

Feature primitives and the syntax of specificity

Denis Delfitto & Norbert Corver

A large variety of morphosyntactic processes appears to correlate with a 'specific/non-existential' interpretation of the constituents involved, providing evidence for the hypothesis that 'specificity' is syntactically encoded. This paper discusses some possible implementations of this general insight. It argues against the view that syntactic operations such as movement are triggered by the need to satisfy interface conditions with the interpretive system (as is the case with Diesing's Mapping Hypothesis), and against the view that the relation between syntax and specificity-related processes is only indirect, representing the side-effect of defocalisation processes (as is the case with Zubizarreta's and Reinhart's approaches to object-scrambling). The view endorsed here is that the feature inventory of natural language has to be considerably extended to include 'interpretable' features of various sorts (in the spirit of Stowell & Beghelli's decomposition of Quantifier Raising into a set of movement operations involving a specific set of quantificational features). The analysis will reveal that the interpretable feature involved in the specificity effects has to be identified with 'familiarity' (a notion roughly corresponding to Pesetsky's D-linking and Prince's givenness/saliency) and must be carefully distinguished from the presupposition of existence/cardinality which is usually associated to the semantics of quantificational constituents. An important consequence of the proposed analysis is that the properties of operator movement are no longer assumed to depend on the traditional A/A' distinction, but on the nature of the interpretable features involved within the domain of A'-movement.

1. Introduction

This paper addresses the conceptual issues posed by types of movement which seem to have a semantic trigger. The empirical domain that will be investigated covers the so-called 'specificity effects': syntactic processes which appear to correlate with a 'specific' interpretation of the constituents involved. In much recent work, it has been observed that the specific interpretation of certain syntactic constituents is encoded in syntax through various morphosyntactic means. Enç (1991), for example, notes that in Turkish the presence of accusative case morphology correlates with a specific interpretation of an indefinite direct object. Diesing (1992) observes that scrambling of indefinites in German and Dutch yields a specific interpretation of

the noun phrase, capitalizing on the original suggestions found in Reuland (1988) and de Hoop (1992)).

If it is assumed that specificity effects are somehow encoded in syntax, the question of course arises how this idea can be theoretically implemented. At first sight, the severe epistemological constraints of the Minimalist Program (Chomsky 1995) might be interpreted as preventing us from charging the computational system with illegitimate semantic features, which might be thought of as surreptitiously discharging the burden of explanation on the computational system (i.e. syntax), instead of looking at the interface conditions or at the independent properties of the systems of interpretation and use which are intuitively relevant for the derivation of the interpretive facts under examination. If movement reduces to morphological checking of features, specificity effects which correlate with displacement phenomena raise such questions as: which kind of interpretable features are legitimate and must be checked? How can checking of interpretable features be characterized with respect to the by now more familiar operation of feature erasure which characterizes checking of non-interpretable features (cf. Chomsky 1995)?

In this paper, we will take the position that semantically-driven movement is in fact the consequence of the realization of interpretable features in 'functional' positions in which they are not 'interpretable', and from which they have consequently to be erased via checking. In order for this result to be achieved, some distinct lexical item present in the relevant numeration will have to be endowed with the same set of interpretable features, creating the conditions required for checking (let's say, in terms of 'Attract α' or some equivalent procedure). In this way, checking can be characterized as a uniform operation, leading to the deletion/erasure of non-interpretable features before they cause the syntactic representation to crash at one of the two interfaces (in the case of 'alleged' semantically-driven movement the non-interpretable features are those realized in the functional 'target'). As for the 'rationale' for this strategy, we want to suggest that 'redundant' realization of interpretable features on functional categories/positions in which these features are non-interpretable corresponds to a specific class of computational operations which is resorted to in order to compensate the high degree of morphological ambiguity that is often found in natural language. Morphological inspection is often not able to reveal whether a certain determiner is endowed with the 'formal' feature encoding 'familiarity' which will be investigated in the course of this paper. However, the fact that the DP headed by this determiner undergoes overt move-

ment to a target position in which the relevant interpretable features are often overtly realized can provide an alternative way to convey the relevant semantic instruction (i.e. movement would have not taken place if the DP had not been 'covertly' endowed with the features required for checking). Some important results immediately follow. First of all, the question why certain interpretive variants or semantic dependencies should be morphologically encoded (i.e. be relevant for the operations of the computational system) admits a straightforward answer if we assume, as we want to do, that this tendency to pre-encoding might be one of the most significant and 'primitive' facts about the design of language, as confirmed by recent suggestions concerning the principled derivation of the Binding conditions, primarily focused on the pronoun/anaphor distinction (see Reuland 1995). Second, the idea that syntactic movement be directly triggered by the interpretive requirement that 'compositional' structures be produced at the interface, proper to many variants of the so-called Mapping Hypothesis (cf. Diesing 1992, Chierchia 1995), simply seems to circumvent what appears to be the real empirical issue: which kind of interpretable features are realized in which functional categories/positions under which general conditions. Checking of formal features, and not the requirement for a certain constituent to vacate a certain syntactic domain, is the real (and uniform) trigger for movement, as desirable under minimalist guidelines. Last but not least, the observation that there doesn't seem to be any independent morphological evidence for the kind of 'quantificational' features which are often assumed to represent the trigger for semantically-driven movement ceases to represent a serious difficulty (pace Hornstein 1995). Under the general hypothesis sketched above, it is just morphological ambiguity/deficiency that forces the realization of certain interpretable features in designated functional categories, triggering (overt) movement and perhaps providing (part of) the motivation for the pervasive role of functional categories within the language design. It seems to us that this view might even corroborate the idea of a universal hierarchy of functional projections (the target of checking): that a feature be in the scope of other features does not stem from logical necessity; rather, it corresponds to a property of language which is generally encoded in the computational system (see Cinque 1995 and Stowell & Beghelli 1994 for different implementations of this idea). We will push this view to its natural consequences: which kinds of semantic instructions are encoded in the feature system is just an empirical matter. Admitting the notion of 'familiarity' in this domain does not automatically entail that we are

transferring illegitimate 'pragmatic' features from the system of use into the computational system, provided familiarity is rigorously defined as a specific semantic instruction for the interpretive system and there is serious empirical evidence in favor of the assumption that this feature is syntactically encoded. In fact, we claim that familiarity can be naturally defined as one of the 'interpretable' features encoded in the computational system and that the evidence for encoding is overwhelming.¹

This paper is organized as follows. In sections 2 and 3 we will try to arrive at a precise definition of the 'semantic' instructions which corresponds to the so-called 'specific' interpretation of certain constituents, briefly reviewing and discussing the evidence that specificity is morphosyntactically encoded. On the basis of cross-linguistic data, we will come to the conclusion that the following three semantic instructions are arguably encoded in the computational system: (i) specificity as an inclusion relation, (ii) specificity as rigid designation, and (iii) familiarity as an identity relation. Section 3 focuses on the analysis of scrambling in Germanic SOV languages such as Dutch and on the relevance of the notion of 'familiarity', now considered as a formal feature expressing a well-defined semantic instruction at the LF-interface, in triggering displacement. We will show that analyses which consider the specific interpretation of scrambled constituents to be an indirect effect of a defocalisation process (as in Reinhart 1995) rather than a direct effect of a formal feature encoding familiarity face serious empirical and conceptual problems.

2. *Specificity and Movement*

If the view is adopted that the notion of specificity is encoded in the computational system, the question should be addressed as to how this semantic effect is encoded and how it relates to displacement phenomena like scrambling. In Diesing (1992), scrambling of noun phrases out of VP is forced by the principles of semantic composition, assuming a bottom-up algorithm for combining semantic types. She basically interprets scrambling as a process of type mismatch resolution. In informal terms, specific constituents are of the wrong semantic type (i.e. they are quantificational) and cannot therefore be combined with the verb. As a consequence of this type mismatch trouble, specific constituents have to leave the VP. Non-specific constituents, basically corresponding to indefinite arguments, are semantically translated into variables, according to the

standard approach in D(iscourse)R(epresentation)T(heory); they are individual-referring constituents, may combine with the verb and need not be scoped out of the VP. This is basically the conceptual content of Diesing's so-called Mapping Hypothesis,² which clearly takes syntax to be driven by the principles of semantic compositionality. Reformulated in minimalist terms, this clearly entails that movement is not exclusively triggered by feature-checking operations: for instance, a specific constituent must undergo QR in order for the correct semantic representation to be produced at the interface, an intuitively anti-minimalist standpoint. At the very least, the Minimalist Program would force us to replace the semantic approach advocated by Diesing with a feature-driven approach, according to which the semantic trigger (i.e. the realization of suitable 'compositional' configurations at the interface) is replaced by interpretive features of the appropriate kind, to be checked in designated functional positions (cf. Hornstein (1995) for an in-depth discussion of the issues involved).³

Suppose we replace a movement approach to scrambling based on type mismatch resolution with one based on semantic features. Is this a real choice between two different theories or are we surreptitiously charging syntax with 'redundant' denotational devices which simply duplicate the 'type-information' relevant for the mapping of syntactic representations into interpretable structures? We think the choice hinges on a real empirical issue, at least for two quite clear reasons. First, pronouns are individual-referring expressions, and it cannot certainly be claimed that they have to vacate the VP because they belong to the wrong semantic type: the extra denotational device which is needed in order to ensure that the pronoun leave the VP, say, an extra index encoding familiarity, is sufficient to assign the theory more expressive power with respect to a theory that simply encodes the information concerning the semantic types (this whole issue is clearly reminiscent of the role of Novelty/Familiarity conditions in D(iscourse)R(epresentation)T(heory)). Second, Diesing's proposal is based on the insight that the constituents interpreted 'specifically' are those that give rise to operator-variable structures involving restricted quantification (abstracting away from individual-level expressions like personal pronouns, for which special familiarity indexes are introduced to encode the 'specific' reading): specificity corresponds in fact to the 'presuppositional' interpretation of the constituents which undergo a QR-like operation, leading to tripartite structures of the usual kind (where the restricted clause is assumed to correspond to the presupposed set). However, we want to claim

that it is not the presuppositional interpretation of a quantified constituent (interpreted as the property according to which the range of entities which is quantified over corresponds to the set of entities whose existence is presupposed) that is encoded in syntax. As a consequence, the idea that the feature-system (conveniently enriched with interpretable features such as that encoding 'specificity') simply encodes information about the semantic types is no longer feasible.

The question then is: what kind of (semantic) information is encoded in syntax by means of interpretable features? More specifically, which kinds of semantic 'instructions' fall under the general heading of 'specificity'? In the next section, we will try to answer this question by considering various crosslinguistic phenomena which have been argued to be related to specificity.

3. On the encoding of specificity: presuppositionality vs. familiarity

3.1. Object agreement and complex inversion in French

The first relevant data are the facts in (1) from French involving object agreement in *wh*-structures. As Obenauer (1992) has convincingly shown, object agreement in *wh*-configurations generally correlates with a specific interpretation of the *wh*-constituent. In (1), for example, the sentence with object agreement (i.e. *faites*) receives an interpretation according to which what we are talking about is a familiar set of errors, say, the errors contained in the paper that we are reading. Absence of object agreement entails a reading in which the *wh*-phrase quantifies over a set of errors which are not salient in the context of discourse. The obligatoriness of the familiar interpretation of the range of quantification in object agreement sentences is clearly shown by the examples in (2). In these examples, the *wh*-phrase is modified by *jusqu'à* and *en moins*, enforcing a non-familiar interpretation of the range of quantification. As expected, object agreement with such a *wh*-phrase yields an ungrammatical sentence.

- (1) Dis-moi combien de fautes tu as fait/faites
Tell-me how-many of errors you have made

- (2) a. Jusqu'à combien de fautes ont-ils fait (*es), vos élèves?
Up to how-many of errors have they made, your pupils
b. Combien de fautes en moins a-t-il fait (*es) cette fois?
How-many of errors less have they made this time

The impossibility of having object agreement with *wh*-phrases which quantify over a non-familiar set of objects is further corroborated by the *wh*-exclamative structures in (3). Clearly, the exclamative phrases *quelle surprise* and *quelle erreur* do not quantify over a familiar set of surprises/errors. Exclamation typically applies to entities which are new (i.e. unfamiliar) in the context of discourse. Presence of object agreement is therefore impossible in these *wh*-exclamative contexts.

- (3) a. Quelle surprise elle m'a fait (*-e)!
What a surprise she me has made
b. Quelle erreur il a commis (*-e)!
What a mistake he has made

In short, the phenomenon of object agreement in French correlates with a well-known interpretive effect, intuitively involving quantification over a familiar set of objects.

Interestingly, the obligatory familiar reading of a noun phrase is not restricted to object agreement contexts. As exemplified in (4), *wh*-phrases in complex inversion structures exhibit the same interpretive effect. That is, the *wh*-phrase must quantify over a familiar set of objects. The interrogative sentence (4a), for example, is appropriate in a situation in which one is watching a scene of a movie on television. The *wh*-element quantifies over an entity (woman) which is physically salient (hence familiar) in the discourse context. Such a familiar reading is not permitted with the bare *wh*-phrase *qui* in (4b) and the modified *combien*-phrase in (4c). As predicted, these *wh*-phrases are incompatible with complex inversion.

