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On the Correlative Nature of Hungarian Left-peripheral Relatives

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Abstract

This paper takes a close look at the properties of Hungarian relative clauses that occur in the left periphery of the main clause, preceding a (pro)nominal associate. It will be shown that these left-peripheral relative clauses differ in many ways from relative clauses dislocated on the right periphery, as well as from relative clauses embedded under a (pro)nominal head. To capture the precise syntax of these left-peripheral clauses, these will be compared to ordinary left-dislocated items, with which they have some properties in common. Despite the surface similarities between the two, however, there are a few decisive aspects of behaviour, most notably, distributional properties and connectivity effects, which argue against taking left-peripheral relatives as cases of clausal left-dislocates in Hungarian. Instead, one is led to consider these as correlative clauses, on the basis of the properties they share with well-established correlatives in languages like Hindi.

1 Introduction

The investigation of topicalization and left-dislocation of various constituents has played a significant role in devising a syntactic theory about the left periphery of sentences, determining the clausal architecture as well as the discourse roles of certain sentence-initial positions. Recent years have brought renewed interest in the types of left-dislocated elements (Anagnostopoulou et al. 1997), bringing forth a great deal of evidence for fine-grained distinctions between various types of elements that are moved or base-generated in the left periphery, and their relation to the rest of the clause. It is in this context that the study of clause-size material in the left periphery gains importance.

In the present study I examine the left-peripheral distribution of (headless) relative clauses in Hungarian (with comparative evidence from Hindi), in order to establish what mechanism is responsible for their sentence-initial placement and whether this mechanism is similar to what underlies the placement of other left-peripheral topics. After a short introduction to the phenomenon (section 2), it will be shown in section 3 that left peripheral relative clauses are special in that they cannot be derived by movement processes from a lower position. As section 4 will show, their association with a (pro)nominal constituent in the main clause and their left-peripheral position raise the suspicion that these are left-dislocated via ordinary left-dislocation. A

more in-depth comparison between left-dislocation and the relative placement strategy, however, reveals that the two cannot be fully conflated. Section 5 will reveal that the characterization of left peripheral relative clauses as *correlatives* is more likely to be on the right track.

The study of the behaviour of left-peripheral relative clauses thus contributes to many fields of enquiry. It provides insights about the syntax of clausal peripheries, and it contributes to our knowledge of the typological variation in relative clause formation as well.

2   Relative Clauses in the Left Periphery of Hungarian

The syntax of relative clauses displays a great deal of typological variation across the world's languages and can give rise to different patterns even within one language. In this paper I will be concerned with positional variation in the placement of relative clauses that are dissociated from the nominal phrase they modify. The primary objects of the present study are those relative clauses which do not appear in the regular embedded position following a nominal, but can be found to the left of an associated demonstrative pronominal or a full DP with a demonstrative item, as illustrated in the following examples.[1] The term I will use for these types of relative clauses is *left peripheral relative clauses* or LPRCs for short.[2]

(1)   [RCAmit   Mari tegnap   főzött], **azt**   nem ette meg János.
         what-ACC Mari yesterday cooked   that-ACC not   ate PV John
      'John did not eat what Mari cooked yesterday.'/ 'As regards the things Mari cooked yesterday, John did not eat them.'/ 'John didn't eat what Mari cooked yesterday (while he presumably did eat other things).'

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[1] The glosses in this article correspond to the following: POSS = possessive; POT = potential (*may*); PV = preverb(al element); REL = relative morpheme; RC = relative clause; ACC = accusative; ERG = ergative. Nominative case is unmarked. Person and number conjugation on verbs is indicated only when relevant.

[2] The existence of relatives with pronominal heads was already acknowledged by Lehmann (1984), who refers to these as *free* relatives with a pronominal head, and by Smits (1988), who calls them *semi-free relatives*. Recently, Citko (2004) has used the term *light-headed relatives* for them. Assimilating these to free relatives is done primarily on the basis of their meaning: they are interpretationally non-distinct from ordinary free relatives like (i):

(i) John devours [RC whatever Mary cooks for him].

For ease of exposition, in the present paper I gloss over existing syntactic differences between light-headed relatives (ex. 1) and those with a full DP associate (ex. 2), as I believe the differences are immaterial for the phenomenon to be illustrated in this paper. For an introduction to the two types in Hungarian, see Kenesei 1992, 1994 and for a recent account of the difference between them in Polish, see Citko 2004.

(2) [RC Amit Mari tegnap főzött], **azt a levest**
    what-ACC Mari yesterday cooked that-ACC the soup-ACC
    nem ette meg János.
    not ate PV John
    'John didn't eat the soup that Mari cooked yesterday.'/ 'As regards the soup Mari cooked yesterday, John didn't eat it.' / 'John didn't eat the soup that Mari cooked yesterday (while he presumably did eat other things).'

In these examples, the LPRCs (in square brackets) are linked to a demonstrative pronominal or definite noun phrase in the main clause (indicated in bold). The interpretive relationship between the relative and the nominal constituent in (1) or (2) is exactly the same as that found in (3) and (4), where the order of these elements is the reverse and we are not dealing with a LPRC.

(3) János megette **azt** [RC amit Mari tegnap főzött].
    János ate that-ACC REL-what-ACC Mari yesterday cooked
    'John ate up what Mari cooked yesterday. '

(4) János **azt a levest** [RC amit Mari tegnap főzött] megette.
    John that-ACC the soup-ACC REL-what-ACC Mari yesterday cooked ate
    'John ate up the soup that Mari cooked yesterday.'

In (3) and (4), the nominal element precedes the relative clause. The bolded elements, just like in (1) and (2), refer to 'the thing/soup Mari cooked yesterday'.

The difference between (1)/(2) and (3)/(4) has to do with discourse functions: in the case of LPRCs, the relative clause can be interpreted as an aboutness topic or a contrastive topic (although such interpretations are not obligatory), while embedded relative clauses do not support such readings at all, as the translations also indicate. The reading in which the relative clause functions as a contrastive topic has a characteristic intonation pattern to which we will return in section 4 below.

A simple-minded account of the positional variation between LPRCs in (1)/(2) and embedded relatives in (3)/(4), with the observed discourse difference, would therefore have it that LPRCs are derived by fronting from an embedded position to a sentence-initial topic or contrastive topic position. A closer look, however, reveals that this is not the case: LPRCs are not related transformationally to embedded relatives. LPRCs are *not* derived by movement from a lower position: they originate in the high surface position that they occupy in overt syntax. The following section will provide evidence for this claim, with the help of several tests that distinguish LPRCs from embedded relative clauses, establishing that a movement account cannot be applied to LPRCs.

3   LPRCs: Base Generation

I will argue that examples (1)/(2) and (3)/(4) above are not simply word order variants of each other derivable by preposing the relative clause in (1)/(2) from an underlying (3)/(4). LPRCs and embedded relatives are crucially different in their underlying syntax: they constitute two fundamentally different relativizing strategies. In this section, I enumerate five unrelated pieces of evidence that unambiguously prove this claim. These come from the following areas:

(i)   the (un)availability of certain (pro)nominal heads/associates in one construction, but not the other (section 3.1);

(ii)   differences in number agreement with the pronominal element (section 3.2);

(iii) a lexical test for the free relative status of LPRCs (section 3.3);

(iv)   anti-reconstruction effects exhibited by LPRCs (section 3.4);

(v)   the availability of multiple relative clauses in LPRCs (section 3.5).

In the following five sections these phenomena will be discussed one by one.

3.1   (Pro)nominal Heads/Associates: Definiteness Restrictions

The first difference between LPRCs and embedded relatives has to do with the kind of nominal constituent they can appear with. While LPRCs can only be followed by (pro)nominals that are definite, embedded ones can be embedded under both definite and indefinite items:

(5)   [$_{RC}$Akivel   Mari moziba   jár], **az /az a   fiú** illedelmes.
       REL-who-WITH Mari cinema-TO goes   that/that the boy polite
       'The boy Mari goes to the cinema with is polite.'

(6)   *[$_{RC}$Akivel   Mari   moziba   jár], **egy fiú**   illedelmes.
       REL-who-WITH   Mari   cinema-TO goes   a boy   polite
       'The boy she Mary to the cinema with is polite.'

(7)   [$_{RC}$Akivel   Mari moziba   jár], **mind/*bárki** illedelmes.
       REL-who-WITH Mari cinema-TO goes   all /   anyone polite
       'Anyone/everyone who Mari goes to the cinema with is polite.'

(8)   **Az (a fiú) /egy fiú** [$_{RC}$akivel   Mari   moziba   jár], illedelmes.
       that (the) boy/ a boy REL-who-WITH Mari cinema-TO goes   polite
       'A boy/the boy Mary goes to the cinema with is polite.'

