and 'anaphorization' seem to be sensitive to the locative/nonlocative constraint, it is not unreasonable to assume that a single mechanism is responsible for both phenomena.² This assumption is all the more

¹Note that the body parts in (14) only allow for the Inalienable Possession reading. In contrast, the definite DPs in (12) through (13) also have an alienable reading, in which *le doigt/the finger* could refer to the finger of a stone statue, and *la tête/the head* to the head of a puppet. This necessarily inalienable reading of (14) is actually an argument in favor of the analysis advocated here, since the sentences in (11) with 'anaphorized' pronouns also show a strong tendency to exclude the pronominal reading in favor of the anaphoric reading. Another point worth noting is that not all locative PP contexts in English allow for Inalienable Possession, even if these contexts accommodate anaphorized pronouns. Compare the following:

- i. a. Jean_i a un chapeau sur la_i tête b. Jean_i a \$5 sur lui_i
 * John_i has a hat on the_i head John_i has \$5 on him_i

On the construction in (ib), see Déchaine, Hoekstra & Rooryck (1995).

²The correlation between anaphorization of the pronoun and inalienabilization of definite DP's observed for French and English at first sight does not appear to hold for Italian, which allows the equivalent of (12a), but not (1a):

- i. Gianni ha alzato la mano. ii. *Gianni ha paura di lui.
 Gianni has lifted the hand Gianni has fright of him.

natural in view of the tight crosslinguistic connection between the syntax of anaphors and that of Inalienable Possession: in many languages, the syntax of Inalienable Possession appears to be a diachronic 'source' of anaphors; put differently, anaphors quite frequently originate as body parts (Faltz 1977, Pica 1988, Postma 1997).

We are now in a position to formulate an answer to the question raised in (2a) regarding the contrast between French *lui* and English *him* in (11). French *lui* can be 'anaphorized' in (11a) for the same reason definite DPs can be interpreted as Inalienable DPs in similar syntactic contexts. The DP *lui* in (11a) is 'anaphorized' by the same mechanism that turns *le doigt* 'the finger' in (12a) and *la tête* 'the head' in (13a) into inalienably possessed DPs. Since, for reasons that are unclear to us, the mechanism of anaphorization, c.q. inalienabilization, is limited to certain locative PP contexts in English, it cannot apply to the nonlocative context in (11b).

This analysis is corroborated by morphological evidence: French *lui* can be decomposed morphologically into the definite D° *le* 'the' and the bound N° morpheme *-ui* that also occurs in *autrui* 'the other'. The structure of *lui* and *autrui* then is as in (15) (Rooryck 1998):

- (15) *lui* 'him/her' = [D° *le*] 'the' + [N° *-ui*] 'person'
autrui 'the other (person)' = [A° *autre*] 'other' + [N° *-ui*] 'person'

This morphological analysis constitutes a further argument in favor of the identity of the mechanisms of 'anaphorization' of the pronoun *lui* in (11a) and 'inalienabilization' of the definite DPs in (12a-13a): in both cases, the definite D° expresses co-interpretation with the antecedent. For English, the claim that pronouns are morphologically complex would be much harder to maintain.

Admittedly, our explanation of the contrast between locative and nonlocative PP contexts in French and English is not complete: it is not clear why English limits the

'Gianni lifted his hand.'

'Gianni is ashamed of himself.'

However, it appears that properties of inalienable possession are somewhat different in Italian as compared to French. Thus in French the syntax of inalienable possession is restricted to body-parts, whereas in Italian it extends to other types of possessive relations.

iii. Gianni ha perso/*ricevuto il portafoglio/la macchina.

iv. *Jean a perdu/reçu le portefeuille/la voiture.

John has lost/received the wallet/the car

'John lost/received his wallet/his car.'