- (4) a. Quelle femme se cache-t-elle sous la perruque blonde?
Which woman REFL hides herself under the wig blond
b. *Qui joue-t-il aux échecs?
Who plays chess?
c. Jusqu'à combien de gardes du corps suivaient (*-ils) les vedettes?
Up to how-many body-guards followed (they) the stars

Summarizing, the phenomena of object agreement and complex inversion illustrate the morphosyntactic encoding of the familiar interpretation of the variable which is quantified in: the NP-complement of the interrogative determiner refers to a set of entities which has already been introduced or is physically salient in the context of discourse.

3.2. Subject of ergatives

A further illustration of the syntactic encoding of specificity comes from the interpretation of subject noun phrases in Italian, in structures where they are headed by a weak determiner (cf. Delfitto and Pinto 1992). It turns out that preverbal subjects of ergative verbs headed by a weak determiner, for example, are only possible with a 'specific' reading. So, the subject *tre ospiti* in (5a) only has a partitive reading in which it quantifies over a set of guests which are familiar in the context of discourse. This restricted reading of the preverbal subject does not seem to be a property of the [Spec,IP] position as such. This becomes clear when we consider the interpretation of preverbal subjects of unergative (cf. (5b)) or transitive verbs (cf. (5c)). It turns out that these are not restricted to a presuppositional reading; they also allow an existential (i.e. non-specific) reading of the subject noun phrase.

- (5) a. *Tre ospiti sono arrivati*
Three guests have arrived
'Three of the guests have arrived'
*There are three guests who have arrived'
b. *Tre ospiti hanno pianto*
Three guests have cried
'Three of the guests have cried' or
'There were three guests who cried'
c. *Tre studenti hanno occupato l'edificio*
Three students have occupied the building
'Three of the students have occupied the building' or
'There were three students who occupied the building'

The compulsory 'partitive' reading of preverbal subjects of unaccusative verbs is further illustrated by the impossibility of having inherently existential noun phrases (e.g. those introduced by the partitive article) in preverbal position (cf. (6a)). As expected, such positioning is permitted with subjects of unergative and transitive verbs (cf. (6b,c)).

- (6) a. *?*Dei linguisti sono arrivati*
(partitive article) linguists have arrived
b. *Degli studenti hanno pianto*
(partitive article) students have cried
c. *Degli studenti hanno occupato l'edificio*
(partitive article) students have occupied the building

The contrast illustrated in (5) and (6) seems to be related to the fact that in Italian subject inversion is actually 'free' only with unaccusative predicates, as is exemplified in (7) (cf. Delfitto and Pinto 1992). So, in (7a), the inverted subject is easily admitted to occur in an all-focus sentence: the subject simply introduces a new referent in the discourse. This is arguably not the case with postverbal subjects of transitive and unergative verbs, which can only receive a contrastive focus reading, as is shown in (7b,c).

- (7) a. *Mi chiedo se sia arrivato Gianni*
I wonder whether has-SUBJ arrived Gianni
b. *%Mi chiedo se abbia pianto Gianni* (fine with contrastive reading)
I wonder whether has-SUBJ cried Gianni
c. *%Mi chiedo se abbiano occupato l'edificio tre studenti* (fine with contrastive reading)
I wonder whether have-SUBJ occupied the building three students

In conclusion, preverbal subjects of unaccusative verbs are obligatorily assigned a partitive reading, crucially involving the familiar interpretation of the (implicit) partitive complement. In this respect, they differ from preverbal subjects of unergative and transitive verbs which may be easily assigned a non-partitive reading (cf. Delfitto & D'Hulst 1995 for an account of this contrast).

3.3. Prepositional accusatives in Rumanian

Another illustration of the morphosyntactic encoding of a specificity-related interpretive property comes from Rumanian. Consider the following paradigm with prepositional accusatives (drawn from Dobrovie-Sorin 1993):

- (8) *Mama ei va ajuta pe [una din studentele tale]*
'Her mother will help one of your students' (→ i.e. students?)
(9) **I-am examinat pe mai mult/ pe mai putin de trei elevi*
I have-them examined pe more/less than three students
(10) a. *L-am intalnit pe un prieten*
I him met pe a friend
b. *Toti profesorii il vor examina pe Jon*
All the professors him will examine pe John

As noted by Dobrovie-Sorin, object indefinites preceded by the preposition *pe* do not give rise to weak crossover effects (cf. (8)), do not admit modified cardinals (cf. (9)), and are compatible with clitic-doubling (cf. (10)). Interestingly, this cluster of properties is shared by names, but not by object indefinites that are not preceded by *pe*. What we can conclude from these observations is that prepositional accusatives behave semantically as rigid designators (i.e. they pattern like names): the speaker must have a specific referent in mind. Thus, the aspect of meaning which is morphologically encoded in Romanian is the so-called 'referential' reading of the indefinite, which exhibits in fact the same semantic status as a proper name. The characterization of this class of phenomena as specificity-related is clearly reminiscent of de Hoop's approach to scrambling in Germanic, according to which the 'referential', 'generic' and 'partitive' interpretations of scrambled constituents can be all traced back to a common feature of these constituents, referred to under the label 'specificity' (see de Hoop (1992)). It is quite significant that the DP-readings which undergo morphosyntactic encoding crosslinguistically tend to overlap with the cluster of interpretations which has been shown to correlate with scrambling in Germanic. As far as the 'referential' reading is concerned, the Romanian facts presented above represent a convenient illustration of this general point.

3.4. Cliticization in Romance and Germanic languages

The phenomenon of cliticization represents a third example of the grammatical encoding of interpretive effects. As shown by the following examples from Dutch (11) and Italian (12), clitics notoriously fill syntactic positions which are not available to other DPs. (11) illustrates a contrast in the distribution of the lexical DP *het boek* and the clitic *'t*: the former cannot precede an indirect object-DP, whilst the latter is admitted to do so (see especially Zwart (1993) for a detailed discussion of this class of facts). The examples in (12) show that displacement of a lexical DP to a position in between the subject and the finite verb is impossible, whereas it is allowed for clitics.

- (11) a. *...dat ik het boek Marie gisteren gaf
 ...that I the book Mary yesterday gave
 b. ...dat ik 't Marie gisteren gaf
 ...that I it her yesterday gave

- (12) a. *Gianni il libro ha letto
 Gianni the book has read
 b. Gianni lo ha letto
 Gianni it has read

What appears to be syntactically encoded in these cliticization structures is the 'familiar' interpretation of these constituents, whose referent has to be identified with entities which have already been introduced in the discourse or are physically salient. In the literature, pronoun movement has often been related to 'specificity effects' (see Corver & Delfitto (forthcoming) and Uriagereka (1995)). Here, specificity is clearly related to the definition of 'definiteness' found in En (1991), in terms of the identity relation (but see the next section for critical remarks on the identification of familiarity with definiteness), and also clearly overlaps with the case where 'familiar' indexes are used in DRT (see Diesing & Jelinek (1995) for a DRT-related approach to pronoun displacement, according to which pronouns move to VP-external functional projections, as 'free riders' on the verb, in order to avoid to be interpreted in the scope of existential closure).⁴

3.5. Clitic doubling in Greek and scrambling in Germanic

A fourth illustration of the grammatical encoding of interpretive effects is based on clitic doubling in modern Greek and scrambling in Dutch. Let us first consider clitic doubling.

Anagnostopoulou (1994) observes that there is a contrast in meaning between the sentence in (13), lacking clitic doubling, and the sentence in (14), where the DP *ton sigrafea* is doubled by the clitic *ton*. (13) is ambiguous between the reading in which the D(efinite)D(escription) 'the author' refers to A. Miller and the reading in which it refers to the inferred individual 'the author of the book about A. Miller'. Interestingly, clitic doubling seems to have a disambiguating effect: the only reading available is the one in which the referent of the definite description 'the author' is obligatorily identified with A. Miller, which corresponds to an entity which has been explicitly introduced into the context of discourse (corresponding to Princeis notion of 'givenness').

- (13) O Jannis diavase [ena vivlio jia ton Arthur Miller], entusiastike,
 ke thelise na gnorisi ton sigrafeaj apo konta

John read [a book about A. Miller]_i, he got very enthusiastic, and he wanted to get to know the author_j
 where $j = i$ or $j =$ the author of the book about A. Miller

- (14) O Jannis diavase [ena vivlio jia ton Arthur Miller]_i, enthousiastike, ke telise na tonj gnorisi ton sigrafe_j; apo konta
 John read [a book about A. Miller]_i, he got enthusiastic, and he wanted to get to know the author_j
 where $j = i$

The important comparative observation we would like to make is that there seems to be a strong correlation between the cases in which clitic-doubling preferably applies in Modern Greek and the cases in which scrambling is preferably adopted in Germanic SOV languages, contrary to the received wisdom that scrambling of definite constituents is entirely optional in German and Dutch. Consider the Dutch sentences in (15) and (16). When scrambling has applied (as in (16)), there is quite a strong tendency among the speakers to interpret the incomplete definite description *de regisseur* ('the director') as referring to the previously mentioned Fellini, producing a typical familiar reading. On the other hand, if scrambling does not apply (as in (15)), the incomplete definite description is preferably interpreted as referring to the 'inferred' individual *the director of the movie about Fellini*.

- (15) Ik heb gisteren een film over Fellini gezien en ik heb een uur later de regisseur ontmoet
 Yesterday I saw a movie about Fellini and an hour later I met the director
- (16) Ik heb gisteren een film over Fellini gezien en ik heb de regisseur; een uur later ti ontmoet

A comparison of the clitic doubling paradigm in (17), taken from Anagnostopoulou (1994), with the scrambling paradigm (18) provides further confirmation of the parallel interpretive properties of clitic doubled noun phrases and scrambled noun phrases. Consider first the clitic doubling paradigm: (17a,b) show that clitic doubling is the preferred option with incomplete definite descriptions (*tin gata*) but is clearly disfavored with complete definite descriptions (*tin mitera tou Shakespeare*); (17c,d) illustrate the impossibility of clitic doubling in sentences where the relevant noun phrase is used nonreferentially. In (17c), non-referentiality of the direct object relates to its inaliena-

ble interpretation. In (17d), nonreferentiality holds under an 'attributive' reading of the direct object DP.

- (17) a. *Tin vlepō tin gata*
 I see the cat
 b. **Tin-idha tin mitera tou Shakespeare ston ipno mu*
 I dreamt of the mother of Shakespeare
 c. **O Jannis tin-exi tin miti tu patera tu*
 John has-it his father's nose
 d. %*Spania tin xaidevo tin microteri gata*
 I seldom pet the smallest cat

Consider now the scrambling paradigm from Dutch:

- (18) a. Ik heb nog nooit de Bijbel gelezen
 I have never read the Bible
 b. Ik heb de bijbel_i nog nooit _{t_i} gelezen
 Ik heb nog nooit [het laatste artikel van Chomsky]_i gelezen
 c. I have never read the last article of Chomsky
 d. Jan heeft altijd de neus van zijn vader gehad
 Jan has always had his father's nose
 e. ...omdat ik zelden de kleinste kat aai (with attributive reading)
 ...since I seldom pet the smallest cat

The examples (18a,b) show that application of scrambling yields a different interpretation of the noun phrase *de bijbel*. The incomplete definite description *de bijbel* in (18b) no longer exhibits the sort of 'type' reading proper to (18a), involving generic reference to the religious text, but is preferably interpreted as referring to a specific token which has already been introduced in the context of discourse. Example (18c) illustrates that complete definite descriptions preferably do not undergo scrambling; that is, the word order in (18c) is the unmarked one for complete definite descriptions. Analogously to the impossibility of having non-referential noun phrases in clitic doubling structures, scrambling does not apply to such noun phrases, as is exemplified in (18d,e).

The above facts on Modern Greek clitic doubling and Dutch scrambling strongly point to an important conclusion. What seems to be encoded is familiarity and familiarity should not be confused with morphological definiteness. The definite DP in (19) may turn out to be just as unfamiliar as the indefinite 'two-headed' man of (20) (a

well-known point which is forgotten quite often in the work on the syntax of specificity (cf. e.g. Enç (1991)).