(9)   **Mindenki/bárki** [$_{RC}$ akivel   Mari moziba   jár], illedelmes.
       everyone/anyone   REL-who-WITH Mari cinema-TO goes polite
       'Every boy Mari goes to the cinema with is polite.'

As can be seen from the examples in (5)-(7), LPRCs can be associated only with a definite item (like *az* 'that', *mind* 'all' but not *egy fiú* 'a boy' or *bárki* 'anyone'), while embedded relatives (8)-(9) can be associated with indefinite items as well. This split necessitates a different treatment of the two cases, to which we will return in section 5 below.

3.2 Agreement Patterns

The second piece of evidence to illustrate the syntactic differences between embedded and LPRCs comes from number agreement phenomena between the relative and the (pro)nominal associate.

The relevant facts can be observed when two conjoined relative clauses with singular relative pronouns appear under one nominal head or are associated with one nominal element. Before illustrating this, it needs to be mentioned that an embedded relative clause with a singular relative pronoun can refer to both singular or plural entities in Hungarian, although the demonstrative head can only be singular:

(10) a. Az [RCaki   most   jött]   bejöhet.
         that   REL-who-SG   now   arrived-3SG enter-POT-3SG
         'The person(s) who just arrived can enter.'

    b. *Azok [RCaki   most   jött]   bejöhetnek.
         those   REL-who-SG   now   arrived-3SG enter-POT-PL
         'The person(s) who just arrived can enter.'

The same is true if we have two conjoined relative clauses following the demonstrative element:

(11) **Az/*Azok** [[RC aki   most jött]   és [RCaki   itt   volt]],
     that/those   REL-who now   arrived and   REL-who here   was
     bejöhet/*-nek.
     *enter-POT-3SG/*PL*
     'Those who just arrived and those who have been here already can enter.'

If we turn these constructions into LPRCs, agreement with the demonstrative becomes looser in the second context. While the demonstrative that follows a single singular relative clause has to be singular, as shown in (12), the demonstrative that is associated with conjoined relative clauses can either be singular or plural, as shown in (13):

(12) a. [RC Aki   most   jött]   **az** bejöhet.
         REL-who-SG   now   arrived-3SG that enter-POT-3SG
         'The person(s) who just arrived can enter.'

    b. *[_{RC}Aki   most jött]   **azok** bejöhetnek.
         REL-who-SG now arrived-3SG those *enter-POT-PL*
      'The person(s) who just arrived can enter.'

(13) [[_{RC}Aki   most jött]   és [_{RC} aki   itt   volt]],
       REL-who now arrived and   REL-who here was
    az/azok   bejöhet/-nek.
    that/those   enter-POT-3SG/PL
    'Those who just arrived and those who have been here already can enter.'

The two varieties of (13), with singular or plural resumptive element, do not differ in meaning: both resumptives are plural in reference. Agreement being the reflection of certain syntactic configurations, we have to conclude that the observed difference in agreement morphology indicates that the structural relationship between the pronominal and the (conjoined) relative clause is different in (11) and (13).[3]

3.3 Relative Pronoun Selection: The Distribution of *amely* 'which'

As has been observed by Kenesei (1992), the distribution of the relative pronoun *amely* 'REL-which' is crucially different in LPRCs and embedded relatives. *Amely* 'REL-which', presumably due to its D-linked status, can only occur in relatives with a full nominal head, as the following example in (14) illustrates:

(14) Olvasom *(**azt**   **a**   **könyvet**) [_{RC} amelyet   most vettem]
    read-1SG that-ACC the book-ACC REL-which-ACC now   bought-1SG
    'I am reading the book that I have just bought.'

Without the overt head included in brackets, the sentence is ungrammatical, showing that *amely* 'REL-which' cannot be used in free relative clauses. Linear dissociation from the head, however, does not result in ungrammaticality. Observe (15), where the relative is dissociated from the head via rightward extraposition without leading to ungrammaticality:

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[3] Note that the agreement pattern that we see in (11)-(13) above is paralleled in the verbal domain as well. Subject-verb agreement with conjoined singular nominals shows the same behaviour, necessitating an explanation that extends beyond considerations of pronominal reference alone:

(i) a. Eljött/*eljöttek   Péter és Mari.
        came-3sg/came-3pl   Péter and Mari

    b. Péter és   Mari eljött/eljöttek.
        Péter and Mari came-3sg/came-3pl
        'Péter and Mari came.'

(15) **Azt**   **a könyvet**   olvasom [$_{RC}$ amelyet   most   vettem].
    that-ACC the book-ACC   *read-1SG*   *REL-which-ACC*   *now*   *bought-1SG*
    'I am reading the book that I have just bought.'

Interestingly, however, if the relative clause is to the left of the nominal item, we get an ungrammatical result:

(16)*[$_{RC}$ Amelyet   most vettem]   **azt**   **a könyvet** olvasom.
    REL-which-ACC now   *bought-1SG that-ACC*   *the book-ACC read-1SG*

From the contrasts between (14) and (15), we can observe that when a relative clause appears in a left-peripheral position preceding its apparent associate 'head', it behaves as a *free relative clause*. In other words, it is not headed and does not originate from an underlying position where it was headed at some point in the derivation. This explains straightforwardly why *amely* is excluded from left-peripheral relatives: it cannot occur there because these relative clauses are not headed by any nominal. That is, the main clause nominal *azt a könyvet* 'that book' does not serve as a head for the relative clause in these examples, while it undoubtedly does serve as a head in (14) and (15). The link between the relative on the left and the main clause nominal is not a head-dependent relation. Due to this, I will from now on refer to the main clause (pro)nominal as a 'resumptive element' and in section 5, as a 'correlate'.

3.4   Connectivity Effects: No Reconstruction

Another very robust argument to the effect that LPRCs in (1)/(2) are base-generated in the left periphery without the corresponding nominal associate as their head comes from anti-reconstruction facts. Checking the licensing conditions of R-expressions in the relative clause, we can see that LPRCs do not reconstruct. Observe (17), where an R-expression is contained the LPRC. It can freely be coindexed with the subject of the main clause:

(17) [$_{RC}$ Akit   szeret Mari$_i$], **azt**   meghívta pro$_i$ a   buliba.
    REL-who-ACC loves Mari   *that-ACC invited*   *the party-TO*
    'Who(ever) Mari loves, she invited to the party.'

If the relative clause did reconstruct back into the object position, we would expect that coindexation between the pro subject of the main clause and the R-expression *Mari* 'Mari' in the relative would be impossible. Coindexation, however, is possible, arguing against reconstruction. Embedded or right-extraposed relatives cannot be construed with coreference between the pronominal subject of the main clause and the R-expression, due to the fact that the former c-commands the latter:

(18) a. *Meghívta pro$_i$ **azt**   [$_{RC}$ akit   szeret Mari$_i$] a   buliba.
         invited   that-ACC REL-who-ACC loves Mari the party-TO
         'Who(ever) Mari loves, she invited to the party.'
     b. *Meghívta pro$_i$ **azt**   a   buliba   [$_{RC}$ akit   szeret Mari$_i$]
         invited   that-ACC the party-TO REL-who-ACC loves   Mari
         'Who(ever) Mari loves, she invited to the party.'

Note also that the behaviour of (17) is not due to some kind of linearity effect. An R-expression inside an object DP cannot be coindexed with the subject pronoun in Hungarian, even when the former is left-peripheral and thus precedes the latter:

(19) *Az Annáról$_i$ írt   könyvet   nem olvasta pro$_i$ még.
      the Anna-ABOUT written book-ACC   not   read-3SG   yet
      'She did not read the book about Anna yet.'

If reconstruction effects can be taken to be diagnostics for movement (Fox 2000), these facts argue against a movement scenario for the placement of LPRCs. Unlike embedded and right-extraposed object relatives in (18), the LPRC in (17) does not originate in a clause-internal position c-commanded by the matrix subject. This corroborates the finding of section 3.3 above: LPRCs are not derived by movement. We will return to these facts in more detail in section 4 below.

3.5 Multiple Relatives

The last piece of evidence to the effect that LPRCs are special in the way described above comes from the distribution of *multiple relatives*. Multiple relatives are relative clauses with more than one relative pronominal, referring to more than one entity, as the following example illustrates:

(20) [$_{RC}$ Aki   amit   kér], **az**   **azt**   elveheti.
      REL-who REL-what-ACC wants that   that-ACC   take-POT-3SG
      'Everyone can take what he/she wants.'

The main clause pronominals *az* 'that' and *azt* 'that-ACC' refer back to the individuals picked out by the relative clause.