The contrast in (iii) with respect to the choice of the verb suggests that some weaker notion of 'previous possession' is relevant, instead of the more restricted one of inalienable possession. Portuguese is like Italian in this respect, while Spanish patterns with French. There thus seems to be a complementary distribution between anaphorization of pronouns/ no previous possession (French) and expression of previous possession/ no anaphorization of pronouns (Italian). In our view, both anaphorization and inalienabilization are about spatio-temporal relations. In the case of inalienable nouns (e.g. (i)), the relation with the antecedent is interpreted as a spatial one, and the temporal dimension is irrelevant. In the case of pronouns (1a) and alienable NPs (iii), the relation with the antecedent is interpreted as a temporal one, and the spatial dimension is irrelevant. This temporal relation can now be interpreted in one of two ways: either its domain is that of time-slices, as with animate DPs, or it is not (inanimate DPs). In case the temporal relation is interpreted over time-slices, the situation attested in French obtains: pronouns are interpreted as 'previous' time-slices of the antecedent, and definite DPs without time-slices such as *le portefeuille* cannot be interpreted (cf. (iv)). If the temporal relation with the definite DP is not interpretable in terms of time-slices, as with inanimate DPs, pronouns will not be interpreted. This is the case in Italian: the relationship of previous ownership is the only temporal relationship that can obtain between the definite DP and the possessor-antecedent (cf. (iii)).

syntax of Inalienable Possession to locative PPs as in (11b) and (14b). We have, however, found an answer to question (2a) as to why French *lui*, but not English *him*, can have a local antecedent: French exploits the syntax of inalienable possession to ‘anaphorize’ the pronoun in (11a) in a syntactic context where English cannot do so.

We still have to explain the semantics of French *lui*, i.e. why *lui* can refer to a ‘previous’ self in PP contexts such as (1a) and (11a). We would like to propose an answer along the lines of our general assumptions concerning the linguistic representation of animate DPs. Syntactically, *lui* functions as a body-part, i.e. it is in a configuration of inalienable possession where Victor is the possessor. However, semantically, *lui* is an animate DP, so that it should be viewed as a set of time-slices. That is, in contrast to other body parts, which are spatial objects, *lui* should be seen as a body part with an essentially temporal interpretation. This yields a reading in which the set of time-slices representing the DP *lui* is inalienably possessed by the DP *Victor*, itself also to be considered as a set of time-slices. The syntax of inalienable possession forces an interpretation at the Interface involving a superset-subset relation between the time-slice sets of the possessor *Victor* and the possessed DP *lui*. Subsets of slices are naturally interpreted as different selves. In English, such ‘partial selves’ are often expressed by locutions such as ‘his former self’, ‘his political self’, ‘my better self’, etc. Similarly, anaphorized *lui*, being a subset of slices, is interpreted as ‘part of’ the self of the antecedent-superset *Victor*. Put differently, *lui* has to be considered a ‘partial’ self that is interpretively underspecified. This means that the anaphorized pronoun receives a specific interpretation as a ‘partial’ self, with the exact specification of this partial self depending on the context. In (1a), the anaphorized pronoun only refers to a temporal subset, interpreted most naturally as the previous self. This interpretation for anaphorized pronouns as involving a past or previous self is not the only possible one, however. In the following examples, all from Zribi-Hertz (1980), anaphorized pronouns refer to a variety of ‘partial selves’, the specification of which is determined by the syntactic context, as indicated:

- | | | |
|-------|---|---|
| (16)a | Victor votera pour lui.
‘Victor will vote for himself.’ | (political self) |
| b | Victor a acheté ça pour lui
‘Victor bought that for himself.’ | (future self) |
| (17)a | Victor regarde une photo de lui.
‘Victor looks at a photograph of himself.’ | (past self) |
| b | Victor est hors de lui.
‘Victor is beside himself (with anger).’ | (his usual self) |
| c | Victor est revenu à lui.
Victor came back to him(self)
‘Victor regained consciousness.’ | (his conscious self) |
| d | Victor réfléchissait à part lui.
Victor reflected apart from himself
‘Victor reflected on his own.’ | (his public/social self) |
| (18)a | Victor a dormi chez lui.
‘Victor slept at his place.’ | (chez Jean = Jean’s residence)
(chez lui = residence of physical self) |
| b | Victor a mis la soupière devant lui.
‘Victor put the terrine in front of him.’ | (physical self) |
| c | Victor tire la couverture à lui.
‘Victor draws the blanket towards him.’ | (physical self) |
| d | Victor prend le livre avec lui.
‘Victor takes the book with him.’ | (physical self) |

The answer to questions (2a) and (2b) thus appear to be strongly intertwined. The range of interpretations for ‘anaphorized’ pronouns such as *lui* is restricted by the syntax of

Inalienable Possession. The syntax of Inalienable Possession appears to be operative in syntactic contexts in French that are unavailable in English, with corresponding consequences for 'anaphorization' of pronouns.