(19) I saw your father yesterday (drawn from Prince 1981)

(20) I saw a two-headed man yesterday

It is the notion of familiarity, rather than the (essentially morphological) notion of definiteness which is in fact relevant for a proper analysis of the so-called (mistermed) "definiteness effect". The ill-formedness of the Italian sentence (21) is not due to the definite nature of the noun phrase. This can easily be shown by replacing *l'uomo* ('the man') with the definite DP *il vicino* ('the neighbour'), as in (22). In this example, the "definiteness effect" is entirely absent. What seems to underlie the contrast between (21) and (22) is the notion of familiarity. The definite DP *il vicino* is easily interpreted as the complete definite description "my/our neighbour" as a consequence of its deictic meaning. Permitting such an interpretation, *il vicino* can easily be introduced as new (i.e. nonfamiliar) information in presentational constructions (i.e. the uniqueness requirement proper to the semantics of singular definite descriptions can be satisfied without assigning the DP a context-dependent interpretation). The DP *l'uomo* ('the man') in (21), due to the lack of this deictic meaning, is hardly interpretable as a 'complete' definite description, i.e. a 'description' such that the lexical content of the DP is sufficient to satisfy the uniqueness requirement. The latter can only be satisfied if the DP is linked to a set of previously established antecedents, under the condition that such a set be a singleton. We interpret the 'familiar' interpretation of the DP in (21) as corresponding to the presence, in the D-position, of the interpretable feature encoding the context-dependent interpretation of the DP. In this way, the prohibition that familiar DPs occur VP-internally (i.e. in presentational contexts) immediately follows from the checking requirement on quantificational features, according to which familiar DPs must be displaced to the (VP-external) functional position where the non-interpretable 'familiarity' feature is also encoded, as required by the general conception of checking of interpretable features sketched above. If the definite is rich enough in descriptive content, as is the case in (22), there is obviously no reason why the DP should be 'familiar' (i.e. require a context-dependent interpretation). Absence of the relevant quantificational feature and of the associated checking requirement provides a direct explanation for the well-formedness of 'complete' descriptions

in presentational contexts such as (22), where they occur VP-internally.

(21) *È entrato l'uomo dalla finestra (Belletti 1988)
(There) has entered the man through the window

(22) È entrato il vicino dalla finestra
(There) has entered the neighbour through the window

It is worth noting that the approach advocated here is fully compatible with the relevance of the traditional contrast between 'anaphoric reference' and 'deictic reference' in the analysis of the double-definiteness effect in Scandinavian (see Kester (1996) for a recent survey of the issue). It would also be interesting, on conceptual and empirical grounds, to compare our proposal with the view of 'incomplete' definite descriptions recently developed in Chierchia (1995), according to which 'anaphoric' definites (i.e. 'incomplete' definite descriptions) are interpreted as functions of (syntactically represented) implicit variables, whose value is either contextually or anaphorically supplied. Intuitively, the two approaches are theoretically and empirically distinct, but a satisfactory discussion of this issue would fairly exceed the limits of this paper.⁵

3.6. What is encoded?

At the beginning of section 3, we raised the question as to which aspects of meaning are encoded (morpho)syntactically. On the basis of the crosslinguistic data discussed above, we are now able to provide an answer. Three aspects of meaning are encoded, namely:

1. Specificity as an 'inclusion' relation. This aspect of meaning is exemplified in (23):

(23) a. Several boys entered the museum (Enç 1991)
b. Later, I saw two boys at the movies

The range of quantification of *two* in (23b) corresponds to the familiar set of boys introduced in (23a). The set referred to by *two boys* is 'included' in the familiar set. Notice that this interpretation corresponds to Enç's (1991) definition of specificity as *partitivity*. It is this interpretive property which is encoded in French object agreement

and complex inversion (cf. 3.1.) and in the Italian subject-of-ergative position (cf. 3.2.).

2. *Specificity as 'rigid designation'*. This aspect of meaning is exemplified in (24):

- (24) Helen must beat an athlete from UCLA who is trained by the Dogar brothers (Prince 1981)

In this example, the indefinite direct object noun phrase behaves as a name-like expression. Recall from section 3.3, that name-like behavior was a property of Rumanian prepositional accusatives. Thus, it is the semantic property of 'rigid designation' which is encoded in Rumanian. As noted in Reuland (1988) and De Hoop (1992), this notion is also relevant in the case of scrambling of indefinites in languages such as Dutch and German.⁶

3. *Familiarity as an 'identity relation'*. This aspect of meaning is exemplified by the use of an incomplete definite description in (25) and of a pronoun in (26): the referent of the 'familiar' constituent is identified with a previously defined or physically salient entity.

- (25) We got some beer out of the trunk. The beer was warm
(26) We got some beer out of the trunk, but it was warm

It is this notion of familiarity that is encoded in the case of cliticization (cf. 3.4), Greek clitic doubling and scrambling of definites in Germanic (cf. 3.5).⁷

From these observations, we would like to draw two main conclusions. First of all, specificity as an inclusion relation and familiarity as an identity relation can be dealt with as essentially the same phenomenon. Both aspects of meaning involve a context-dependent interpretation of the domain of quantification. Informally, we want to propose that this context-dependent reading depends on the fact that a determiner α is endowed with a quantificational feature encoding the property that α quantifies over a domain of familiar objects. As for the difference between 'inclusion' and 'identity', it might be easily made to depend on the interpretive requirements encoded in the semantics of the different determiners (such as the 'cardinality' or 'exhaustiveness' properties proper to defi-

nite determiners, exemplified above with the 'uniqueness' requirement traditionally associated to the semantics of singular definite descriptions).

Assuming that specificity effects can be reduced to familiarity, along the lines sketched above, we would be left with two aspects of meaning that are encoded (morpho)syntactically: 'familiarity' and 'rigid designation'. We propose that these interpretive properties correspond to the presence of well-defined interpretable features on the definite or indefinite determiner, respectively encoding the semantic instruction that the domain of quantification has to be restricted to the context of discourse and the semantic instruction that the DP has 'rigid-designation' (i.e. name-like) properties. As for the former feature, what we are suggesting is that the traditional operation of 'relativization to a model' of model-theoretic semantics is encoded in the computational system. As for the latter feature, we propose that the so-called 'referential' interpretation of indefinites, according to which they behave as proper nouns and which is traditionally conceived of as a pragmatically-driven phenomenon (see Neale (1990) for a recent survey of the issues involved), might well be syntactically encoded in certain languages, as suggested by the Rumanian facts and by the interpretation of scrambling in Germanic (the interpretation of a scrambled constituent as a 'concealed' proper name is arguably sufficient to trigger scrambling in Dutch, cf. de Hoop (1992)).

Secondly, we may now draw an important conclusion concerning what is *not* encoded in the computational system. Quite surprisingly, what is *not* encoded is the presupposition of existence/cardinality which is part of the semantics of strong determiners. Consider, for example, the contrast between (27) and (28):

- (27) All American Kings lived in New York (Lappin & Reinhart 1987)
(28) Five American Kings lived in New York

The traditional problem raised by the observation that (27) is true according to standard logic but is normally understood as 'undefined for a truth-value' according to the speakers can be solved by adopting the view, shared by Diesing (1992), that 'strong' determiners involve the presupposition that the domain of quantification is not empty. The hypothesis is that specificity and presuppositionality coincide: remember that what has to vacate the VP, according to Diesing, is just the 'presuppositional' material. In other words, the process of tripartite structure formation and the 'presuppositional' interpretation

of the domain of quantification are assumed to coincide. Our conclusion on this important point is entirely negative: there is no clear empirical evidence that this aspect of 'specificity' is encoded in syntax. On the contrary, there is positive evidence that presuppositionality is in fact *not* encoded. Consider the following examples:

(29) Ik geloof dat Jan nog nooit *de president van Frankrijk* ontmoet heeft
I believe that John never [the president of France] has met

(30) *Idha tin mitera tou Shakespeare ston ipno mu*
'I dreamt of the mother of Shakespeare'

The complete definite description *de president van Frankrijk* in (29) involves presuppositions of existence and cardinality according to the standard semantics of definite descriptions: there must be one and only one individual who satisfies the property of being 'president of France' in order for the sentence to be defined for a truth-value. However, there is no need for this individual to be familiar; that is, to have been previously introduced or be physically salient in the context of discourse. Quite significantly, scrambling is generally avoided in Dutch under these interpretive conditions (cf. (29)), and the same holds for Greek clitic doubling, as exemplified in (30).

So far we have tried to provide a more precise characterization of which kinds of semantic information falling under the notion of 'specificity' are syntactically relevant. We have further taken the position that such interpretive notions as 'familiarity' and 'rigid designation' are encoded in the computational system by features (i.e., semantic instructions) which express the information: 'the domain of quantification corresponds to a familiar set', or 'this DP is a rigid designator'. Such features trigger the application of various syntactic processes (such as scrambling, clitic doubling, etc.).

One might wonder whether there is a way to derive these interpretive effects that we claim are encoded in syntax without introducing additional 'semantic' features triggering syntactic operations within the computational system. Is it possible, for example, to account for the familiar reading of scrambled definites and the rigid designation of scrambled indefinites without resorting to additional features encoding this information and triggering the displacement of constituents exhibiting this interpretation? A potential approach would be to analyze the referential and familiarity effects as a side effect of well-established focus assignment procedures, the basic

claim being that these readings correspond to the natural interpretation of a general defocalization strategy, as is the case with the 'prosodic' movement recently proposed for Romance scrambling by Zubizarreta (1995). In the next section, we will show that such a defocalisation approach towards scrambling faces empirical and conceptual difficulties. Focus, even if understood as a legitimate syntactic feature, is not sufficient to derive the scrambling facts.

4. Scrambling: towards a feature based approach

As we have seen in the previous section, scrambling appears to correlate with the specific or familiar interpretation of the displaced constituent. This section addresses the question as to how the relation between movement and the specific/familiar reading is encoded in grammar. If we adopt, in line with Minimalist assumptions, a feature based approach towards displacement phenomena, two alternative feature based approaches towards scrambling can be distinguished.

The first approach, which we will label theory A, states that specificity and familiarity are notions which are not syntactically encoded (as a consequence of severe restrictions in the set of formal features which are admitted in syntactic computations) and are consequently not involved in triggering syntactic movement operations such as scrambling. According to this view, the only syntactic feature involved in scrambling operations is the focus feature. The general idea is that scrambling takes place in order to defocalise a constituent. The specific or familiar reading of the scrambled constituent is considered a side effect of PF-constrained focus assignment procedures (see Zubizarreta 1994 and Reinhart 1995 for two distinct implementations of theory A).

The second approach, which we will label theory B, differs from theory A in interpreting specificity and familiarity as primitive features which are syntactically encoded and are actually involved in triggering movement operations such as scrambling.⁸ As already emphasized at the onset, the basic insight is that the familiar or specific reading is lexically encoded by means of a quantificational feature realized within the scrambled constituent (normally, in the determiner-position) and which must be checked against the feature specification of a designated functional category, which is non-interpretatable and would therefore cause the derivation to crash at the LF-interface if not erased. As for the semantic instruction expressed by the 'familiar' feature realized within the scrambled constituent, we can assume

If discourse requirements determine a constituent (to carry the syntactic focus feature, and α is not assigned phonological prominence (i.e. phrasal stress) by the NSR, some constituents distinct from α will have to vacate their original position in order for the focused constituent to comply with the PF-constraint (31). It is assumed that this condition can be satisfied through either the marked prosodic strategy of deaccenting or prosodic movement.

These two strategies are exemplified in (32b and c), which are both appropriate replies to the question in (32a).

- (32) a. Cosa pensi che Gianni abbia dato a Maria?
 What do you think that Gianni has given to Maria
 b. Gianni ha dato [a Maria]_i un libro _{t_i} (prosodic movement)
 Gianni has given to Maria a book
 c. Gianni ha dato un LIBRO, a Maria

In these replies, the constituent carrying interpretive focus (i.e. the constituent which is determined by compelling discourse considerations to be interpreted as focused) is the DO *un libro*. In order to comply with (31), the DO-noun phrase must also be assigned prominent stress. However, prominent stress will be assigned by the NSR-rule to the IO-PP, which in the base structure is more deeply embedded than the DO-noun phrase. In order to get phrasal stress on the DO, the more deeply embedded IO can be de-accented and stress can be shifted to the left-adjacent DO. This strategy yields (32c). The second strategy, prosodic movement, is illustrated in (32b): the IO is scrambled leftward, in order to yield an output structure in which the constituent carrying the syntactic focus feature also contains the most deeply embedded prosodic word. In this way, scrambling can be assumed to have a defocalizing effect for the scrambled constituent. As already noticed above, this general approach still leaves the possibilities open that scrambling be conceived of as either a PF-movement phenomenon (Reinhart 1995) or a syntactic process which provides the right output structure for PF-interpretation, hence exhibiting some of the typical properties of syntactic movement (Zubizarreta 1994).

One potential advantage of the defocalisation approach towards scrambling is that specificity/familiarity effects are potentially accounted for without resorting to the introduction of new classes of interpretable features among the formal features which are allowed to feed the syntactic computation: only focus is required, under the

me that it triggers some form of 'substitutional' interpretation of the variable which is quantified in, according to which the range of quantification consists of a finite set of individuals known to the discourse participants. As a consequence, the quantified constituent is assigned a context-dependent interpretation (see Delfitto 1995 for a detailed assessment of the relation between this proposal and the notions of definiteness/familiarity/specificity as defined in the literature).

Clearly, the two theories are very different in nature: in theory A, scrambling is prosodically motivated and takes place in order to create the right configuration for assignment of phonological focus (i.e. it is either PF-movement or prosodically-related syntactic movement); in theory B, scrambling is essentially motivated by feature-checking requirements, roughly entailing that the feature encoding 'familiarity' which is realized in the designated functional position, where it is non-interpretable, be erased. It is worth noticing that the defocalization approach to scrambling, according to which the alleged specificity effects detected in scrambling configurations simply represent side-effects of defocalization, is committed, in principle, to the view that focus (conceived of as the constituent carrying new information) and familiarity are incompatible and/or complementary notions. No such complementarity underlies theory B, as we will see below.