The multiple relative construction is a well-attested sentence-type in Hungarian (Lipták 2000). Such sentences cannot be transformationally derived from an underlying headed structure, due to the fact that the relative clause, obviously one constituent, would have to be extracted from under two heads at the same time (both *az* 'that' and *azt* 'that-ACC'). These sentences therefore are prima facie evidence for the claim that the LPRC hosts a base-generated free relative clause that has no syntactic head.

It is also noteworthy that multiple relatives are restricted exclusively to the left-peripheral position. They are excluded from any clause-medial or right-

extraposed position, which suggests that the latter are positions where they would have to be construed as headed:

(21) *__Az azt__   [_{RC} aki   amit   kér]   elveheti.
    that that-ACC   REL-who REL-what-ACC   wants   take-POT-3SG

(22) *__Az azt__   elveheti   [_{RC} aki   amit   kér].
    that that-ACC take-POT-3SG   REL-who REL-what-ACC   wants
    'Everyone can take what he/she wants.'

These facts deliver the same results as the empirical evidence in section 3.4 above: LPRCs are not derived by movement.

3.6 Interim Summary

The data presented in the preceding five sections leave little room for doubt that the behaviour of LPRCs is fundamentally distinct from that of relatives clauses that occur in embedded positions following their nominals. It is therefore safe to conclude on the basis of the evidence presented above that the linear placement of the relative clause with respect to its nominal associate can result in two different construction types, which are not related. LPRCs are *base-generated free relative* clauses, while those following their (pro)nominal associate (both in adjacent and non-adjacent positions) are *headed relatives*. Left periphery placement of a relative clause is a base-generation strategy, which is, as I will argue in section 5, a substrategy of relative clause formation. Schematically, the constructions then conform to the following structural patterns:

(23) a. [*[_{RC} ...]* [... __DEM/DP__ ...]]   LPRCs

    b. [... __DEM/DP/NP__ *[_{RC} ...]* ...]   headed relatives

Hungarian relative clauses to the left of a (pro)nominal associate (LPRCs) are base-generated in their surface position as free relative clauses and are not linked to any embedded position clause-internally.

The remainder of this article will focus on LPRCs exclusively. In the next two sections, I will further specify the precise relation of these relatives to the rest of the clause. Section 4 will introduce and eliminate the possibility of generating LPRCs as left-dislocated constituents, and section 5 will argue for relating them to *correlatives*.

4 A Likely Suspect: Left Dislocation

As already mentioned in the introductory section (section 2) above, LPRCs can have the discourse interpretation of aboutness topics or contrastive topics. Both types of topics being left-peripheral constituents in Hungarian, it seems

natural to conceive of these LPRCs as referential, free relative DPs occupying topic positions. In this section I will consider whether analyzing these relatives as left dislocated items is indeed a viable option. The ultimate conclusion will be negative: LPRCs are not to be conflated with left dislocation (or any other topic type) in Hungarian. This conclusion will be arrived at after comparing left-dislocated elements (introduced briefly in section 4.1) to left-peripheral relatives in sections 4.2 and 4.3. As these sections will show, the differences greatly outnumber the similarities between the two construction types.

4.1   Left Dislocation in Hungarian

Hungarian has several types of topics, which can be differentiated according to semantic, syntactic and intonational properties. The three main syntactic types are: ordinary topics, left dislocates and contrastive topics. Ordinary topics function as logical subjects of predication (É. Kiss 1987), and they occupy specifier positions in TopP (an iterable functional projection). Left dislocates are overwhelmingly contrastive items; they occupy a unique position in the left periphery, and they are linked to a resumptive element. Contrastive topics are necessarily contrastive items that also occupy a unique position (in complementary distribution with left dislocates), and which do not associate with resumptive elements (Gécseg 2001; Lipták 2001).

Of these three types, the type that is relevant for the analysis of LPRCs is the one involving left dislocation, as this is the only type of topic that, similarly to left-peripheral relatives clauses, combines with a resumptive element following it and with which it is coreferential. The resumptive element used in left dislocation is the distal demonstrative pronoun *az* 'that', which agrees in case with the left dislocated constituent. Some speakers can also use the personal pronoun *ő* 'he/she' as the resumptive, but this element is losing ground to *az* 'that' in present-day Hungarian:

(24) Tegnap Péter   (az) AJÁNDÉKOT kapott Maritól.
      yesterday Péter   that present-ACC got   Mari-FROM
      'Péter, he got A PRESENT from Mari yesterday (while other people might have got something else.)'

Left-dislocated elements, which imply contrast in a way that is indicated in the translation above, are characteristically pronounced in Hungarian with a rising intonation (marked by √ in the following examples) followed by a slight pause.

As (24) illustrates, the left-dislocated noun phrase *Péter* 'Péter' can be preceded by normal topics (*tegnap* 'yesterday') and is necessarily followed by an operator, like contrastive focus (*ajándékot* 'present-ACC'). As the next section will illustrate, left dislocation is not a root phenomenon in Hungarian, but can be freely embedded in any kind of *that*-clause.

Next to the clearly contrastive and phonologically distinct pattern of left dislocation, there are contexts, characterizing spontaneous, oral discourse, in which structures like (24) occur without an obvious contrastive reading, without the accompanying characteristic intonation and without an obligatory operator item in the clause, as illustrated in (25). In these contexts, the non-contrastive left-dislocated phrase is used to mark a new information unit,[4] much as ordinary topics are:

(25) Erre Péter, (az) fogta magát és elszaladt.
   then Péter that took himself-ACC and away.run
   'Then Péter, he got up and ran away.'

Structurally, the left dislocated element can be taken to occupy the specifier of a special functional projection (*LDP*). Recall from (24) above that these elements are preceded by ordinary topics and followed by quantificational items and focus, suggesting that LDP is lower than TopP but higher than the QP projection in Hungarian. On the simplest assumption, the left-dislocated phrase and the resumptive element stand in apposition and form one constituent (É. Kiss 1987):

(26) $[_{CP} \ [_{TopP*} \ [_{LDP} \ [XP \ (az) \ ] \ [_{LD} \ [_{QP*} \ [_{FocP} \ ([_{VP}... \ ])]]]]]]$

For some further properties of left dislocation, see also the next two sections.

4.2 LPRCs and Dislocated Phrases: Similarities

LPCRs and left-dislocated elements in Hungarian show similarities in more than one domain. They show parallels when it comes to (i) their meaning, (ii) the choice of their resumptive element and (iii) their position in the clause.

(i) *Interpretation.* As was already indicated in section 2 above in the example repeated here in (27), LPRCs can be interpreted as topics. Apart from the 'neutral interpretation' exemplified in (27a), where the relative clause marks new information, the relative clause can be understood as an aboutness topic, as in (27b), and as a contrastive topic, as in (27c):

(27) [RC Amit Mari tegnap főzött], azt nem ette meg János.
   what-ACC Mari yesterday cooked that-ACC not ate PV John

   a. 'John did not eat what Mari cooked yesterday.'

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[4] Prince (1998) refers to this type of left dislocation in English as 'simplifying left dislocation', because it serves to simplify the discourse processing of discourse-new entities. As she argues, removing discourse-new entities from a sentence-internal position and placing them in a dislocated position on the left periphery creates a separate discourse unit for them, which simplifies processing.

b. 'As regards the things Mari cooked yesterday, John did not eat them.'

c. 'John didn't eat what Mari cooked yesterday (while he presumably did eat other things).'

The intonational properties characterizing each interpretation are not the same in the three cases. The contrastive reading of (27c) corresponds to the intonation pattern associated with contrastive left dislocation (ex. 24) above — that is, it involves a rising pitch and secondary stress on the relative clause, followed by a slight pause. Interpretations (27a) and (27b) do not have such an intonation pattern; in these cases both the relative and the main clause are pronounced with neutral intonation. Interpretation and intonation thus suggest a parallel between the relative construction in (27c) and the sentence in (24), which is an instance of contrastive left dislocation. (27a)/(27b) can be thought of as parallel to (25), an instance of non-contrastive left dislocation.

(ii) *Resumptive element.* As was already illustrated above, relative clauses on the left periphery can use a resumptive pronominal that is the same as that of left dislocates: the distal demonstrative pronoun.

(iii) *Embeddability and uniqueness.* The exact position of left dislocates and LPRCs shows some parallels as well. Apart from being left-peripheral, both can be freely embedded in a *that*-clause, as shown in (28a) and (29a), and neither can be embedded in a relative clause, as shown in (28b) and (29b):

(28) a. Azt mondják, hogy √János, az   AJÁNDÉKOT kapott.
      that say-3PL   that Jáno s   that present-ACC   got
      'They say that János, he got a PRESENT.'

   b.??a lánytól,   akitől   √János, az   AJÁNDÉKOT kapott
      that girl-ABL REL-who-FROM János that present-ACC   got
      'the girl, from whom, János, he got a PRESENT.'