5. Complex reflexives

Let us now turn our attention to complex reflexives in French and Dutch. Before going into an explanation of the range of interpretations these complex reflexives receive in both languages, we briefly recapitulate the analysis of the syntactic and semantic representation of the Focus-markers *zelf* and *même* that are a morphological part of complex reflexives (see Rooryck & Vanden Wyngaerd 1998a for details and examples). Moravcsik (1972) and Levinson (1991) note that crosslinguistically, there is a strong morphosyntactic correlation between Focus-markers and complex reflexives. We propose that *zelf* and *même* also function as Focus-markers when they are part of the complex reflexive. In line with our general tenet that morphological complexity correlates with semantic complexity, we argue that the Focus-markers within complex reflexives are responsible for the various interpretations noted in (4) above and the examples corresponding to it.

5.1 *Zelf/même* as Focus markers

Morphologically, the complex anaphors *zichzelf* and *lui-même* consist of the anaphor *zich* or the pronoun *lui*, and an element *zelf/même* which function as Focus-markers in the same way as English *himself* in (19c). Comparing the three languages, we propose the syntactic structures in (20) for the Focus-markers *zelf/lui-même/himself* in (19).

- | | | |
|--------|------------------|---|
| (19) a | [Jean lui-même] | fait la vaisselle |
| b | [Jan zelf] | doet de afwas |
| c | [John himself] | does the dishes |
| (20) a | [MêmeP [DP Jean] | [[Même ^o lui-même] t _{lui}]] |
| b | [ZelfP [DP Jan] | [[Zelf ^o pro-zelf] t _{pro}]] |
| c | [SelfP [DP John] | [[Self ^o himself] t _{him}]] |

There are several respects in which focus-related *zelf/lui-même/himself* resemble focus markers such as *alleen/only*. For example, both *alleen/only* and *zelf/himself* resist modifying indefinite DPs (cf. Moravcsik 1972). Also, both *alleen/only* and *zelf/himself* semantically involve a notion of scalarity with respect to the expectations of the speaker (Edmondson & Planck 1978). The example (21a) presupposes a hierarchical ranking within a set of people with the headmaster higher on the scale than the assistant. *Only* expresses the fact that the person who received you is lower on the scale than the one you expected. By contrast, *himself* in (21b) expresses the fact that the person receiving you is higher on the scale than the one you expected.

- (21) a Did you see the headmaster? -- No, only the assistant received me.
 b I went to school today and guess what: the headmaster himself received me.

The analysis we shall propose for the focus marker (*him*)*self* is modelled on the analysis proposed for *only* by Bonomi & Casalegno (1994) and Szabolsci (1994); this analysis is framed in terms of exhaustive identification of sets of events, as in (22):

- (22) a Only John did the dishes.
 b Only-Focus as exhaustive identification of sets of events:
 'Every event of x doing the dishes is identified with an event
 where John did the dishes.'

The exclusion effect present in the interpretation of (22a) ('John, and not the others who were also expected to do the dishes') is derived as a matter of pragmatic implicature, i.e. exhaustive identification of sets in (22b) yields exclusion of the (expected) complement set.

Let us now compare a case of *only*-focus and a case of *zelf*-focus. In (23a), *only* requires a focus-set of several dishwashing events involving several people who might each do their own dishes. The fact that only John did the dishes is less than expected. In (23b), there is a single dishwashing event involving several expected dishwashers, and the fact that John did the dishes was more than expected.