Let us first consider theory A, which we will refer to as the prosodic theory, somewhat more carefully. As already hinted at, this theory assumes that a constituent α is scrambled because it would be marked with focus (as a function of the application of the unmarked syntactic procedure for F(ocus) assignment) in its base position, whilst discourse requirements determine that a constituent β distinct from α carry the syntactic focus feature. In other words, there would be an incompatibility between the locus of (discourse-dependent) interpretive focus and the locus where syntactic focus is necessarily assigned. This reasoning crucially depends on the assumption of the PF-condition in (31), which requires that the constituent which is marked with the syntactic focus feature dominate the word with main prominence within the Intonational Phrase. Main prominence is determined by the syntax dependent Nuclear Stress Rule (NSR), which under Cinque's (1993) reinterpretation, essentially states that the unmarked main phrasal stress falls on the most deeply embedded prosodic word within the IntP.

- (31) PF-constraint on focus assignment: If a constituent C in IntP_i is marked F, then C must bear main prominence within IntP_i

hardly problematic assumption that the assertion-presupposition partition is encoded in syntax.

An important empirical advantage is that this analysis, despite its simplicity, seems able to derive some long-debated properties of scrambling in Dutch, as those related to De Hoop's (1992) Principle of Contrastiveness. This principle relates object scrambling to the possibility of assigning (contrastive) focus to the verbal predicate. In other words, the application of scrambling is not triggered by interpretive properties of the scrambled element itself (as would be the case in theory B), but is rather made dependent on the focalization properties of the selecting predicate. This is illustrated by the following well-known minimal pair, drawn from De Hoop (1992):

(33) *...omdat Jan een kati altijd ti heeft
..because Jan a cat always has

(34) ...omdat Jan een kati altijd ti liefheeft
..because Jan a cat always loves

The ungrammaticality of (33) receives a straightforward explanation under the reasonable assumption that the light verb status of *hebben* ('have') prevents this verb from being marked as focused, to the effect that scrambling has no trigger in (33). That is, the application of scrambling in (33) would provide a structure in which the focal stress would be incorrectly assigned to the verb, counting as the most deeply embedded constituent. The verb in (34), on the contrary, is easily assigned a (contrastive) focus interpretation, and scrambling is correctly predicted to take place when this is the case.

Despite these attractive conceptual and empirical aspects, the prosodic theory faces in our view quite serious difficulties. First of all, scrambling seems to affect a constituent even in contexts where the purpose of this operation cannot consist in allowing a more embedded constituent to be marked as focused, for the very reason that focus is independently assigned to a higher constituent. This is arguably the case in (35)–(36):

(35) Aan wie heb je het boekti nog nooit ti gegeven?
To whom have you the book never given

(36) Ik denk dat [zelfs JAN] 't meisjei nog nooit ti gekust heeft
I think that even JAN the girl never kissed has

In these examples, the syntactic focus feature is associated with the

interrogative phrase (cf. (35)) and with the subject bearing the focus marker (cf. (36)). These focused elements have been clearly assigned prominent stress by means of the de-accenting strategy. Here, the relevant observation is that scrambling can operate within the de-accented part even though there is no prosodic reason for it to take place. That is, the PF-constraint (31) has already been satisfied by means of the de-accenting strategy, and hence there is no prosodic trigger for DO-scrambling to take place. Nevertheless, scrambling is possible, which suggests that an independent, non-prosodic trigger is involved.

A similar problem is raised by (37b), which as a reply to (37a) has the adjunct carrying the syntactic focus feature.

(37) a. How did the teacher examine Mary?

b. Ik denk dat hij 't meisjei SCHRIFFTELIJK ti getentamineerd heeft
I think that he the girl WRITTEN has examined

'I think that he had the girl take a written exam'

Notice that the DO *het meisje* ('the girl') has been scrambled to a position preceding this focused adjunct. Now, clearly scrambling of the object does not yield an output structure which would associate prominent stress with the adjunct, since the main verb is still the most deeply embedded element and should therefore receive phrasal stress under the NSR. This suggests that prominence is assigned to the adjunct by means of the de-accenting strategy. But if the PF-constraint (31) can be satisfied by de-accenting the material to the left of the adjunct, there is no prosodic trigger any more for scrambling the DO to the left of the adverb. So, here again the well-formedness of (37b) suggests that an independent non-prosodic trigger is operative in the application of scrambling.

The all-focus structure in (38b) also seems to pose a problem for the defocalisation approach.

(38) a. What happened?

b. Iemand heeft de presidenti met een mes ti aangevallen
Someone has the president with a knife attacked
'Someone has attacked the president with a knife'

Since (38b) is an all-focus sentence, the focus feature is associated with the S-node (i.e. the highest node in the tree). Remember that, under Cinque's reformulation, the NSR simply assigns main promi-

nence to the most deeply embedded constituent of the clausal structure, which in a transitive structure like (38b) would be the noun head of the DO-NP. This prominence assignment clearly complies with the PF-constraint (31) (essentially requiring that the constituent with which is assigned the feature +F contain the word receiving main stress) and hence there is no prosodic reason whatsoever for scrambling to take place. Nevertheless, scrambling is possible, which again suggests the existence of an independent non-prosodic trigger.

Also in contexts of constructional focus, exemplified in (39), where we have a cleft structure, scrambling can apply within the presupposed clause even though application of scrambling is not required to make the structure comply with the PF-constraint (31).

- (39) Het was op een maandag dat Jan zijn vrouw_i met een mes t_i
heeft aangevallen
It was on a Monday that Jan his wife with a knife has attacked

The focused temporal PP in (39) is assigned prominent stress by making use of the marked prosodic strategy consisting in de-accenting: the presupposed clause is deaccented and the stress is shifted to the PP. The structure produced by the application of this prosodic strategy clearly complies with the PF-constraint in (31), making application of prosodic movement entirely superfluous and therefore ruling it out on the grounds of the conception of movement as Last Resort. The fact that scrambling can take place suggests that the application of scrambling has a non-prosodic motivation.

However, quite independently of these considerations, we would like to suggest that the main problem for the prosodic approach towards scrambling is constituted by what we would like to define as the 'dogma of complementarity', i.e. the implicit claim that the interpretive effects we have reviewed under the label of 'specificity' should correlate with defocalization, under the received wisdom that a focused constituent, as expressing the new information in a sentence, is incompatible with a specific/familiar interpretation. The first observation against this dogma is the often forgotten fact that focus is arguably quite compatible with familiarity, as revealed by such examples as (40):

- (40) a Heeft Jan nog nooit MARIE gebeld?
Has Jan never MARY called
b. Nee, zij heeft HEM_i nog nooit t_i gebeld
No, she has him never called

These examples represent an adaptation to scrambling of the evidence that focused pronouns need not correspond to new information (cf. among others Prince (1981)). Clearly, the focused pronoun represents the assertion in (40b) and is therefore assigned narrow focus. This, however, does not prevent the pronoun from receiving a 'familiar' interpretation in (40b), that is, from referring to a well-established individual in the domain of discourse.

The compatibility of scrambling and focalization (which clearly argues against the view that scrambling essentially reduces to a defocalization process) is strongly confirmed by the evidence that certain instances of scrambling correspond in fact to focus-movement. In (41b), for example, conceived of as an answer to (41a), the bracketed constituent clearly receives a focused/contrastive reading. Still, the option of scrambling this constituent is the preferred one, as revealed by the more marginal status of (41c).

- (41) a. Heeft Jan nog nooit Chirac gezien?
Has Jan yet never Chirac seen
b. Nee, hij heeft [zelfs DE PAUS]_i nog nooit t_i gezien
No, he has even THE POPE never seen
c. ?*Nee, hij heeft nog nooit zelfs de paus gezien

Summarizing, the fact that scrambling turns out to be quite compatible with focalization seems to cast strong doubts on theory A's claim that scrambling is necessarily linked to defocalization effects. We rather have a situation in which the grammar distinguishes two types of scrambling: (i) scrambling which relates to the properties of familiarity/specificity on the one hand, and (ii) scrambling induced by the property of focus on the other hand (cf. (40b),(41b)).

If the grammar allows focus movement with definites, as in (40b,41b), we should expect it also to apply to indefinites. As is well-known, scrambling of indefinites is generally associated with a specific reading of the scrambled constituent (Reuland 1988, De Hoop 1992). However, as observed by Zwart (1993), scrambled indefinites do not necessarily have a specific reading. In (42b), for example, the constituent a girl simply receives an existential reading.

- (42) a. Who did John kiss yesterday?
b. Peter zei dat Jan EEN MEISJE_i gisteren t_i gekust heeft
Peter said that Jan A GIRL yesterday kissed has

Zwart concludes from facts such as those in (42) that interpretive effects are merely a function of intonation, and that scrambling seems to be driven by well-established syntactic mechanisms such as case checking. However, notice that in order to account for the compulsory specific reading of the scrambled indefinite in (43b), he has to resort to the stipulation that indefinite DPs which precede focused material are necessarily specific (Zwart 1993: 316), a condition which actually corresponds to the 'Principle of Contrastiveness' introduced in De Hoop (1992):

- (43) a. When did John kiss a girl?
 b. Peter zei dat Jan een meisje_i gisteren t_i gekust heeft
 Peter said that Jan a girl YESTERDAY kissed has

If we assume, however, that scrambling in Germanic SOV-languages is ambiguous between two quite distinct syntactic processes (one corresponding to a familiar or specific reading of the scrambled constituent and the other corresponding to a focused reading of the same element), the scrambling phenomenon in (42b) can simply be interpreted as being triggered by the property of contrastive focus. In other words, both (42b) and (43b) have an independent trigger for movement. In (42b), the triggering element is the contrastive focus property, whereas in (43b), the property of specificity is involved.

Obviously, this approach immediately raises important questions concerning the nature of the interpretable feature which is assumed to be relevant for the instances of focus scrambling exemplified in (40b), (41b) and (42b). We have already suggested that a common property of the scrambled constituents in these examples is their contrastive reading. But how is contrastive focus to be defined?

Under one of the possible approaches to Informational Focus, according to which the formal feature encoding Focus is assumed to express the required information about the 'asserted' part of a sentence, we might simply claim that contrastiveness is an essential property of Focus *tout court* (against the traditional distinction between contrastive focus and informational focus which dates back to at least Halliday 1967). Obviously, what is asserted is necessarily contrasted to what is not asserted, and there would be simply no room for a distinct notion of Contrastive Focus (this is essentially the view adopted in Zubizarreta 1994). However, there is a growing consensus in the literature (cf. Kiss 1995 for a detailed survey of the relevant literature) that two notions of Focus should be carefully distinguished from each other, the first usually labelled as 'Operator Focus' and the

second identified with the traditional notion of 'Information Focus'. Despite various attempts to reduce one of these two notions to the other, there is convincing evidence that the notion of Focus involved in syntactic displacement should not be confused with the notion of Focus which correlates with the application of the mechanism of unmarked stress assignment. The latter notion tends to correspond with the identification of Focus with the material left in the VP (cf. Vallduví 1992), whilst the former tends to overlap with a quite restrictive notion of 'Contrastiveness', according to which Focus correlates either with the feature [+exhaustive] (cf. Szabolcsi 1981) or with the feature [+Familiar] (cf. Kiss 1995). Focus as an 'exhaustive operator' (apparently the correct hypothesis for languages such as Hungarian) correlates with the semantic instruction that the focused constituent expresses the 'unique' individual to which the relevant predicate applies ('exhaustive listing'), quite independently of the presuppositional properties assigned to such a constituent. On the other hand, when Focus seems to involve 'familiarity' (as is arguably the case in Romance, see the discussion below), an additional constraint is introduced, to the effect that the domain of quantification to which the Focus Operator applies is restricted to a finite set of objects which are already known to the discourse participants. In this way, the notion of Focus which is arguably relevant for syntactic displacement (under the familiar label 'Focus Movement') appears to exhibit a significant link with the notion of 'familiarity', an independent trigger for movement according to the main thesis defended in the present contribution. It seems to us that the approach which introduces the notion of 'familiarity' in the analysis of Contrastive Focus is able to shed some light on focus-driven scrambling in Germanic, by confirming the essential insight that the interpretable feature corresponding to the context-dependent reading of a quantified constituent is assigned a crucial role in triggering different kinds of syntactic movement. In rather informal terms, what seems to be at stake in the sort of contrastiveness involved in focus-driven scrambling (of both definites and indefinites) is that what is asserted is characterized by an 'inclusion' relation in a 'familiar' (that is, previously established in the discourse context) set of alternative choices. In other words, the 'values' of the set of alternatives have to be given in the context of discourse, in the sense assumed to be relevant for the notion of 'familiarity'.

In the case of contrastively focused indefinites, we might assume that the choice concerns the 'restrictions' on the variable *x*, that is, the different 'ranges' over which the variable is assumed to vary.