(29) a. Azt mondják, hogy [aki eljön],   az   ajándékot   kapott.
      that say-3PL   that REL-who comes   that present-ACC gets
      'They say that the person who comes, he got a present.'

   b.??a lánytól,   akitől   [aki   eljön] az   ajándékot   kap
      that girl-ABL REL-who-FROM REL-who comes that present-ACC gets
      'The girl, from whom, the person who comes, he got a present.'

Both left dislocates and LPRCs may occur only once per clause:

(30) a. *√Maritól √Péter attól   az nem kapott ajándékot.
      Mari-FROM Péter that-FROM that not got   present-ACC
      'As for Péter, as for Mari, he did not get a present from her.'

b. *[RC Aki   eljön],   [RC amikor megérkezik], az akkor telefonáljon.
   REL-who comes   REL-when arrives   that then   call-IMP
   'The person who comes, and when he arrives, should call at that
   time.'

These observations suggest that the syntax of LPRCs runs at least partly parallel to that of left dislocation, so that an initial hypothesis about LPRCs might be that they have the syntax of left-dislocated nominals. Those that occur with demonstrative pronouns as resumptives can thus be assigned the following structure:

(31)[CP [TopP* [LDP [DP *REL-wh ...*] (**az**)] [LD [QP* [FocP [NegP ([VP...])]]]]]]

Further scrutiny, however, reveals that this picture is too simplistic: the structure of LPRCs is not that in (31). Apart from the obvious similarities mentioned in this section, there are a number of dissimilarities that argue against a parallel treatment of left-dislocated items and LPRCs. The next section illustrates these.

4.3 LPRCs and Dislocated Phrases: Differences

Differences between left-peripheral relatives and left-dislocated items can be found in their precise syntactic placement, the distribution of resumptive elements, focusing possibilities and reconstruction effects. In what follows these properties will be illustrated in detail.

(i) *Placement in the clause*. As was shown in example (24), left dislocates can comfortably follow other, ordinary topics in the Hungarian clause. In contrast, LPRCs occur acceptably only in sentence-initial and cannot be preceded by any constituent without a considerable degradation in their acceptability:

(32)??A szervezőktől   [RC aki   eljön] **az** ajándékot   kapott.
   the organizers-FROM   REL-who comes that present-ACC gets
   'Who(ever) comes gets a present from the organizers.'

(ii) *Optionality of the resumptive element*. The nature of the resumptive element also seems to be different in the two cases. First, note that LPRCs can choose from a larger set of resumptive items: either demonstrative pronominals or full DP nominals containing demonstrative forms (see ex. (1) and (2) above), while left dislocates can only have pronominal resumptives:

(33)*√Péter   az a fiú   AJÁNDÉKOT   kapott Maritól.
   Péter   that the boy present-ACC   got   Mari-FROM
   'Péter, he got A PRESENT from Mari.'

Furthermore, even if one puts full DP resumptives aside for a moment, there are also many striking differences between the pronominal resumptive element

we find with relatives and those with left dislocates. First of all, the resumptive element is optional with left dislocates (in both their neutral and contrastive meanings), but obligatory with relative clauses. This property of left dislocation is illustrated in (34), where rising intonation clearly marks *Péter* as a left dislocate. Relative clauses are illustrated in (35). This example shows that the resumptive can only be absent if it bears nominative or accusative case.

(34) √Péternek AJÁNDÉKOT adott Mari.
      Péter-DAT present-ACC   gave Mari
      'To Péter, Mari gave a PRESENT.'

(35) a. [RC Amit   Mari tegnap   főzött], **(azt)**   János megette.
          REL-what-ACC Mari yesterday cooked   that-ACC John ate
          'John ate up what Mari cooked yesterday.'

      b. [RC Akit   bemutattál],   *(**annak**) köszöntem.
          REL-what-ACC introduced-2SG   that-DAT greeted-1SG
          'I greeted the person you introduced to me.'

   (iii) *Adjacency of the resumptive element.* The structural conditions on the placement of the resumptive item differ in the two cases. The resumptive element is always adjacent to left-dislocates, as in (36), but is much freer in the case of relatives, as in (37), where ordinary topics can precede it:[5]

(36) *Tegnap √Péter Maritól   **az** AJÁNDÉKOT kapott.
     yesterday Péter Mari-FROM   that present-ACC   got
     'Péter, he got A PRESENT from Mari yesterday (while other people might have got something else.)'

(37) ?[Aki   eljött], Maritól   **az** ajándékot   kapott.
     REL-who came   Mari-FROM that present-ACC got
     'The people who came got a present from Mari.'

   (iv) *Discourse functions.* The resumptive element of relative clauses shows a greater flexibility not only when it comes to its positions but also in its discourse functions. In case the relative clause has non-contrastive intonation (27a, b), it is possible for the resumptive to appear as the focus of the sentence, as can be seen in (39). The same is never possible with left dislocates (38):

(38) *√Péter, csak **AZ/Ő** kapott helyet.
     Péter   only that/he got   place-ACC

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[5] Non-adjacency between the relative clause and the resumptive pronoun is less preferred to full adjacency, but nevertheless does not result in full ungrammaticality, unlike in the case of left dislocation.

(39) [Aki   fizetett], csak **AZ**   kapott   helyet.
       REL-who paid   only   that   got   place-ACC
       'Only those who paid got a place.'

The ungrammaticality of (38) is due to the fact that the left dislocated constituent and its resumptive pronoun are not only co-referring, but also identical in their feature content as a result of the complex appositive structure they form (cf. 26 above). Since the left-dislocated element is marked for a very specific discourse function, that of a contrastive topic, the resumptive cannot assume any other discourse function either, or else this would result in an interpretive clash. The same does not hold true of LPRCs. (39) is a grammatical sentence with focus on the relative clause. This suggests, together with the evidence from the various interpretive possibilities in (1), (2), and (27) above that LPRCs are not restricted to a specific discourse role. Depending on the position their resumptive element occupies, they can be topics, contrastive topics or even foci. If they were to originate in a specific position reserved for left dislocates only, this flexibility in interpretation would be impossible to account for.

   (v) *Reconstruction effects.* Last but not least, one finds crucial differences between LPRCs and left dislocates when it comes to their locus of interpretation, i.e. in the domain of reconstruction effects. It was already illustrated in section 3.4 above that relative clauses on the left periphery are not reconstructed to any lower position. Left-dislocates, in contrast, show obligatory reconstruction, which is illustrated here by Binding Principle A effects (40), Binding Principle C effects (41) and bound pronoun readings (42).

   (40) Egymás   könyveit,   azt   GYAKRAN olvassák a fiúk.
          each.other book-POSS.3SG-PL-ACC that-ACC often   read-3PL the boys
          'Each other's books, the boys OFTEN read those.'

   (41) *Alex$_i$ könyvét,   azt   nem pro$_i$ olvassa.
          Alex   book-POSS.3SG-ACC that-ACC not   reads
          'Alex's book, he (=Alex) does not read.'
   (42) Az pro$_i$ apját,   azt   mindenki$_i$ szereti.
          the   father-POSS.3SG-ACC that-ACC everyone   loves
          'Everyone loves his father.'

These examples unambiguously show that at the level where binding relations are computed, the left-dislocated item does not occupy the left-peripheral position in which it surfaces in overt syntax. It has to be reconstructed to a lower position. This is in sharp contrast to the behaviour of LPRCs, which, as in (17) repeated here, do not show reconstruction effects (regardless of which intonation pattern is used with them):

(17) [_RC_ Akit   szeret Mari_i], **azt**   meghívta pro_i a buliba.
  REL-who-ACC   loves Mari   that-ACC invited   the party-TO
  'Who(ever) Mari loves, she invited to the party.'

The stark contrast between (40)-(42), on the one hand, and (17), on the other, provides another piece of evidence against treating LPRCs as ordinary left-dislocated elements.

Before going on, note in passing that the behaviour of LPRCs in many respects parallels another type of topic construction, _hanging topic left dislocation_ (HTLD) in languages that have this strategy. HTLD, a frequent dislocation strategy in Germanic languages, is a dislocation pattern that has resumptive pronouns in low positions and involves no case matching between these and the dislocated item. It is interesting to note that just like Hungarian LPRCs, hanging topics show no connectivity effects (Grohmann 2000):

(43) [Die Tatsache, dass Alex_i arm ist]_j, er_i misst ihr_j keine Bedeutung bei.
  the fact   that Alex poor is   he attaches that-DAT no importance to
  'The fact that Alex is poor, he doesn't attach importance to it.'