- (23) a Only John did the dishes. (several dishwashing events)
 b John himself did the dishes. (several dishwashers)

That is, the difference between focus-markers *alleen/only* on the one hand, and *zelf/himself* on the other, also involves a difference in scope: over events in the case of *only* and over DPs in the case of *zelf*. Expressing this insight about the focal scope of *zelf* in terms of exhaustive identification of sets of DPs, we arrive at the following characterization of *zelf*-focus.

- (24) *Zelf/même*-Focus as exhaustive identification of sets of DPs:
 • 'Every x doing the dishes is identified (via the identifier *zelf/lui-même*) with John'
 • $\forall x, x$ do the dishes, $x=$ John

Again, exhaustive identification yields pragmatic exclusion of the expected complement set: the interpretation 'John did the dishes, and not the expected people lower on the scale' for (23b).

The syntactic structure proposed in (20) reflects the semantic interpretation. In the structures proposed, the pronominal complement of *zelf/même*, (*lui/pro/him*), ranges over the set of people that the event can be predicated of. The syntactic configuration encodes the semantic identification of the range of people (Every x doing the dishes) with John. This identification is realized through agreement. Since *zelf* does not bear morphological markers for person, gender, and number, it cannot check the ϕ -features of its Spec. In order to achieve agreement with *Jan* in SpecZelf-P, *pro* adjoins to *zelf* in Dutch. *pro* is overtly realized in English *himself*, French *lui-même*, where the pronouns do display person, number, and gender agreement with the DP in [Spec,Zelf^o]

5.2 *Zelf/même* as Focus markers in complex reflexives

The syntactic and semantic analysis of *zelf/lui-même* as a Focus-marker can now be applied to the complex anaphoric expressions *zichzelf* and its French counterpart *se ... lui-même* exemplified in (25), involving the configuration (26). The only difference with the configuration in (20) is that the reflexive is in the specifier position of Zelf/MêmeP.

We assume that the *zich/se* part of the complex reflexive moves either covertly (*zich*) or overtly (*se*) to the matrix T° in order to establish a checking relation with the subject.³

- (25) a Jean beschouwt zichzelf als de beste kandidaat.
 b Jean se considère lui-même comme le meilleur candidat.
 'John considers himself the best candidate.'
- (26) a Jean *zich* beschouwt [_{ZelfP} *zich* [[_{Zelf°} *pro* *zelf*] *ɸ*θ]] als de beste kandidaat.
 b Jean *se* considère [_{MmP} *se* [[_{Mm°} *lui-même*] *ɦ*ɪ]] comme le m. candidat.

The interpretation of *zichzelf* and *se...lui-même* now is a two step procedure, involving, first, the interpretation of *zich/se* and, second, the interpretation of *zelf/lui-même*. Both interpretive processes exist independently, but their combination yields a more complex interpretation, in line with our earlier maxim that syntactic complexity is mirrored by semantic complexity. The interpretation of *zich/se* involves relating *zich/se* to the time-slices of the DP antecedent *Jean*: the Spec-head relation between *Jean* and *zich/se* ensures that the *zich/se*-slice is interpreted as a slice of *Jean*. Secondly, the interpretation of *zelf/lui-même* involves the operation of Focus (exhaustive identification) applied to *zich/se*, in exactly the same way as in (24) above:

- (27) *Zelf/même* Focus as exhaustive identification of time-slices (*zich/se*):
- 'Every x such that Jean considers x the best candidate is identified with *zich/se*'
 - $\forall x$, x a time-slice such that Jean x-considers the best candidate, x=a Jean-slice

The combined effect of the semantic operation of exhaustive identification within the syntactic configuration (26) is that any potential time-slice *zich/se* is identified with a time-slice of *Jean*; this operation creates a set of Jean-slices. This set of time-slices created by the operation of exhaustive identification receives a natural interpretation as a 'dissociated' self (e.g. (3) and (4) above). Such a 'dissociated' self reading may include an interpretation as a former (past) self. However, an interpretation as a present or simultaneous self in the manner of *zich* is excluded, since the interpretation as a simultaneous self requires a single time-slice *t_T*. This explains the interpretive effects displayed by *zichzelf* and *se...lui-même* noted in (3) and (4) and similar examples.