What is chosen corresponds with one particular restriction out of a set of familiar 'restrictions'. Consider, for example, the following discourse fragment, in which (44b) is conceived of as an answer to (44a):

- (44) a. Wat heb je nog nooit gegeten? Een appel of een peer?
What have you never eaten? An apple or a pear?
b. Nou, ik heb EEN APPEL, nog nooit ti gegeten
Well, I have AN APPLE never eaten

We assume that the familiarity effects proper to structures involving focus-movement can be expressed as in (45). The 'assertion' expressed by the focused constituent corresponds to the value of the variable in (45) (in the case of (44b), one apple out of a set of previously introduced apples), but the range of variation of this variable corresponds to a disjunction of familiar 'ranges' ('x is an apple or x is a pear'), which are therefore part of the presupposition. Thus, the interpretive effect of the application of focus scrambling to the indefinite noun phrase in (44b) is that it indicates which particular 'range' out of the set of given 'restrictions' of the variable the speaker has chosen.

- (45) I have never eaten x (where x is an apple or x is a pear): choose one restriction of x out of a 'familiar' set of possible restrictions of x

In the case of contrastively focused definites, the choice directly concerns the value of the variable x: the application of focus-scrambling to the definite has the interpretive effect of indicating which value has been chosen out of a set of potential familiar values for x (in (46), the choice is between a male and a female individual).

- (46) a. Wie heb je nog nooit ontmoet? Marie of Paul?
Who have you never met? Marie or Paul
b. Nou, ik heb HEM, nog nooit ti ontmoet
Well, I have HIM never met

- (47) I have never met x (where x is Mary or x is Paul): choose one value of x out of a possible set of 'familiar' values of x

The idea that the formal feature encoding familiarity is crucially involved in the application of focus scrambling is independently confirmed by the interpretive properties of topicalization in Romance languages (in fact, a well-known instance of focus-movement).

Romance exhibits the alternation between a structure where the focused constituent is left in situ (corresponding to the unscrambled structures in Germanic) and a structure where focus is fronted. Fronted foci necessarily receive a contrastive interpretation (in the restrictive sense discussed above, crucially involving familiarity effects), whereas focused constituents which remain in situ typically do not imply contrastiveness. This is shown by the fact that the Spanish topicalization structure in (48) rather than the in situ structure (49) represents the natural answer to question (50), whereas (49) is the most natural answer to question (51).

- (48) LAS NOTICIAS lee Juan todos los dias
THE NEWS reads Juan every day

- (49) Juan lee todos los dias LAS NOTICIAS
Juan reads every day THE NEWS

- (50) Qué lee Juan todos los dias: las noticias o el horóscopo?
'What does Juan read every day: the news or the horoscope'

- (51) Qué lee Juan todos los dias?
'What does John read every day?'

The conclusion that we would like to draw from the above discussion is that the cases in which the focus feature is realized in a designated functional position and triggers movement, correspond in fact to cases where the set of possible alternatives (represented either by the set of potential 'ranges' over which the variable varies or directly by the set of potential values for the variable) consists of given values. In other words, it seems that the semantic instruction expressed by the Focus feature which turns out to be encoded in syntax, triggering displacement to a designated functional position in a variety of languages, crucially confirms the relevance of the interpretable feature encoding 'familiarity' for syntactic operations. In fact, we have been led to conclude that the notion of Focus that is relevant for movement operations in syntax (Operator Focus) essentially consists of the merge of the two independent features encoding 'exhaustiveness' and 'familiarity' (understood in Prince's 1981 sense, with possible extensions to the definition proposed in Ward and Prince 1991, for which cf. the discussion in fn. 1). In other words, focus-scrambling in Germanic appears to confirm the insight that Operator Focus, in a large variety of languages, does not reduce to the expression of 'exhaustive listing', but crucially encodes the choice of a uni-

que element out of a set of 'familiar' options (see Kiss 1995). On the other hand, familiarity does not play any role as far as the notion of Information Focus is concerned (an essentially PF-constrained notion, cf. Reinhart 1995), confirming that the bipartition between two distinct notions of Focus is ineliminable.

Summarizing, in this section we have proposed that the specific and familiar reading associated with scrambled constituents cannot be interpreted as a side effect of focus assignment procedures. Scrambling, in other words, is not simply a defocalisation strategy (as in Reinhart 1995). We rather propose that interpretable features such as familiarity are encoded syntactically, and trigger the displacement of constituents which are assigned a familiar reading. As proposed above, we assume that checking of an interpretable feature is triggered by the presence of such a feature in a designated functional position, where it is non-interpretable and from which it must be therefore erased. The codification of this kind of semantic instructions in the syntactic representation implies that the computational system exhibits a strong tendency to morphosyntactic pre-encoding of one or more readings out of a set of logically admissible interpretations. Notice that this conclusion is much in the spirit of Stowell and Beghelli's (1994) decomposition of quantifier raising into a set of checking operations involving distinct quantificational features (interrogative, negative, distributive, etc.), and strongly argues in favor of the 'active' role that interpretable formal features plays in the syntactic computation (against the view adopted in Hornstein 1995).

5. On the encoding of Familiarity

The result of our discussion so far is that a focus based approach towards scrambling of definites cannot be empirically and conceptually successful if familiarity is not recognized as an autonomous syntactic feature entering syntactic computations (either directly or as a part of the definition of Operator Focus). As emphasized before, we define familiarity as an 'interpretable' formal feature realized on the determiner at the moment it enters the numeration. The semantic instruction provided by this feature is not that the interpretation is 'presuppositional', corresponding to the requirement that the restrictor set be non-empty (as was the case in Diesing (1992)), but rather that the domain of quantification has to be restricted to familiar objects, yielding a form of context-dependent (and object-dependent) quantification.⁹

Importantly, strong determiners are only optionally endowed with the 'interpretable' feature encoding familiarity when appearing in the numeration which enters the syntactic computation. In this way, what we predict is a bipartition in the class of strong determiners: namely those which are endowed with the quantificational feature encoding familiarity and those which are not. In the previous section, we have suggested that the encoding of the 'familiarity' feature in the determiner system allows us to capture the semantic 'generalization which seems to underlie scrambling of definite DPs, namely the fact that the strong DPs which typically undergo scrambling are those that are interpreted as incomplete definite descriptions, i.e. as descriptions whose conditions of interpretation necessarily require a context-dependent reading.

The difference in interpretation of context dependent strong DPs with respect to context independent ones can be illustrated by comparing the truth conditions of sentences containing the two types of strong DPs. If we follow Chomsky in interpreting D(efinite)D(escription)s as universal quantifiers involving a presupposition of cardinality, the truth conditions for (52a), containing the full definite description *the president of Burundi*, will essentially be those expressed in (52b). In (53a) we have the incomplete DD *the president*: it is 'incomplete' in the sense that the property corresponding to the common noun is not sufficient to single out a unique object in the real world, contradicting the cardinality requirement instantiated in (52b). However, the cardinality requirement is met if the interpretation is made dependent on the context of utterance, by being relativized to a model in which there is in fact only one president. So, sentence (53a) is felicitous under the condition that there be only one salient president in the discourse context in which (53a) is uttered.

- (52) a. John met the president of Burundi
b. John met the president of Burundi is true iff John met every president of Burundi and there exists only one individual which satisfies the property of being 'president of Burundi'
- (53) a. John met the president
b. John met the president is true iff John met every president and there is one and only one contextually salient president

What we actually want to propose is that the relativization of the

interpretation to the context of utterance is syntactically pre-encoded by means of the familiarity feature. This feature provides a specific semantic instruction at the LF-interface. The relevant reading/interpretation of the strong DP is provided after the interpretable familiarity feature has been checked in a designated functional position (due to the independent interface requirement that the familiarity feature be erased from this functional position, where it is non-interpretatable). The interpretive result of this morphosyntactic strategy will consist in the context dependent reading of the relevant determiner, roughly corresponding to some form of object-dependent interpretation according to which the quantified variable ranges over a set of previously established entities (cf. Delfitto 1995). If the strong determiner enters the computation devoid of the familiarity feature, it will not receive a context-dependent interpretation, even though it is obviously allowed to retain the 'presuppositional' meaning associated with the notion of 'presupposition of existence', which is assumed to correlate, in Diesing (1992), with the syntactic process of 'restrictive clause formation'. As emphasized above, one of the main claims of this contribution is that a fundamental distinction should be introduced between the notion of 'presupposition of existence' and the notion 'familiarity'. We intend to show that familiarity (and only familiarity) is syntactically encoded by means of an interpretable formal feature realized in the determiner position.

If a distinction exists between definite determiners carrying the familiarity feature and those which are not specified for it, we expect there to be languages in which the definite determiner may have a different morphological realization depending on the familiar or unfamiliar interpretation of the definite constituent. This prediction is actually borne out: the determiner system of Fering (Ebert (1970)), for example, makes a distinction between the 'presuppositional' definite article *a* and the 'context-dependent' article *di*. The latter is used in contexts where the referent of the definite DP is naturally assigned a familiar interpretation.¹⁰

- (54) a. A hünj hee tuswark
The dog (the speaker's dog) has toothache
b. Oke hee α fut breegen
Oke has the foot broken ('Oke broke his foot')
c. A/*Dön domst büüren haa a/*dön gratst eerdaapler
The most stupid farmers have the biggest potatoes

- (55) a. Peetje hee jister an kü slachtet. Jo saai, det kü wiar äi stünj.
Peetje has yesterday a cow slaughtered. One says, the cow was not healthy
b. Nü maagi dach ans di döör tacht!
Now close please the door PRT!
'Please close the door!'

A closely related kind of empirical evidence is arguably provided by the so-called 'double definiteness effects' in Scandinavian, which have been traditionally analysed by resorting to the distinction between 'deictic' and 'anaphoric' reference. It can be shown that the former notion can be arguably clarified in terms of 'presupposition of existence', whilst the latter is clearly related to familiarity (see Kester 1996 for an analysis of double-definiteness along these lines). Due to space limitations, we will not pursue these matters here, being content with having indicated an empirical domain which is certainly relevant for the general hypothesis put forward in this contribution.

6. Familiarity and scrambling as operator movement

So far, we have defended the position that scrambling of strong DPs is triggered by familiarity, conceived of as the interpretable feature that encodes quantification over a domain of familiar (i.e. pre-established) objects. This obviously implies that (accusative) case is not the feature triggering application of scrambling and that scrambling is not an instance of A-movement (i.e. movement to a L-related position). We would like to assume, in fact, that scrambling of a strong DP involves movement of a constituent carrying the familiarity feature to an operator (i.e. A'/non-L-related) position (which we want to identify with the specifier of the functional projection encoding familiarity), where the familiarity feature is checked and consequently erased from a position in which it is non-interpretatable.¹¹ This analysis of scrambling as an A'-movement operation triggered by the checking requirement on the interpretable feature encoding familiarity raises the question as to how to account for some well-known scrambling properties which suggest an A-movement analysis of scrambling, e.g. absence of weak crossover effects, absence of reconstruction effects, etc. In this section, we will reconsider some of the properties associated with scrambling and show that these properties follow straightforwardly from an A'-movement analysis under the

additional assumption that familiarity is crucially involved. Obviously, we should emphasize that a complete coverage of the many insights and observations in the research domain of scrambling is far beyond the scope of the present contribution.

6.1. Scrambling of XP

A strong argument in support of scrambling as an A'-movement process is the fact that scrambling does not only take noun phrases as its input, but also constituents of a different categorial type, whose movement is generally assumed not to be triggered for reasons of case licensing (cf. Webelhuth 1989, Vikner 1994). The relevant property underlying scrambling (of definites) seems to be the familiar reading of the scrambled element. Consider, for example, the following discourse contexts in which the utterance by speaker B contains a scrambled 'pro-lexical', which functions grammatically as a complement to the verb and is clearly assigned a familiar interpretation.

- (56) A: Ken jij Jan Pietersen?
 Know you Jan Pietersen
 B: Ik geloof dat ik die vroeger op een feestje kort --
 gesproken heb
 I believe that I that (=him) formerly at a party briefly --
 spoken-to have
- (57) A: Ben jij wel eens in *New York* geweest?
 Have you once in *New York* been
 B: Jazeker. Ik heb *daar* vroeger enige tijd -- gewoon
 Yes. I have there formerly some time -- lived
- (58) A: Mijn lezing is *om 12.00 uur*
 My talk is at 12.00 hours
 B: Niet waar! Jouw lezing kan *dan* nooit -- zijn. 12.00 uur is
 lunchtijd.
 Not true! Your talk can then never -- be. 12.00 hours is
 lunchtime.
- (59) A: Ben jij vroeger weleens *jaloers op Kees* geweest?
 Have you formerly once jealous of Kees been
 B: Wie van ons is *dat* vroeger eigenlijk niet -- geweest?
 Who of us has that formerly in-fact not -- been

- (60) A: Wat is Jan arrogant!
 What is Jan arrogant!
 'How arrogant Jan is!
 B: Ik hoop dat ik zo nooit -- word
 I hope that I so never -- become

These examples show that various types of 'familiar' pro-lexical complements undergo scrambling quite naturally. In (56), the demonstrative pronoun is referentially linked to the noun phrase *Jan Pietersen*. In (57), the demonstrative locative complement *daar*, which is anaphorically related to *in New York*, has undergone scrambling. *Daar* refers to a location which is familiar from the discourse context. In (58), a temporal demonstrative has been scrambled to a position preceding the adjunct *nooit*. The temporal demonstrative refers to a point on the time axis which has already been introduced in the discourse. In (59) and (60), the demonstrative pronouns *dat* ('that') and *zo* ('so') refer to a property already mentioned in the utterance produced by speaker A. In other words, the property has already been evoked in the discourse and counts therefore as familiar.