Next to connectivity effects, LPRCs and hanging topics share the common property that they can occur together with other topic constituents. The two are different, however, in two crucial properties: the fact that there can be more HTLDed items per clause, while relatives are unique; and the fact that HTLD is a strictly root phenomenon.[6] This clearly argues against taking Hungarian LPRCs as HTLD constructions. LPRCs in Hungarian are 'hanging' items only to the extent that they do not reconstruct, but crucially lack the extra-sentential nature of hanging topics.

In this section it was shown that LPRCs differ from left-dislocated element in the following: (i) LPRCs, but not left dislocates, need to be clause-initial constituents; (ii) the resumptive element is optional with left dislocates but not with relatives; (iii) the resumptive element needs to be adjacent to the left dislocate but can be non-adjacent to the LPRC; (iv) the resumptive element can assume the logical function of focus only in the case of relatives; and (e) reconstruction effects characterize left dislocation only.

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[6] Contrastive left dislocation in German can be embedded, although under bridge verbs only (which allow for V2 in their complement clause) (Grohmann 2000):

(i) Ich glaube, diesen Satz,   den   haben wir nun alle satt.
  I believe this   sentence-ACC that-ACC have we now all enough
  'I believe this sentence, we've had enough of by now.'

HTLD, on the other hand, cannot be embedded even under bridge verbs:

(ii) *Ich glaube, dieser Satz,   wir haben ihn   nun alle satt.
  I believe this   sentence-NOM we have   he-ACC   now all enough
  'I believe this sentence-ACC, we've had enough of it by now.'

4.4 Interim Summary

The previous two sections provided a descriptive account of the behaviour of LPRCs and left dislocated-elements in Hungarian. They showed that apart from some parallelisms, the two constructions differ in a number of properties. The findings are summarized in the following table:

Table 1. Properties of left-dislocated constituents and LPRCs

Properties		**Left Dislocates**	**LPRCs**
topic interpretation		obligatory	possible
resumptive element	type	demonstrative	demonstrative, full DP
	obligatoriness	*	✓ (exc. NOM/ACC)
	adjacency to item	✓	optional
	focusable	*	✓
obligatory clause-initial position		*	✓
embeddability		✓	✓
max. 1 per clause		✓	✓
obligatory reconstruction		✓	*

As can be seen from the table, both left dislocates and LPRCs can be embedded and can occupy a unique position in the left periphery. Both of them can be associated with a resumptive element, which can appear as a demonstrative pronominal. The resumptive element is optional in the case of left dislocates and obligatory with relatives. The relationship of the resumptive to its 'host' is tighter in the case of left dislocates: they have to be adjacent, unlike the resumptives of LPRCs. Also, the resumptive of left dislocates cannot assume any position corresponding to other logical functions, like that of focus for example, while this is possible with relative clauses. Position-wise, left dislocates seem to occupy a lower position than LPRCs: the latter have to be initial constituents in their clause, while left dislocates can freely be preceded by other topics. Unlike LPRCs, which do not reconstruct, left-dislocated elements necessarily do.

To account for the positional differences one has to assume that although both types of left-peripheral elements occupy a unique position in the left periphery, this position is not the same.[7] As can be seen from the distribution

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[7] That they cannot occupy one and the same position is also shown by the fact that it is possible to have both of them in one clause:

of other topics in these constructions, relative clauses are higher than topic constituents, while left dislocates are lower. That is to say, while the structure of left dislocation is that in (26), repeated from above, the structure of left-peripheral relatives has to run along the lines of (44):

(26) Left dislocation

$[_{CP}$ $[_{TopP*}$ (YP) $[_{LDP}$ $[XP$ **(az)** $]_i$ $[_{LD}$ $[_{QP*}$ $[_{FocP}$ ($[_{VP}$ ... t_i ...])]]]]]]

(44) *LPRCs*

$[_{CP}$ $[_{RC}$ ...] $[_{TopP*}$ (YP) $[_{TopP/FocP}$ **az**$_i$ ($[_{VP}$ ... t_i ...])]]]

The necessary clause-initial placement of the relative clause points to the fact that it either occupies a specific functional projection atop other topic projections or is *adjoined* to the highest projection of the clause under the finite complementizer. The following section will elaborate on the nature of this position.

The relationship between the relative clause and the resumptive item is also crucially different from that found in left dislocation. While in the latter the resumptive is an optional element, in the former it is obligatory, indicating that presumably it itself occupies an argument (or adjunct) position in the main clause. This structural disparity can explain the observed differences in reconstruction as well. Left-dislocated elements arguably get into their surface position via movement (together with the demonstrative resumptive pronoun), while LPRCs are base-generated in their clause initial position and are interpreted there. The only element that moves in this construction is the resumptive element, a fully referential item generated in a VP-internal position.

5   LPRCs as Correlatives

The previous section provided a detailed comparison between left dislocated elements and LPRCs in Hungarian and showed that the two, although they share some properties, do not have the same underlying syntax. This finding brings up the natural question: if left-peripheral relatives are not dislocated via usual means, why do they occur in the left periphery? The present section deals with this question and argues that LPRCs in Hungarian instantiate a relativization strategy, called *correlativization*, that is typologically distinct

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(i)   ?[Aki most jött be],   **azt**   √Péter (az)   nem üdvözölte.
      REL-who now came in   that-ACC Péter   that   not   greeted
      'Péter, he did not greet the person who entered now (while other people presumably did).'

Sentences like (i) are somewhat unusual due to the high concentration of material in the left periphery.

from adnominal ones. The placement of these relatives in the left periphery is a characteristic of this relativization strategy.

5.1 Correlatives: An Introduction

Correlative constructions involve a relative clause to the left of a main clause containing a pronominal that refers to the entity denoted by the correlative clause. A correlative construction has the schematic structure in (44):

(45) $[_{\text{matrix CP}}$ $[_{\text{RC}}$ $]_i$ $[_{\text{matrix CP}}\text{DEM}_i$ ... $]]$

Correlatives thus differ from headed relative constructions, where the relative clause *follows* the nominal item it modifies. Compare the following two examples from Hindi, which has both the headed (46) and the correlative relativization strategy (47) (Srivastav 1991):

(46) **vo laRkii** $[_{\text{RC}}$ jo khaRii hai] shaayad lambii hai
     that girl   REL standing is   maybe   tall   is
     'The girl who is standing may be tall.'

(47) $[_{\text{RC}}$ jo laRkii khaRii hai] shaayad **vo** lambii hai
     REL girl   standing is   maybe   that tall   is
     'Every girl who is standing may be tall.'/'The girl who is standing may be tall.'

(46) contains the relative clause in its standard position, following the noun it modifies (*vo laRkii* 'that girl'), just as in English. (47), on the other hand, has the relative clause on the left, crucially preceding the whole main clause, including the pronominal it modifies (the demonstrative *vo* 'that'). The latter pattern is called a *correlative*, because the relative clause is referred to by the *vo* pronominal element in the main clause.

Correlativization is a typologically relevant notion: some languages make extensive use of the correlative strategy for relativization and other subordinated clausal adjuncts (conditionals, temporals, comparative and degree clauses). Languages in the Indo-Aryan family (Hindi, Bengali, Kashmiri, Oriya) exhibit correlative patterns beyond the relativization structures in (47). Besides the particularity of their placement on the left, correlatives have the following syntactic properties (Bhatt 2003; Dasgupta 1980; Dayal 1996; Izvorski 1996; Sahoo & Hellan 1998; Srivastav 1991; Wali & Koul 1997):

(48) PROPERTIES OF CORRELATIVES:

    (i) The correlative clause behaves both internally and externally as a free relative clause, i.e. it does not modify an *external* head.[8]

    (ii) The correlative clause is matched with a so-called *correlative pronominal* (a demonstrative) in the main clause, with which it entertains a non-local relationship.

    (iii)Correlatives (just like free relatives in general; Jacobson 1995) refer to a unique/maximal individual that has the property denoted by the relative clause; due to this property, their matrix correlate can only be a definite element.

    (iv)The correlative clause can optionally contain multiple instances of relative pronouns, to be matched with multiple correlative pronominals in the main clause.

As the next section will show, all these properties manifest themselves in the case of left-peripheral relatives in Hungarian as well, providing evidence for the correlative status of these Hungarian constructions.

5.2   Hungarian LPRCs as Correlatives

A quick run-through of the properties listed in the previous section immediately shows that Hungarian left-peripheral relatives behave for all intents and purposes like correlatives:

    (i)   Hungarian LPRCs behave both internally and externally as free relatives, as was shown in section 3.3 above.

    (ii)   The LPRC is matched with either a demonstrative element or a full DP containing a demonstrative; see examples (1) and (2) above.

    (iii) The denotation of LPRCs complies with uniqueness/maximality:

(49) [RC Amit   Mari tegnap   főzött], **azt**   János megette.
     what-ACC Mari yesterday cooked that-ACC John ate
     'John ate everything Mari cooked yesterday.'/'John ate the thing Mari cooked yesterday.'