The interpretation of *lui-même* differs minimally from that of *se...lui-même*. We propose that the syntactic configuration of *lui-même* in (1c), repeated here, is as in (28):

- (1) c Victor a honte de lui-même
 (28) Victor a honte de [_{MêmeP} *lui* [[_{Même°} *pro-même*] *t_{pro}*]]
 'Victor is ashamed of himself.'

In this structure, *lui* does not originate in the complement of *même* as in (20a) and (26b), but rather is generated in SpecMêmeP, as the DP *Jean* in *Jean lui-même* (20a) and the reflexive clitic *se* in *se...lui-même* (26b). Again, the interpretation of *lui-même* is a procedure involving two steps. The interpretation of *lui* requires relating *lui* to its antecedent *Jean*. This is done in (1c) in essentially the same way as in the simpler case (1a) *Victor a honte de lui*: both sentences share the same PP configuration, so that the syntax of inalienable possession can relate *lui* in *lui pro-même* to *Victor* in the same way as in *Victor a honte de lui* (cf. section 2). In both cases, *lui* is a set of time-slices standing in a subset relationship with respect to the time-slices making up Victor.

³The analysis presented here differs somewhat from the one presented in Rooryck & Vanden Wyngaerd (1998a). See Rooryck & Vanden Wyngaerd (1998b) for a discussion and motivation of the complex reflexive *se...lui-même* in French.

The interpretation of *pro-même* in (1c) involves a Focus operation of exhaustive identification applied to *lui*, i.e. applied to subsets of time-slices:

- (29) *Même* Focus as exhaustive identification of subsets of time-slices (*lui*)
- ‘Every *x* such that Victor is ashamed of *x* is identified with *lui*’
 - $\forall x$, *x* a set of time-slices such that Victor is ashamed of *x*, $x=lui$, with *lui* a subset of the Victor-set

The effect of (29) can be described as follows. Any potential subset of time-slices (or ‘self’) which Victor is ashamed of, is identified as a Victor subset, or Victor-‘self’. This operation creates a set of Victor-subsets or Victor-selves. This set of selves can be interpreted as a ‘dissociated entire self’ as in (5), repeated here:

- (5) a Sophie a réconcilié Victor avec lui-même/*lui. (dissociated entire self)
 ‘Sophie has reconciled Victor with/distanced Victor from himself.’
 b Victor bavarde avec/s’acharne contre lui-même/*lui. (dissociated entire self)
 ‘Victor talks to/fights against himself.’

Differently from *zichzelf* and *se..lui-même*, however, the interpretation of *lui-même* does not exclude an interpretation as the present self, as in (1c). This is because the singleton set comprising the time-slice t_T (i.e. Victor’s present self) is included in the set of subsets created by the operation of exhaustive identification over subsets of slices. As a result, the anaphoric relation between *lui-même* and *Victor* can be interpreted with the simultaneous interpretation of *lui-même* in (1c) *Jean a honte de lui-même*, as opposed to the ‘past self’ interpretation of *lui* in (1a) *Victor a honte de lui*.

Additional evidence that the analysis of *lui-même* involves a set of subsets of slices, i.e. an ‘entire dissociated’ self, comes from contexts in which the anaphoric relation requires an interpretation as a ‘partial’ subset of slices rather than as an ‘entire dissociated’ self. The sentences cited above in (16-18) constitute such contexts: Zribi-Hertz (1980) has observed that in these specific cases involving anaphoric *lui*, anaphoric *lui-même* is excluded. In the analysis advocated here, this exclusion must be attributed to the fact that the interpretation of the sentence requires the anaphor to be interpreted as a *single* subset of time-slices, i.e. a ‘partial’ self:

- (16) a Victor votera pour lui(*-même). (only political self)
 ‘Victor will vote for himself.’
 b Victor a acheté ça pour lui(*-même) (only future self)
 ‘Victor bought that for himself.’
 (17) a Victor regarde une photo de lui(*-même). (only past self)
 ‘Victor looks at a photograph of himself.’
 b Victor est hors de lui(*-même). (only his usual self)
 ‘Victor is beside himself (with anger).’
 c Victor est revenu à lui(*-même). (only his conscious self)
 Victor came back to him(self)
 ‘Victor regained consciousness.’
 d Victor réfléchissait à part lui. (only his public/social self)
 Victor reflected apart from himself
 (18) a Victor a dormi chez lui(*-même). (chez Jean = Jean’s residence)
 ‘Victor slept at his place.’ (chez lui = residence of physical self)

- b Victor a mis la soupière devant lui(*-même) (*only physical self*)
'Victor put the terrine in front of him.'
- c Victor tire la couverture à lui(*-même). (*only physical self*)
'Victor draws the blanket towards him.'
- d Victor prend le livre avec lui(*-même). (*only physical self*)
'Victor takes the book with him.'

5.3 The interpretation of 'emphatic' *lui-même*

Zribi-Hertz (1980) in fact distinguishes two types of *lui-même*: one is the *lui-même* which has been discussed above, the other is an emphatic or contrastive *lui-même*, noted LUI-MEME by Zribi-Hertz. She observes that the latter can occur in environments in which the former cannot.

(30) Victor_i votera pour *lui_i-même/LUI_i-MEME.

We believe this is not really a different *lui-même* from the one we have discussed. It behaves differently, however, because of the contrastive environment it is used in. This effect can be observed independently, as in the following dialogue:

- (31) - Does Max like Victor?
- No VICTOR likes Victor.

We find that the effect of contrastive stress can override that of Condition C (see also Evans 1980, Reinhart 1983, Tancredi 1994, 1995, Horvath and Rochemont 1986). The same is possible with condition B violations.

- (32) - (talking about Victor) Does Max like him?
- No, but VICTOR_i likes him_i.

In the same way, the normal interpretive procedure applying to (30) can be suspended and an otherwise impossible form can appear if contrastive stress is present. This analysis receives some confirmation from a number of contexts where contrastive LUI-MEME is ruled out:

- (33) a Victor réfléchissait à part lui/*LUI-MÊME.
'Victor reflected on his own.'
b Victor tire la couverture à lui/*LUI-MÊME.
'Victor draws the blanket towards him.'
c Victor prend le livre avec lui/*LUI-MÊME.
'Victor takes the book with him.'
d Victor a toute l'équipe avec lui/*LUI-MÊME.
'Victor has the whole team on his side.'
e Victor est hors de lui/*LUI-MÊME.
'Victor is beside himself (with anger).'

The reason why LUI-MEME is ruled out here is that contrastive stress is ruled out independently. This is in turn due to the fact that contrastive stress requires the consideration of a set of possible alternatives: if I say that John read the BOOK_i, this calls up a set of alternative items of reading which John did not read but might have been expected to read. In the examples of (33), no such set of alternatives is available, because they require an anaphoric link between the pronoun and the subject. In other words, the pronoun cannot be replaced by a name. This suggests that the anaphoric link that is sometimes possible with a contrastively stressed *lui-même* is intimately tied to the

presence of contrastive stress itself, and not due to some difference in the internal make-up of the complex form itself.

6. Conclusion

In this paper, we have argued that the lexical 'atoms' of anaphora include morphemes expressing time-slices (*zich/se*) or sets of time-slices (*lui/him*) and Focus-markers (*même/zelf*).

Semantically, anaphora is construed via the syntactic combination of atoms. The anaphorization of pronouns such as *lui* proceeds through the syntax of inalienable possession. The anaphoric interpretation of the complex reflexive *lui-même* combines the syntax of inalienable possession (*lui*) and the Focus-marker *même*. The anaphoric interpretation of the complex reflexive *zichzelf* combines time-slice *zich/se* (moving to T°) and the Focus-marker (*zelf*). The morphological and syntactic complexity of anaphors is mirrored by their semantic complexity.

We have argued that Binding takes place at the Interface. The relation between anaphors and antecedents involves the intersection of time-slices. The exact interpretation of this intersection is a function of the syntactic configuration involved. Variation in the combination of 'atoms' of anaphora yields various forms of identity at the Interface.

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