The cross-categorial relevance of familiarity for scrambling is also exemplified by the following minimal pair:

- (61) *Ik geloof dat hij [erg hoog] nog nooit t_i geweest is
 I believe that he very high yet never -- been has
- (62) A: Jan heeft een berg beklommen van 5000 meter hoogte
 Jan has a mountain climbed of 5000 meter height
 B: Echt? Ik geloof dat hij zo hoog nog nooit t_i geweest is
 Really? I believe that he that high yet never -- been has

These examples show that scrambling of adjectival predicates is only allowed if the adjective phrase denotes a property (i.e. a degree of highness) which is familiar from the discourse context. In (62B), the adjective phrase contains the degree word *zo*, which is anaphorically linked to the measure phrase expressed in the utterance of speaker A. Being D(iscourse)-linked, the adjective phrase is able to undergo scrambling. In (61), on the other hand, the property denoted by the adjective phrase is in no way familiar from the preceding context. Consequently, scrambling is impossible.

As has been observed in the literature (cf. Webelhuth 1988, Vikner 1994), scrambling of PPs is also allowed in languages like Dutch and German.

- (63) a. Ik heb [om dat soort grappen] vroeger altijd hard -- gela-
chen
I have about that sort(of) jokes formerly always loudly --
laughed
b. Ik moest [in die kast] vroeger altijd mijn kleren -- leggen
I had-to in that cupboard formerly always my clothes --
put
c. Ik heb [in die stad] vroeger 3 jaar lang met veel plezier --
gewoond
I have in that city formerly 3 years long with much plea-
sure -- lived

In these examples, the PP-complement of the verbal predicate has been scrambled to a position in the 'middlefield'. Obviously, it is not the head of the prepositional phrase which carries the familiarity feature. This feature is rather associated with the strong determiner heading the DP. We assume that scrambling of the PP in these examples is just a matter of pied piping: removal of the D-linked DP carries along the dominating PP, on full analogy with pied piping of PPs dominating a wh-DP.¹²

Summarizing, scrambling is not restricted to noun phrases, but rather applies across categories. This makes a characterization of scrambling in terms of case-driven A-movement less plausible. The data discussed in this section further strengthen the idea that the familiarity feature is crucially involved in the process of scrambling.

6.2. Split scrambling

In Webelhuth (1988), it is observed that scrambling is sensitive to the same island constraints as wh-movement and topicalization. On the grounds of this observation he concludes that scrambling represents an A'-movement process (i.e. movement to a non-L-related position). Drawing such a parallel might be criticized on the basis of such asymmetries as in (64)-(65) (cf. Neeleman 1994):

- (64) a. Bücher hat Hans nicht [viele --] gekauft (German)
b. Boeken heeft Hans niet [veel --] gekocht (Dutch)
Books has Hans not many -- bought
'Hans hasn't bought many books'
(65) a. *Hans hat Bücher nicht [viele --] gekauft (German)
b. *Hans heeft boeken niet [veel --] gekocht (Dutch)
Hans has books not many -- bought

Although split topicalization (cf. van Riemsdijk 1989) is permitted (cf. (64)), split scrambling is impossible in (65). In other words, scrambling lacks a property which is found with topicalization, a typical A'-movement process. This asymmetry is only apparent, though. Closer examination of the data shows that split scrambling is permitted in exactly those cases in which the moved part (i.e. NP) represents D(iscourse)-linked information. Consider, for example, the following structures:

- (66) A: Heeft Hans veel boeken over taalkunde?
Has Hans many books about linguistics?
B: Nee, Hans heeft die; eigenlijk nooit [veel t_i] gehad
No, Hans has those in-fact never [many --] had
'Hans has never owned many of those'
(67) Platen van Elvis, ik denk dat hij die; morgen [geen t_i] zal krijgen
Records of Elvis, I think that he those tomorrow [no --] will get

In these examples, the demonstrative pronoun *die* refers to an entity which is familiar from the discourse context (namely, *boeken over taalkunde* in (66) and *platen van Elvis* in (67)). The demonstrative element *die*, which carries the familiarity feature, is able to undergo split scrambling, leaving behind the quantifier.

6.3. Scrambling and Weak crossover

A central phenomenon in the discussions on scrambling is the weak crossover effect (WCO). This effect is illustrated in (68a), which contrasts with (68b):

- (68) a. (??) *Peter zei dat Jan [tijdens haar_i verblijf] [iedere
studente]_j verleid had
Peter said that Jan during her stay every female student
seduced had
b. Peter zei dat [iedere studente]_j; tijdens haar_i verblijf Jan
verleid had
Peter said that every (female) student during her stay
Jan seduced had

This contrast is intended to illustrate the well-known hypothesis according to which syntactic binding is a necessary condition in order for a pronoun to be interpreted as a bound variable (cf. especially Reinhart 1995). In the ill-formed (68a), the pronoun *haar* is not c-

commanded by the quantified DO-noun phrase and hence cannot be interpreted as being bound by the quantifier. In (68b), on the other hand, the quantified noun phrase occupies the subject position and c-commands the pronoun, yielding a bound interpretation of the latter.

As has been observed in the literature (Vanden Wyngaerd 1988, Mahajan 1990), scrambling of a noun phrase does not give rise to any WCO-effect. It rather overrides such an effect. This is illustrated in (69), the scrambled counterpart of (68a).

- (69) Peter zei dat Jan [iedere student]_i [tijdens haar_i verblijf] _{t_i} verleid had
Peter said that Jan every student during her stay seduced had

Absence of a WCO-violation in scrambled structures is often viewed as an argument in favor of scrambling as A-movement (cf. Vanden Wyngaerd 1988). In fact, it is well-known that movement of a wh-phrase (to an operator position) from an argument position from which it does not c-command the pronoun produces typical WCO-violations, which have been traditionally accounted for by assuming that the pronoun must be A-bound, a property tentatively captured by such conditions as Koopman & Sportiche's 'Bijection Principle' and Safir's 'Parallelism Condition on Operator Binding'. We contend that the absence of WCO-violations does not necessarily represent an argument for viewing scrambling as an instance of A-movement if the fact that scrambling involves movement of D(iscourse)-linked operators is fully recognized. At this point, it is interesting to observe that the effect of scrambling is exactly paralleled by the effect of clitic doubling in a language like Spanish: the absence of a WCO effect in (69) corresponds to the absence of a WCO effect in the Spanish variants involving a doubling clitic:

- (70) a. *Su_i madre castigó a cada niño_i (Zubizarreta 1994)
His mother punished each child
b. Su_i madre lo castigó a cada niño_i
His mother punished each child
- (71) a. *[A quiénes]_i no dejó su_i madre ningún dinero _{t_i}? (Suñer 1988)
To whom not left their mother any money
b. [A quiénes]_i no les dejó su_i madre ningún dinero _{t_i}?
To whom not to them left their mother any money

Thus, the contrast between b-examples in (70) through (71) on the one

hand and the a-examples in (70) through (71) on the other hand can be reduced to the D-linked versus non-D-linked nature of the operator. In Spanish, the familiar interpretation of the direct object is encoded by clitic doubling, whereas in Dutch it is encoded by scrambling.

Let us now try to provide an answer to the question as to why a WCO-effect is absent in the scrambled structure in (69) but present in (68a). Or to put it differently, why does (68a) not allow a bound variable reading and why is such a reading allowed in (69)? We will argue that the presence of a WCO-effect (i.e. absence of the bound variable reading) is dependent on the feature specification of the antecedent-DP which is coindexed with the pronoun.

Consider first a standard WCO-effect, as in the following discourse context:

- (72) A: Wie heb je in zijn tuin ontmoet?
Who have you in his garden met
B: *Ik heb in zijn tuin ELKE BUURMAN ontmoet
I have in his garden EACH NEIGHBOUR met

This example shows that WCO-effects typically arise when the antecedent-DP is a focused operator. In (72), the narrow focus question requires an answer with focus (and nuclear accent) on the quantified DO *elke buurman*.

If we interpret, along standard lines, Informational Focus as entailing the partition of the sentence into an asserted part and a presupposed part, we might propose that the focus representation of (72B) is something like (73), with the variable bound by the lambda operator standing for the constituent in focus. This constituent corresponds to the universal quantifier *each neighbour* in (72B). As a consequence, the variable quantified in will be part of the assertion; furthermore, it is bound by a non-D-linked operator, since we are considering the interpretation according to which (72B) is an answer to (72A).

- (73) λx (I have met x in his garden)
(74) *(for each x : x neighbour) (I have met x in the garden of x)

The general idea would be thus that pronouns cannot depend on variables which are neither 'presupposed' (in the sense of belonging to the presupposed part of the sentence) nor familiar (in the sense of ranging over a set of pre-established entities). In other words, WCO-

effects are triggered only if the quantified-DP which semantically binds the pronoun is specified as [+focused] and [-familiar].

An immediate confirmation of this hypothesis comes from the analysis of the contrastive pair in (75) from English and from the Dutch example in (76):

- (75) a. *His_i wife will accompany each Ajax player_i
b. Even his_i wife accompanied each Ajax player_i

- (76) Zijn docent geschiedenis zou elke student [meer kennis
van de tweede wereldoorlog] moeten bijbrengen
His history teacher should teach each student more
knowledge about World War II

In (75a), the bound variable reading is impossible for the same reason as in the Dutch example (72B): a pronoun cannot be referentially dependent on a variable which is specified as [+Focus] (in that it belongs to the non-presupposed part of the sentence) and [-familiar] (in that it does not range over a pre-established set of entities). Sentence (75b) contrasts in well-formedness with (75a) due to the fact that a constituent distinct from the quantifier "each Ajax player" is assigned narrow focus (*viz. his wife*). As a consequence, the quantified noun phrase will be necessarily part of the presupposition, by being marked as non-focused, quite independently of its familiarity specification. This conclusion is confirmed by the well-formedness of the Dutch example (76), where the fact that the quantified DP is marked as non-focused (hence, as belonging to the non-presupposed part of the sentence) is apparently sufficient to void a potential WCO-violation.

On the other hand, it seems that the specification of the quantified DP as [+familiar] is sufficient to circumvent WCO-violations (independently of whether the DP belongs to the asserted or to the presupposed part of the sentence, by being marked as [+focus] or as [-focus], respectively). This hypothesis is corroborated by the following examples:

- (77) The newsman who criticized him later belted WHAT official
(Postal 1992)
- (78) a. *Who do you think [that the woman who loves him]
betrays
b. Which spy do you think that the woman who loves him
betrays

In the echo-question in (77), we have a *wh*-phrase 'in situ' which is focused and 'familiar' (echo questions elicit confirmation of a referent which is supposed to have been established in previous discourse). The well-formedness of this example suggests that the presence of the familiarity specification on the quantified DP is sufficient to void potential WCO-effects. This outcome is quite compatible with the weakest crossover effects discussed in Lasnik & Stowell 1987. The instances of 'tough movement' and the 'cleft constructions' discussed by these authors typically involve 'referential' controlling DPs, which may be easily interpreted as constraining the range of quantification of the implicit operators to a set (possibly a singleton) of pre-established values. Even more significantly, as exemplified by the minimal pair in (78), weak crossover effects are absent in the cases where the moved WH-operator (*which spy*) can be assumed to range over a set of pre-established entities (cf. Pesetsky 1987), whilst they are clearly detected in structures involving bare *wh*-phrases (as in 78a), which do not imply any presupposition of familiarity concerning the domain of quantification (especially when phrases such as 'the hell' or 'on earth' are added).

Finally, the absence of WCO-effects is particularly instructive in the case of (contrastive) focus scrambling, which we have analysed earlier as involving both focus and familiarity. Consider, for example, the following discourse context:

- (79) A: Heeft Jan nog nooit zijn moeder gebeld?
Has Jan never his mother called
B: Nee, zijn moeder heeft HEM_i nog nooit t_i gebeld
No, his mother has him never called

Even though the pronoun *zijn* in the reply of speaker B is coindexed with a pronominal DP marked as [+focused], no WCO-effect or strictly related backward anaphora violation is detected. We want to assume, in full accordance with the analysis put forward above, that the 'familiar' status of the pronoun HEM is sufficient to override a WCO-violation.

Suppose the above observations concerning the presence *versus* absence of WCO effects lead us to the conclusion that the latter are generally voided if the pronoun is referentially dependent on either a variable that is contained in the presupposition or on a variable which ranges over a set of familiar objects. The final question would then be: Why should this be the case?