In a situation in which Mari cooked more than one dish, the relative clause in (49) refers to the totality of these; and in a situation in which she only cooked one, (49) refers to this single dish. Also, just as in Hindi correlatives, the

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[8] This distinction between free and headed relatives becomes less straightforward with the renewed promotion analysis of adnominal relativization (Kayne 1994, following Vergnaud 1974), in which the external head originates inside the relative clause and undergoes displacement.

matrix correlate can only be a definite element in the case of Hungarian as well (the Hungarian (6) is repeated from section 3.1 above, and (50) is taken from Srivastav 1991):

(6) *[_{RC} Akivel   moziba   jár],   **egy fiú**   illedelmes.
      REL-who-WITh   cinema-TO goes   a boy-ACC   polite
      'The boy she goes to the cinema with, is polite.'

(50) *[jo laRkiyãã khaRii hãi]   **do** lambii hãi
      REL girls   standing are   two tall   are
      'Two girls who are standing are tall.'

(iv)   Left-peripheral relatives can contain multiple relative pronouns.
        (example 20, repeated from section 3.5 above), just like the Hindi (51):

(20) [_{RC} Aki   amit   kér],   **az azt**   elveheti.
        REL-who REL-what-ACC wants   that   that-ACC take-POT-3SG
        'Everyone can take what he/she wants.'

(51) [RC jis laRkiine jis laRkeko dekhaa]**usne   usko**   passand kiyaa
        REL girl-ERG   REL boy-ACC saw   DEM-ERG DEM-ACC likes
        'Which girls saw which boy, she liked him.'

According to the properties (i)-(iv), Hungarian left-peripheral relatives square with Hindi correlatives in all these aspects. This points to the inevitable conclusion: LPRCs in Hungarian and the demonstrative correlate in the matrix substantiate a *correlative* relation, characteristic of correlative constructions.

The primary conclusion of the discussion here and in section 3 then can thus be summed up in the following. LPRCs are base-generated free relatives in Hungarian, not transformationally related to any nominal that serves as a syntactic head. Instead of being adnominal, they are ad-sentential: they do not originate from a DP-adjoined position. Their interpretative properties (uniqueness/maximality) as well as their association to a demonstrative element in the matrix unambiguously identify them as correlative clauses. The precise nature of the relation between the relative and the demonstrative correlate will be the subject of discussion in the next section.

5.3 The Fine Syntax of Hungarian Correlatives

After establishing that Hungarian has a correlative strategy in which a LPRC takes part in a *non-local* strategy of relativization, this section turns to a more detailed syntactic analysis of this strategy, focussing on the relation between the relative clause and the correlated pronominal. This relationship strongly bears on the question how the right interpretation of correlatives is arrived at. Since the correlative clause makes reference to the same entity that the

correlate denotes, the correlation between the two has to be established in both syntax and semantics.

As far as Hindi is concerned, there are two, partially opposing views of the relation between the relative clause and its associate. According to Srivastav (1991) and Dayal (1996), the correlative clause modifies the matrix clause *as a whole*, unlike adnominal relatives which modify a nominal constituent. In syntactic terms this is reflected in the fact that the relative clause is adjoined to IP and acts as a quantificational item binding the demonstrative correlates, which are variables. The primary relation that correlatives involve is thus variable binding.

The more recent account of Bhatt (2003) revisits the facts and provides arguments against the IP-adjunction approach for simple correlatives (those without multiple relative pronominals). On this approach, simple correlatives are base-generated in an adjoined position to the obligatory demonstrative correlative (with which they form a [$_{RC}$]-DEM complex), and optionally move to an IP-adjoined position via scrambling. Multiple relatives are base-generated, just as in Srivastav's account, adjoined to IP, and modify the whole matrix clause. The structural representations of the two construction types are shown in (52) and (53):

(52) [$_{IP}$ [$_{RC}$ ...REL-XP$_i$ ...]$_i$ [$_{IP}$ ... [t_i DEM-XP$_i$]...]]

(53) [$_{IP}$ [$_{RC}$ ...REL-XP$_i$ REL-XP$_j$...]$_{i, j}$ [$_{IP}$ ... [DEM-XP$_i$ ... DEM-XP$_j$...]...]]

Primary evidence for adjoining the correlative to the demonstrative in the case of simple relatives comes from constructions like (54), which show that the correlative and its correlate can surface together:

(54) Ram-ne   [jo laṛkaa tumhaare pi:chhe hai] **us laṛke-ko**
      Ram-ERG REL boy   your behind   is   DEM boy-DAT
      [jo kita:b Shantiniketan-ne   chhaapii thii] **vo**   kitaab   dii
      REL book Shantiniketan-ERG print-pfv   was DEM book give-pfv
      'Ram gave the book that Shantiniketan had published to the boy behind you.'

In (54), we find two correlative clauses in immediately adjacent position to their resumptive element, suggesting that these form a constituent together. This is visible from the fact that these can be coordinated as well:

(55) Rahul a:jkal   [jo   kita:b Saira-ne   likh-i: **vo**]
      Rahul nowadays REL   book   Saira-ERG make-pfv DEM
      aur [jo cartoon Shyam-ne   bana:-ya: **vo**]   paṛh raha: hai
      and REL cartoon Shyam-ERG make-pfv   DEM read prog be.prs
      'Nowadays, Rahul is reading the book that Saira wrote and the cartoon that Shyam made.'

Evidence for the overt syntactic movement of the relative clause from the low position in the demonstrative complex up to IP-initial position is provided by the usual movement diagnostics: island sensitivity and reconstruction effects.

The analysis of the Hungarian facts, as we have seen above in section 3 and the present section, is slightly different from Hindi correlativization. First of all, local adjunction of the correlative clause to the demonstrative correlate is immediately ruled out as an option, as the equivalents of (54) and (55) are starkly ungrammatical:

(56) *[Aki   jelentezett az órára   **az**],
       REL-who signed   the class-FOR   that
     [amelyik   könyvet   elkérte **azt**]   el is   olvasta.
       REL-which book-ACC asked   that-ACC PV also read
     'The boy who signed up for the class read the book that he asked for.'

(57) *[Amit   Mari   főzött   **azt**]
       REL-what-ACC Mari cooked that-ACC
     és [amit   Panna vett   **azt**]   megettem.
     and REL-what-ACC Panna bought that-ACC   ate-1SG
     'I ate what Mari cooked and what Panna bought.'

These examples show that the correlative clause cannot be generated as one constituent together with the demonstrative item in Hungarian. This makes it very unlikely that the correlative clause originates from a position adjoined to the demonstrative. As section 3.4 has shown, reconstruction facts unambiguously argue against such a stance, too: the correlative clause does not reconstruct. In the case of (17), the relative clause is not interpreted in the object position:

(17) [$_{RC}$ Akit   szeret Mari$_i$], **azt**   meghívta pro$_i$ a   buliba.
        REL-who-ACC loves Mari   that-ACC invited   the party-TO
      'Who(ever) Mari loves, she invited to the party.'

Like the Binding Principle C effects, pronominal binding indicates lack of reconstruction, too. In the following examples, the relative pronominal cannot be bound by the matrix clause subject:

(58) [Amelyik   lány megcsókolta],   **abban** minden fiú megbízik.
        REL-which girl kissed   pro$_{obj,i}$ that-IN every boy$_i$ trusts
       '*Every boy trusts the girl who kissed him.'

Multiple relatives give the same results. They cannot overtly occur in any position next to their demonstrative associate (see example 21 above), and they do not show reconstruction, either:

(59) [RC Akinek   amit   elküldött Mari_i],
       REL-who-DAT   REL-what-ACC   sent   Mari
     azt   visszakapta pro_i   tőle.
     that-ACC   got.back   3sg-from
     'Whatever Mari sent to anyone, she got that back from that person.'

These facts all militate against taking the correlative clause to originate in a position adjoined to the demonstrative. Not only are they not adjoined to each other in the base, they need not even originate in the same clause. In case the relative clause and the resumptive pronominal surface in two different clauses (which is a generally marked construction), it can be shown that the relative does not reconstruct back into either clause. To the extent that examples of this type are grammatical, they allow for coindexing between an R-expression in the relative clause and the subject of the intermediate one:

(60)?[Akit   kedvel Mari_i],   úgy gondolja, hogy
       REL-who-ACC   likes   Mari   so   thinks   that
     azt_i   más   is   kedveli.
     that-ACC   other   also   likes
     'Mary thinks that the person she likes, everybody likes.'