The question admits a straightforward answer if we assume that the bound variable reading can be achieved in two distinct ways:

(i) When 'syntactic' binding holds (that is, the pronoun is coindexed with a c-commanding operator), the bound variable reading obtains by simply rewriting the pronoun as a variable;

(ii) a pronoun can be referentially dependent on a non c-commanding variable, under the usual feature-matching constraints which are relevant for coreference. Since pronouns are inherently familiar (i.e. they obligatorily refer to pre-established entities), we are led to assume that pronouns are not allowed to depend on variables that range over 'unfamiliar' entities (that is, entities which have not been previously established within the domain of discourse), being syntactically marked as [-familiar]. Conversely, the variable reading is correctly predicted to be available when the pronoun depends on antecedents referring to familiar values, as is the case when the operator is specified as [+familiar]. In this way, a quite interesting connection is established between the 'referential' and the 'bound' reading of pronouns, in that both of them crucially involve familiarity, if we abstract away from the case where syntactic binding holds. As a more general theoretical conclusion, this seems to confirm that the availability of the bound variable reading fairly exceeds the configurations where syntactic binding holds (cf. Delfitto 1990 for further discussion of this point).

Finally, it is worth noticing that the disjunctive formulation resorted to above, according to which WCO-violations are voided if the pronoun antecedent is either [-focused] or [+familiar], is not likely to raise any deep conceptual issue. As the analysis of Operator Focus adopted in the preceding sections has pointed out, Focus and Familiarity are in fact related notions, and are likely to interact within the feature system proper to natural language. What really seems to matter is the requirement that the pronoun antecedent involve reference to pre-established entities. This requirement is easily satisfied when the pronoun antecedent is contained in the 'presupposed' part of the sentence (by being syntactically marked as [-focus]). When this is not the case (that is, the antecedent is focused), familiarity ensures that the assertion consist of the choice of one element out of a set of pre-established entities (as confirmed by Pesetsky's analysis of the contrast between which-phrases and bare wh-phrases). In other words, both focus and familiarity appear to be involved in the expression of the semantic instructions which are responsible, at the LF-interface, for the 'presuppositional' values to which pronouns are arguably sensitive.

Summarizing, the WCO-violations are no longer assumed to depend on the A/A' distinctions, but on the nature of the interpretable features involved within the domain of A'-movement: there is therefore no conceptual and empirical obstacle to treat scrambling as operator movement. Our results on weak crossover exactly parallel the conclusions reached in Cinque (1990) about the different behavior, in extraction contexts, of D-linked and non-D-linked wh-phrases. The insensitivity to weak islands exhibited by 'familiar' wh-phrases is immediately explained if the latter are allowed to enter a binding relation with their traces (escaping the more severe antecedent government requirement; cf. Cinque 1990: 16-18). In both cases, what really matters is not the A'-status of wh-movement, but the feature specification of the wh-phrase (and its trace).

6.4. Scrambling and reconstruction

Another property of scrambling is that it does not allow reconstruction. That is, a scrambled element cannot be interpreted as if it were in the position of its trace. Scrambling rather creates or destroys binding possibilities, which suggests that scrambling involves A'-movement. Consider, for example, the following data from Dutch ((80) is taken from Vanden Wyngaerd 1988):

- | | | |
|------|----|---|
| (80) | a. | *Piet heeft [met elkaarsi hamer] die menseni vermoord |
| | b. | Piet heeft die menseni [met elkaarsi hamer] -- vermoord |
| (81) | a. | ...omdat ik [tijdens Jans _i feestje] de etter _i uitlachte |
| | b. | *...omdat ik de etter _i [tijdens Jans _i feestje] -- uitlachte |

(80b) shows that scrambling creates binding possibilities: after scrambling the direct object *die menseni*, this noun phrase can act as a binder for the reciprocal *elkaar*. (81b) shows that scrambling can also destroy binding possibilities: scrambling the epithet *de etter* to a position from which it c-commands *Jans* destroys the coreferential reading between the two noun phrases.

The above facts appear to be problematic for an account of scrambling involving operator movement (i.e. movement of the A'-type). In general, A'-movement patterns are assumed to exhibit the reconstruction property. This is exemplified in (82):

- (82) [Met elkaars; hamer] heeft Piet die mensen, vermoord
With each other's hammer has Piet these people murdered

The proposed PP containing the reciprocal is reconstructed in its underlying position, where *elkaar* is bound by the antecedent *Piet* within the relevant binding domain (say IP).

So, the absence of reconstruction appears to be problematic for our approach to scrambling in terms of operator movement. Closer inspection of the reconstruction effect in A'-movement structures, however, leads to the conclusion that reconstruction is not a necessary property of A'-movement. More particularly, we claim that the reconstruction property is crucially dependent on the feature specification of the fronted A'-phrase: we contend that material that is 'familiar' or presupposed (that is, part of the presupposition, as emphasized above) is not forced to reconstruct. Only focused material of a fronted A'-phrase undergoes reconstruction, i.e. is interpreted in the underlying position (cf. also Guéron 1984, Speas 1991).

The relevance of the focus property for reconstruction is illustrated by the following examples from English:

- (83) A: What does he like?
B: *[Pictures of John]_i he_i likes
- (84) a. Those pictures of John's_i he_i didn't like --, so he threw them out
b. [PICTURES of John]_i he_i doesn't like --
c. [John's_i FIRST picture], he_i threw -- away (not his last one)
d. [John's_i WHAT] he_i didn't like --?

In (83), the fronted DO noun phrase consists entirely of focused material. At LF, the whole noun phrase (including *John*) is interpreted in the position of the trace, yielding a principle C effect. In (84a), the fronted D-linked constituent is presupposed and does not reconstruct. As predicted by this analysis, no principle C effect obtains. In (84b), the fronted noun phrase consists of a focused (*pictures*) and a 'presupposed' part (*of John*). Only the former is reconstructed; *John* receives its interpretation in the fronted position, and hence no principle C violation arises. In (84c) and (84d), we also have a fronted A'-phrase which is only partially focused (viz. *first* and *what*). The presupposed material is not interpreted in the reconstructed position and therefore does not yield a principle C violation.

The relevance of the property of focus for reconstruction also holds for Dutch. Consider the following examples:

- (85) A: Wie heeft hij naar kostschool gestuurd?
Who has he to boarding-school sent
B: *[Jans_i zoon]_i heeft hij_i t_j naar kostschool gestuurd?
Jan's son has he to boarding-school sent
- (86) A: Wie heeft Jan naar school gestuurd, zijn zoon of zijn dochter?
Who has Jan to school sent, his son or his daughter
B: [De ZOON van Jan]_i heeft hij_i naar kostschool gestuurd
The son of Jan has he to boarding-school sent
- (87) a. [Jans_i JONGSTE zoon]_i geloof ik dat hij_i t_j naar kostschool stuurt
Jan's youngest son believe I that he to boarding-school sends
b. *Ik geloof dat hij_i [Jans_i JONGSTE zoon] naar kostschool stuurt
I believe that he Jan's youngest son to boarding school sends

(85B) is an answer to the narrow focus question (85A). The fronted direct object is the focused constituent, which has to be reconstructed. After reconstruction, the pronoun *he* c-commands the name *Jans*, yielding a principle C violation. In (86), the question asked by speaker A defines a contrastive focus context, whereby the 'presupposed' set consists of two members, the son and the daughter. In the reply by speaker B, focus is assigned to the noun *zoon*. The noun phrase *Jan* is presupposed and is therefore not reconstructed. Consequently, no reconstruction applies, voiding a principle C violation. Something similar is found in (87), where the adjective *jongste* is assigned narrow focus. The possessor noun phrase *Jans* is presupposed and is therefore not interpreted in a reconstructed position. Again, the presuppositional value of the possessor noun phrase blocks reconstruction; this way, the absence of a principle C violation is accounted for. As illustrated by (87b), principle C is actually violated when the object noun phrase containing the focused adjective occupies its base position.

Although the properties of reconstruction would obviously deserve more elaborate study, it seems fair to conclude that absence of reconstruction does not necessarily imply that a reordering process is of the A-movement type. We have seen that reconstruction is not

compulsory for (those parts of) A'-moved phrases that are presupposed or familiar.¹³ If this analysis turns out to be feasible, the absence of reconstruction would no longer represent reliable evidence against an A'-movement approach towards scrambling. This would clearly imply that our analysis of scrambling as Operator movement can be upheld. Scrambled constituents are 'familiar' and as such are not compelled to undergo reconstruction. They may be interpreted in the position they occupy after scrambling has applied.

7. Conclusion

In this contribution, we have extensively discussed the role that interpretable features such as specificity/familiarity arguably play in various operations of the computational system (the syntactic component of Chomsky 1995). At the theoretical level, we have argued for the view that interpretable features undergo checking operations, and that the result of checking is uniformly represented by the erasure of a feature from a (functional) position in which it is non-interpretable. At the empirical level, we have considered some alternatives to the hypothesis that 'familiarity' counts as a legitimate formal feature, based on the analysis of the so-called 'specificity effects' in terms of defocalization phenomena. Our conclusion has been that these alternatives are empirically inadequate. The proposal put forward in this article has been shown to have interesting consequences for the analysis of scrambling operations in terms of the traditional dichotomy between A- and A'-movement. The result of our investigation has been that Operator Movement cannot be assumed to have uniform properties, the latter being crucially dependent on the feature specification of the Operator involved, whereby features encoding reference to pre-established referents (such as Familiarity and Operator Focus) arguably play a central role.

Address of the authors:

Denis Delfitto, Utrecht Institute of Linguistics OTS, University of Utrecht, Kromme Nieuwegracht 29, 3512 HD Utrecht, The Netherlands, E-mail: delfitto@let.ruu.nl.

Norbert Corver, Grammar Models, Center for Language Studies, Tilburg University, P.O. Box 90153, 5000 LE Tilburg, The Netherlands, E-mail: N.F.M.corver@kub.nl.

Notes

- * Parts of this paper were presented at the 18th GLOW conference (June 1995, Tromsø). We would like to thank the audience of GLOW and two reviewers of *Rivista di Linguistica* for their helpful remarks and comments.
- 1 One of the issues that emerge concerns the proper characterization of the feature 'familiarity'. In the text, we qualify 'familiarity' as an interpretable feature, that is, as a morphosyntactically encoded item that corresponds to a semantic instruction at the interpretive interface. In a previous version of this article, we used the term 'quantificational' to characterize familiarity. One of the reviewers objected that this term is highly misleading, since it might suggest that familiarity represents an essential ingredient for a certain NP to be defined as quantificational. We agree on the ambiguity of the term, avoiding to use it unless further qualifications are added. However, the issue raised by the reviewer deserves some discussion. First of all, it is true that there are influential theories (such as DRT) which maintain that (indefinite) DPs don't have to be treated quantificationally. Since it is precisely these DPs that are familiar according to our analysis, it might be mistaken to view familiarity as a quantificational feature. However, it should be emphasized that we interpret familiarity as strictly limited to definite DPs. As such, it should not be confused with the notion specificity, as widely argued in the course of the paper. If we try to determine what familiar DPs (such as the book, every book or it) have in common, we might conclude that it is their ability to refer to a class of antecedents that have been explicitly introduced or are physically salient in the context of utterance. In this sense, the notion presents a clear resemblance with the notion 'givenness', as defined in Prince 1981, and crucially excludes 'inferred antecedents', as confirmed by our discussion of clitic-doubling in Modern Greek. It is therefore tempting to regard familiarity as a feature affecting the interpretation of strong determiners, in the sense that it would encode a context-dependent reading of these determiners, roughly corresponding to some form of 'substitutional' interpretation according to which the quantified variable ranges over a set of previously established, or 'familiar', entities (cf. Delfitto 1995). This clearly entails that we would favour the quantificational treatment of definite DPs, which has been recently revived in the framework of dynamic semantics (cf. especially Chierchia 1996 for an enlightening analysis of definite determiners in terms of 'maximal cardinality'). It is important, in this respect, that not only 'incomplete descriptions' such as pronouns and definite DPs, but also strong DPs such as every book can be assigned a familiar interpretation. We contend, for example, that sentences such as Every book will be sold in two days involve context-dependent quantification (intuitively, the variable quantified over by every ranges over a set of contextually restricted books). Of course, this does not necessarily entail that the contextually relevant set of books has been explicitly introduced in the context of utterance (cf. the notion of 'accommodation' in DRT). The sentence under scrutiny might be felicitously uttered, for instance, after the sentence John wants to get rid of his bookshop. In other words, the contextual restriction of the domain of quantification that characterizes familiarity may also originate from certain forms of relations with entities which have already been evoked in the discourse model. This is quite similar to what has been proposed for the felicity conditions on topicalization, on the grounds of the examination of a large variety of corpora (cf. Ward and Prince 1991: 173): 'The entity represented by the proposed constituent must be related, via a partially ordered set relation, to one or more entities already evoked in the discourse model', whereby partially ordered sets are defined as partial orderings R s which

are either reflexive, transitive and antisymmetric or irreflexive, transitive and asymmetric. Informally, the case of strong DPs seems to indicate that 'familiarity' involves identification with previously evoked antecedents and tolerates 'inferred' antecedents only in a quite constrained and principled way (for example, the relation 'is-part-of', as in the case of book-shop, would be tolerated, whereas the relation 'is-author-of' would be inadmissible, as made clear by our discussion of Greek clitic-climbing). Given the proposed limitation to strong DPs, we might interpret 'familiarity' as the feature that encodes the context-dependent interpretation of this class of quantifiers. It is in this sense, and only in this sense, that we continue to regard familiarity as a 'quantificational' feature.

² Diesing's Mapping Hypothesis is stated as follows:

- a. Material from VP is mapped into the nuclear scope
- b. Material from IP is mapped into a restrictive clause

³ One of the reviewers correctly observes that the plausibility of the Mapping Hypothesis as a trigger for movement is further weakened by the necessity of introducing parameters in the syntax-semantics mapping, in order to account for the difference between languages such as German (where the MH applies to surface structures) and English (where the MH is assumed to apply covertly) (see especially Reinhart 1996 for a criticism of the MH along these lines). This criticism can be made even more compelling by making reference to the related issue of reconstruction. In order to derive the existential reading of bare plural subjects in English, Diesing is forced to assume that reconstruction in a VP-internal position takes place at LF. In languages like Italian, however, the existential interpretation seems to be limited to the subjects of transitive and unergative predicates, and is virtually impossible with unaccusatives (cf. Pinto 1997 for a detailed discussion of this empirical paradigm). It is far from clear how a simple version of the MH could account for these language-internal differences, unless reconstruction is put in relation with independent morphosyntactic factors. This strengthens the view, defended in the course of this contribution, that the MH's effects should be formulated in strictly morphosyntactic terms.

⁴ One of the reviewers objects that the fact that familiar definite DPs and strong pronouns (which are also taken as familiar) are not allowed to occur in clitic position should be interpreted as a strong argument against the relevance of familiarity for cliticization. We do not agree. First of all, we are obviously not claiming that checking of the familiarity feature represents the whole story about cliticization. In other occasions, we have proposed that the head-movement step which is crucially involved in cliticization is the consequence of morphosyntactic conditions that exclusively apply to elements which are devoid of lexical content, such as pronouns (cf. for instance the 'blocking condition on feature realization' discussed in Corver and Delfitto (to appear)). The same position is shared by other accounts trying to establish a relation between scrambling and cliticization, as in Sportiche 1992: this author has to resort to independent (phonological) conditions in order to explain why clitics tend to appear, as a general crosslinguistic fact, in positions which are higher than those filled by scrambled phrases. More generally, Corver and Delfitto (to appear) propose that clitics have to undergo overt movement (contrary to other 'familiar' DPs) as a consequence of the fact that they lack lexical content (and would therefore not be visible at LF). As for strong pronouns, we contend that they also undergo movement as a consequence of their 'familiar' specification, but movement can be delayed until LF since these elements are endowed with a minimal lexical content (they are specified as [+animate]). Moreover, notice that strong pronouns are generally focused, and overt movement to the functional position that encodes familiarity is likely to violate the prosodic constraints on focus assignment that have been proposed in the literature.

ature (cf. especially Reinhart 1996 and Delfitto 1995). For a detailed discussion of these issues, the reader is referred to the contributions cited above.

⁵ A reviewer suggests that cases like (22) should be taken to indicate that what is essential to the semantics of singular definite descriptions is not 'uniqueness' but 'identifiability'. We do not agree. As far as we know, most treatments of definite descriptions capitalize on the Russellian 'uniqueness requirement', even when an attempt is made in order to derive it from a unitary treatment of singular and plural descriptions (as in Chierchia 1996). What seems to be peculiar to DPs such as 'the neighbour' or 'the postman' (cf. the discussion about (22)) is that they are easily interpreted as functions from implicit variables whose value is contextually supplied. In a sense, they are more 'deictic' than descriptions such as 'the man', getting interpreted, by means of various deictic means, as complete descriptions (for a detailed discussion on these and related matters, see especially Chierchia 1995).

⁶ We put aside here the serious empirical issues which arise when one tries to characterize the notion 'referential indefinite' in formal terms. As is well-known the name-like properties of referential indefinites have been challenged by the observation that they seem to exhibit not only maximal scope (as proper names do) but also intermediate scope (a property of quantificational phrases). For a detailed discussion of this topic, see especially Ruys 1992 (and the references cited there). See also Reinhart 1996 for an interesting treatment of indefinites in terms of choice functions.

⁷ On the basis of (i), one of the reviewers objects to the idea that a pronoun can be used when its referent is familiar. In (i), for example, use of the pronoun *it* is infelicitous in spite of the fact that it is clear that we are talking about the missing ninth ball. What is important, however, is that although the existence of a ninth ball can be inferred by the hearer from the first sentence, the referent constituted by the ninth ball has not been textually or physically activated yet. Thus, 'familiarity' essentially applies to items that have already been introduced in the discourse (see (ii), where the elliptical phrase *one* textually introduces the antecedent) or that are physically salient (see (iii), where *it* refers to the punctured ball in front of the referee and the two soccer-players).

(i) Eight of the nine balls are in the bag. *It is under the table

(ii) One of the nine balls in this bag is missing. It is under the table

(iii) [A referee and two soccer-players at the beginning of a match, who stand in front of the ball] Look, it's punctured

In terms of the terminology introduced in Prince (1981), we want to assume that pronouns generally refer to *old*, that is, *given*, referents and not to *inferred* constituents (cf. also fn. 1). In Prince's words, "for an NP to qualify as given, its referent must have been explicitly introduced in the discourse or be present in the physical context or be categorized in the same way as a referent previously introduced or physically salient (Prince 1981: 229). Given the identification we propose of the notion 'familiarity' with Prince's notion 'old/given', the fact that inferentiality related items are not easy to pronominalize is easily accounted for, in that they simply do not count as 'familiar' items. There are of course some well-known exceptions to this generalization, as Prince's example in (iv).

(iv) Pick two numbers, add six to the first number, and then multiply it by the second number.

⁸ For an analysis of scrambling as an instantiation of feature driven movement, see Cecchetto (to appear).

⁹ In what follows we will concentrate on the role played by the familiarity feature in scrambling of definites. We eschew discussion of how specificity is encoded in structures featuring scrambled indefinites and confine ourselves to saying that

scrambling of indefinites can presumably be handled by means of the same feature-based approach. Such an approach should address the question how the various meaning aspects that fall under 'specificity of indefinites' (viz. (a) specificity as partitivity (cf. section 3.6), (b) specificity as rigid designation (cf. section 3.6), and (c) specificity as genericity) are encoded morphosyntactically. As for the first meaning (specificity as partitivity), we tentatively propose that the triggering feature is familiarity, and that this interpretable property is associated with an ellipted partitive phrase, which defines the (given) set to which the referent of the indefinite noun phrase belongs. Thus, in example (i), scrambling of the indefinite noun phrase should be interpreted as an instance of pied-piping: the formal feature that is attracted is the familiarity feature associated with the ellipted definite DP (which for the sake of convenience we have added in brackets). See Cecchetto (to appear) for a discussion of specificity as a feature triggering scrambling.

- (i) Marie had twee jongens (van de jongens) nog nooit gekoend

Marie had two boys (of the boys) thus-far never kissed

10 Fering is a Northern Frisian Dialect. The data are from Ebert (1970).

11 As regards the locus of the functional projection encoding familiarity (labelled here as FP) within the clausal domain, we take the position that it is located in between TP and VP (under the assumptions that VP-adverbs are adjoined to VP and that Agr-projections do not exist). Thus, the hierarchical ordering in the clause is as follows: CP > TP > FP > VP. In line with this hierarchical ordering of the projections, the scrambled element will follow the subject in Spec,TP (but see fn. 12) and precede adverbial elements that are adjoined to VP. If the clause contains a NegP-projection, the scrambled element will precede the negation (*niet*, 'not') occupying Spec,NegP (cf. Haegeman 1995): CP > TP > FP > NegP > VP. As shown by the examples in (i) and (ii), the direct object, carrying the familiarity feature, cannot remain in its base position. That is, scrambling of the familiar direct object takes place obligatorily. In (ii), a hanging topic left dislocation structure, the epithet *de etter*, which is coreferential with the hanging topic *Jan*, must occur in the scrambled position. The same holds for the familiar DP *de president* in the utterance of speaker B in the discourse fragment in (ii):

- (i) a. Jan, ik ben de etter gelukkigig nooit meer – tegengekomen

Jan, I have the jerk fortunately never again met

- b. ?*Jan, ik ben gelukkigig nooit meer de etter tegengekomen

?*Jan, I have the jerk fortunately never again met

- (ii) a. A: Ken jij Chirac? Do you know Chirac?

B: Vrij goed zelfs. Ik heb de president gisteren twee uur lang -- geïnterviewd

Quite well even. I have the president yesterday two hours long interviewed

b. B: Vrij goed zelfs. ??Ik heb gisteren twee uur lang de president geïnterviewd

Quite well even. I have the president yesterday two hours long interviewed

We should emphasize, once again, that what is involved is familiarity and familiarity should not be confused with morphological definiteness. Thus, although the noun phrase *z'n vrouw* in (iii) and (iv) is definite, scrambling is feasible only when the referent of the whole noun phrase has been activated in the discourse. In (iii), the referent of the entire noun phrase is not 'given': although the referent of *z'n* has been introduced in speaker A's utterance (viz. by means of the noun phrase *Bill Clinton*), *z'n vrouw* introduces a referent that is new to the hearer. In (iv), on the other hand, the referents of both *z'n* and *z'n vrouw* are familiar from the preceding discourse; consequently, scrambling of the entire noun phrase is felicitous.

- (iii) A: Ken jij Clinton? Do you know Clinton?

B: Vrij goed. Ik heb gisteren overigens z'n vrouw geïnterviewd

Quite well. I have yesterday by-the-way his wife interviewed

- (iv) A: Gaf Bill toestemming voor een interview met Hillary?

'Did Bill give permission for an interview with Hillary?'

B: Natuurlijk! Ik heb z'n vrouw gisteren twee uur lang geïnterviewd

Of course! I have his wife yesterday two hours long interviewed

As pointed out by one of the reviewers, German, as opposed to Dutch, permits scrambled elements not only in a post-subject position but also in a pre-subject position. This may lead one to conclude that in German, the FP-projection, encoding familiarity, is freely ordered with respect to TP: i.e. CP > (FP) > TP > (FP) > VP. However, before jumping to this conclusion careful and detailed study of the structural environments in which scrambling to pre-subject position occurs is needed. It seems that scrambling of the familiar definite DP *den Schurken* to a post-subject position (as in B') is much better than scrambling to a pre-subject position (as in B):

- (i) A: Was ist passiert mit Fritz?

'What has happened with Fritz?'

B: Ich glaube dass der Direktor der Firma den Schurken gestern entlassen hat

I believe that the director of the company (NOM) the scoundrel (ACC)

yesterday fired has

B': Ich glaube dass den Schurken der Direktor der Firma gestern entlassen hat

that

As pointed out by Henk van Riemsdijk (p.c.), scrambling of the familiar object to a pre-subject position becomes felicitous when the subject is accompanied by a focus particle (and hence narrowly focused):

- (ii) A: Wer hat denn eigentlich die Befugnis jemandem wie den Fritz zu entlassen?

Who has then in-fact the authority someone like Fritz to fire

B: Ich glaube dass den Fritz nur der Direktor entlassen kann

I believe that Fritz (ACC) just the director (NOM) can fire

Thus, the discourse-status of the subject seems to be an important factor in the placement of scrambled objects in pre-subject position. As a matter of fact, rather than concluding that the functional projection FP, which encodes familiarity, optionally occurs higher or lower than TP, one might put forward the hypothesis that FP has a fixed position (viz. dominated by TP: i.e. CP > TP > FP > VP) and that instances of object scrambling to a pre-subject position should be analysed as structures in which the subject has not raised to Spec,TP, e.g. because of focus. Obviously, this complex issue needs more elaborate study both at the empirical and theoretical level.

12 Although scrambling affects both DP- and non-DP constituents, we should point out that there are certain differences between these two kinds of scrambling. For example, whereas familiar DPs obligatorily undergo leftward movement (e.g. they must occur to the left of the negation *niet* (see fn. 11)), this does not seem to be true for PPs and APs. The structures in (62B) and (63), for instance, are also acceptable with the familiar constituent in its base position. We will leave these matters for future research.

13 It is often tentatively suggested that reconstruction is barred with A-movement (witness **Hei seems to John_i to be intelligent*) whereas it is forced to apply with A'-movement (witness **Whose mother does he_i like?*). A reviewer correctly observes that the grammaticality of structures such as (i) should be interpreted as evidence that reconstruction is not barred with A'-moved phrases that are pre-suppositional.

- (i) Which of these people_i did you say that the psychiatrist has introduced _i to other/themselves
- However, (i) leaves the possibility open that reconstruction is not compulsory for A'-phrases that are presuppositional, contrary to what happens with non-presuppositional A'-moved constituents. Examples like (84) in the text exactly show that the expected Principle C violation does not arise when the constituent to be reconstructed is presuppositional, a result which is clearly compatible with the existence of a syntactic representation in which reconstruction does not apply. Notice that all we need for deriving the absence of a principle A violation in (i) is the existence of a syntactic representation where reconstruction has applied. In other words, this class of data seems to lead to the conclusion that presuppositionality/familiarity turns reconstruction with A'-movement into an optional process. We leave an in-depth theoretical discussion of this descriptive generalization for future research.

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