The sentences in (17) as well as (58)-(60) indicate that the correlative clause originates in the left periphery at the position where it surfaces. Its relation to the demonstrative resumptive in the main clause is that of variable-binding.[9]

The crucial difference between Hungarian and Hindi then is that in Hungarian both single and multiple relatives are base-generated on the left, while in Hindi only multiple ones are. In Hindi, merging the correlative with the demonstrative that it modifies is available as an option (and therefore forced by economy; see Bhatt 2003) but in Hungarian it is not. As Izvorski (1996) shows, Slavic languages, where local merge is not available either,

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[9] The variable-binding approach to correlatives makes the prediction that one can find no locality effects between the correlative clause and the demonstrative correlate (as variable binding is possible long distance and across islands, as well). While judgements are shaky, 50% of my informants accepted sentences like (i) and (ii) where relative clause and demonstrative spread across an island:

(i)   %[Amennyit   János keres], azt   a   pletykát   hallottam,
        REL-how.much-ACC John earns   that-ACC the rumour-ACC heard-1sg
      hogy **annyit**   Mari is   keres.
      that that.much-ACC Mari also earns
      'I heard the rumour that Mari earns (at least) as much as John does.'

(ii) %[Akit   Anna a   férjeként   emleget], az a   hír   járja,
         REL-who-ACC Anna the husband-AS mentions   that the news goes
      hogy **az**   Angliában él.
      that that England-IN lives
      'Rumour has it that the person Anna refers to as her husband lives in England.'

pattern with Hungarian in this respect. This constitutes an important typological difference between Hindi-type and Hungarian/Slavic-type languages.

A final point concerns the position of the correlative clause in the left periphery in Hungarian. From the fact that the finite complementizer can, but topics cannot, precede correlatives in Hungarian, as was demonstrated in section 4 above, we have concluded that the position for correlatives is structurally higher than that of ordinary topics (TopP) and lower than that of the finite complementizer (C^0):

(61)$[_{CP}$ $[_{RC}$ REL–wh $]_i$ $[_{TopP*}$ $[$ ... DEM$_I$ ... $]]$

It could therefore be assumed that the correlatives are adjoined to the highest topic projection in the clause, TopP if there is one in the sentence, and if there is none, to the highest projection distinct from C.

Note that (61) as it stands does not provide any explanation for the fact that there can be at most one correlative clause in a Hungarian sentence. Adjunction in general is not restricted to one adjoinee. However, Hungarian is not alone in restricting the number of correlatives to one: to my knowledge, all languages with correlatives restrict the number of possible correlatives to one per clause. This is a yet ill-understood property of correlativization that to my knowledge has not been addressed by scholars.[10]

While clearly more research is required to clarify this point, the rest of this section has hopefully succeeded in showing many other things. Among these, first and foremost, is that Hungarian LPRCs are *correlatives*. It was shown that these clauses are base-generated free relatives which are linked to a

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[10] In the recent literature on correlatives one can find a coordination-based account for correlativization, as well by Rebuschi (2003). Using comparative evidence from many languages, Rebuschi shows that *and*-coordination is often an ingredient of correlative structures. The following provides an example from Basque, where one optionally finds *eta* 'and' between the correlative and the main clause:

(i) Zure ontasun non,   *eta* zure bihotza **han**.
     your treasure where   and your heart   there
     'Where your treasure is, there's your heart.'

Based on this example, Rebuschi proposes the coordinate structure in (ii) (marked &P here):

(ii) $[_{\&P}$ $[_{RC}$ $]$ $[_{\&'}$ **&** $[_{main\ clause}$ ... $]]]$

While attractive, this configuration cannot not account for the uniqueness of the correlative clause, either, as &Ps are quintessential iterable categories. Moreover, a structure like (ii) would predict that it is impossible to extract anything out of the main clause due to a run-of-the-mill ATB-violation, contrary to fact:

(iii) ?Miről$_i$ szeretnéd,   ha [aki jelentkezik] **az**   írna t$_i$?
       what-ABOUT like-cond.2sg if REL-who signs   that   writes
       'What would you like people who sign up to write about?'

correlative phrase in the main clause. They are true 'hanging' elements in that they are extrasentential and cannot be transformationally linked to any internal constituent of the clause. This result brings Hungarian closer to typologically distinct correlativization languages and provides the research field of correlativization with novel empirical and theoretical input.

6   Conclusion

This paper has taken a detailed look at the distribution of LPRCs in Hungarian. It has shown that these relative clauses are crucially distinct from relatives that are embedded under a nominal: LPRCs are base-generated free relative clauses. To give a syntactic account of their left-peripheral placement, LPRCs were compared to left-dislocated element in Hungarian, and it was shown that although there are some similarities between the two, there are crucial differences that militate against a parallel treatment. Hungarian LPRCs were then compared to Hindi-type correlative clauses and it was found that the properties of the two dovetail neatly: LPRCs can be successfully analyzed as correlative clauses.

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Discontinuity and Discourse Structure: Stranded Nominals as Asserted Background Topics

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Abstract

The aim of this paper is to investigate Rizzi's (2001) recent claim that in *combien* constructions full movement correlates with a specific or D-linking interpretation of the nominal (see also Obenauer, 1994) while the in-situ option corresponds to focus of the noun. On the one hand, it is argued that the notion of specificity or D-linking for the raised nominal is too strong while on the other hand it is shown that the stranded nominal is not a focus, but a topic, albeit of a special kind. It is also argued that there is a dedicated postverbal position for this kind of topic and that the nominal has all the properties of an incorporated nominal: it is interpreted as an asserted background topic. In the final part of the article, some time is spent discussing the pragmatics and the modality involved in discontinous structures, and showing that the stranded nominal is interpreted inside the VP/below the event variable.

1 Introduction

As is well-known, it is possible in French to split *combien de* constructions, as illustrated in (1a), (1b) being the non-split alternative (cf. Doetjes 1997; Obenauer 1976, 1983, 1994; Rizzi 1990; de Swart 1992; for a recent theory of split constructions in semantic terms, see Butler & Mathieu 2004).

(1) a. [$_{CP}$ **Combien**$_i$ as-tu lu [$_{DP}$ t$_i$ **de livres**]] ?
    how-many have-you read of books

b. [$_{CP}$ [$_{DP}$**Combien de livres**]i as-tu lus t$_i$] ?
    how-many of books have-you read.MAS.PL
    'How many books have you read?'

Of particular interest to us is Rizzi's (2001) recent claim that in such constructions full movement correlates with a specific or D-linking interpretation of the nominal that is associated with *combien* (see also Obenauer 1994) while the split variant correlates with a focus interpretation of the nominal.

The aim of the present article is to investigate this claim. It is shown that the contention that the nominal is specific or D-linked is too strong. Instead, it

is argued that the main characteristic of the fronted nominal is that it is foregrounded (no presupposition or D-linking is thus necessarily involved). On the other hand, it is shown that, although it is clear the remnant nominal receives default nuclear stress, it is not focused in the traditional sense of the term. Rather, it is an asserted background topic in the sense of Chierchia & McConnell-Ginet (2000). The present paper builds on previous work of mine (e.g. Mathieu 2004) by adding new material and by extending the discussion on the foreground/background dichotomy as well as concentrating on the asserted background nature of the topic nominal. In addition, particular attention will be paid to the modality and event semantics involved in discontinuous structures.

The paper is organised as follows. In section 2 the syntactic and semantic properties of incorporated nominals (henceforth, INs) are reviewed. Section 3 turns to the case of stranded nominals (henceforth, SNs) in split *combien* constructions and shows that they share many syntactic and semantic properties with those of INs. In section 4, a summary of the various approaches to semantic incorporation are introduced while in section 5 a formal account of the syntactic and semantic properties of SNs is given. The conclusion can be found in section 6.

2.   The Syntactic and Semantic Properties of INs

In this section, we go through the various syntactic and semantic properties of INs. Beginning with syntactic properties, it has been shown that whereas non-incorporation of the nominal is accompanied by rich agreement on the verb and on the noun, in the case of incorporation of the noun no such agreement is available. The term anti-agreement will be used for this phenomenon. To illustrate, consider the following two examples from West Greenlandic. In (2a) the noun has no Case or number marking and the verb lack person and number marking corresponding to the object *parcel*. However, in (2b) the verb shows an additional number marking (that of the object *parcel*) and the nominal *parcel* bears Case and agreement specification. Finally, (2a) has no marking for transitivity whereas (2b) shows marking for transitivity (a = [+tr], u = [–tr]).

(2)   a.   Ullumi   aatsaat   puurtugar-si-v-u-q, ...
            today   only   parcel-get-IND-[–tr]-3SG
            'Only today, he got a parcel...'   (Van Geenhoven 1998: 37)

        b.   Ullumi   aatsaat   puurtukka-t   tiq-u-a-i, ...
            today   only   parcel-ABS.PL   get-IND-[+tr]-3SG.3PL
            'Only today he got the parcel...'   (Van Geenhoven 1998: 38)

Second, there are well-known thematic restrictions on the possibility of incorporating nominals. Only patients or themes can incorporate, agents cannot. Consider examples from Onondaga as illustration. As (3b) shows incorporation of the theme *beans* is possible, whereas as (4b) shows incorporation of the agent *louse* is not. (3a) and (4a) are the corresponding non-incorporating structures.

(3)   a.   Ka-hi-hw-i   neʔo-**hsaheʔt**-aʔ.
           3N-CAUS-ASP the-PRE-bean-SUF

       b.   Ka-**hsaheʔt**-ahi-hw-i.
           3N-bean-spill-CAUS-ASP
           'The beans spilt.'   (Baker 1988: 87)

(4)   a.   H-ate-ʔse:-ʔ   neʔo-tsiʔ**kt**-aʔ.
           3MS-REFL-crawl-ASP the-PRE-louse-SUF

       b.   *H-ate-tsiʔ**kti**-ʔse:-ʔ.
           3mS-REFL-louse-crawl-ASP
           'The louse crawls.'   (Baker 1988: 89)

Third, only arguments can incorporate, adjuncts generally cannot. The following example is from Southern Tiwa and shows that the adjuncts *at night* and *during the day* cannot incorporate.[1]

(5)   a.   Guahua a ia   he **po**,   ka e mohe he **aho**.
           work   ABS-he at   night but sleep at day

       b.   *Gahua **po**   a ia,   ka e   mohe **aho**.
           work-night ABS-he but   sleep-day.
           'He works at night, but sleep during the day.'   (Baker 1988: 87)

Fourth, indirect objects cannot incorporate when a direct object is present. The following example is also from Southern Tiwa:

(6)   *Ta-**hliawra**-wia-ban   ('u'u-de).
      1aS/A/A-woman-give-PAST   baby-SUF
      'I gave the baby to the woman.'   (Baker 1988: 279)

Let us now turn to the semantic properties of INs. The IN always receives low scope. For example, in (7) the sentence cannot mean that there is a particular letter that Juuna didn't receive.

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[1] Some adjuncts are capable of incorporating. However, we will not go into the details of the adjuncts in question. The reader is referred to Mathieu 2004 for a comparison of the properties of adjunct INs and adjunct SNs.

(7) Juuna   Kaali-mit   ataatsi   **allagar**-si-nngi-l-a-q.
Juuna-ABS Kaali-ABL   a-INST-SG letter-receive-NEG-IND-[–tr]-3SG
'Juuna didn't receive a letter.'
'It is not the case that Juuna received a letter.'
'There is a letter that Juuna didn't receive.' (Van Geenhoven 1998: 5)

Second, no partitive reading is available with INs. In order to obtain a partitive reading a non-incorporating variant is necessary.

(8) Jensi   **manni**-tu-ssa-a-q.
Jensi-ABS   egg-eat-FUT-IND-[–tr]-3SG
'Jensi will eat an egg/some particular eggs.'

Third, INs cannot be used as anaphoric expressions.

(9) a. Qaammatit qassiit   matuma   siortinagut Juuna
months   several   of.this   before   Juuna-ABS
puurtukka-nik allakka-nil-lu   nassip-p-a-ra
parcel-INST   letter-INST.PL and send-IND-[+tr]-1SG.3SG
'Several months ago, I sent a parcel$_i$ and some letters.'

b. Ullumi aatsaat **puurtugar**-si-v-u-q, …
today   only   parcel-get-IND-[–tr]-3SG
(i) 'Only today he got a parcel$_i$, …'
(ii) # 'Only today he got the parcel$_i$, …' (Van Geenhoven 1998: 37)

As shown by Van Geenhoven (1998), if one wants to use a nominal expression to pick up the parcel mentioned, one has to use an NP in a transitive, i.e. a non-incorporating configuration. This is illustrated in (10).

(10) Ullumi aatsaat **puurtukka**-t   tiq-u-a-i.
today   only   parcel-ABS.PL get-IND-[+tr]-3SG.3PL
'Only today he got the parcel$_i$, …'   (Van Geenhoven 1998: 38)

In conclusion, these semantic and discourse properties suggest that an IN introduces a new variable (at least in West Greenlandic, there are parametric variations; see Mithun 1984). Further evidence for such a view comes from the fact that incorporate nominals are possible in existential constructions. In fact, with the existential predicate, incorporation is compulsory in West Greenlandic.

(11) a. Nillataartarfim tallima-nik   **manne**-qar-p-uq.
fridge-LOC   five-INST.PL egg-have-IND-[–tr]-3SG
'There are five eggs in the fridge.'

b. Festi-mi   qallunaar-passua-qar-p-u-q.
   party-LOC   white.man-many-have-IND[-tr]-3SG
   'There were many Danes (lit. white men) at the party.'

(Van Geenhoven 1998: 27)

It is clear from existential contexts that the SN in a split construction is non-specific. As has been shown by Milsark (1977), Heim (1987), Keenan (1987) and McNally (1992), so-called strong/definite quantifiers cannot combine with the existential predicate (unless they denote a kind as in *There is every *(kind of) animal in that zoo*; see McNally 1998):

(12) a. *There is every book on the table.

      b. *There is the book on the table.

      c. There is some book on the table.

      d. There is a book on the table.

This closes the discussion about syntactic and semantic properties of INs. In the next section we turn to SNs in discontinuous structures.

3.   The Syntactic and Semantic Properties of SNs

The syntactic and semantic properties described for INs in the previous section are also found with SNs in *combien* constructions. First, no object agreement is available on the verb when a split variant is used whereas when movement of the nominal is instantiated agreement is possible (in some, not all variants of French).

(13) a. **Combien**   as-tu   ouvert **de   boites** ?
          how-many   have-you   opened of   boxes

      b. **Combien   de   boites**   as-tu   ouvert*es* ?
          how-many   of   boxes   have-you   opened-FEM.PL
          'How many boxes have you opened?'

Second, splitting of the nominal is not possible when an agent is involved, as shown by (14a). On the other hand, when a theme subject is involved there is no problem, as illustrated by (15a). The non-split alternatives are also given.

(14) a. ***Combien**   ont   rigolé   **de   personnes** ?
          how-many   have   laughed   of   persons

      b. **Combien   de   personnes**   ont   rigolé ?
          how-many   of   persons   have laughed
          'How many people laughed?'

(15) a. **Combien** sont arrivé **de personnes** ?
     how-many are arrived of persons

   b. **Combien de personnes** sont arrivées ?
     how-many of persons are arrived
     'How many people arrived?'

Third, when an adjunct rather than an argument is involved, splitting of the nominal is not possible (at least with some adjuncts; see Mathieu 2004 for details).

(16) a. ***En combien** as-tu fini ta thèse **d'années** ?
     in how-many have-you finished your thesis of-years

   b. **En combien d'années** as-tu fini ta thèse ?
     in how-many of-years have-you finished your thesis
     'How many years did it take you to finish your thesis?'

Fourth, as in the case of INs described in the previous section, SNs that are indirect objects can incorporated only when no direct object is present. (17a) is possible, but (18a) is really bad.

(17) a. **Combien** as-tu donné **de livres** à Jean ?
     how-many have-you given of books to Jean

   b. **Combien de livres** as-tu donné à Jean ?
     how-many of books have-you given toJean
     'How many books have you given to Jean?'

(18) a. ***A combien** as-tu donné un livre **de personnes** ?
     to how-many have-you given a book of persons

   b. **A combien de personnes** as-tu donné un livre ?
     to how-many of persons have-you given a book
     'To how many people have you given a book?'

For sake of completeness, we show that stranding of indirect objects is possible when no direct object is present. This is illustrated in (19a).

(19) a. **A combien** as-tu souri **de personnes** ?
     to how-many have-you smiled of persons

   b. **A combien de personnes** as-tu souri ?
     to how-many of persons have-you smiled
     'To many people have you smiled?'

Now that we have reviewed the syntactic properties of SNs, let us turn to their semantic properties. First, SNs always take narrow scope. Whereas in (20b) wide scope of *maisons* over the modal is possible, this is impossible in (20a).

(20)   a.   **Combien**   veux-tu   acheter   **de maisons** ?
          how-many   wants-you   to-buy   of houses
          'How many houses do you want to buy?'
          'How many houses (any of them) you want to buy?'
          #'There are houses you want to buy, how many of them do you want to buy?'

       b.   **Combien   de maisons** veux-tu   acheter ?
          how-many   of houses   wants-you   to-buy
          'How many houses do you want to buy?'
          ?'How many houses (any of them) you want to buy?'
          'There are houses you want to buy, how many of them do you want to buy?'

Second, SNs, like INs, are not compatible with a partitive reading. This was first noticed by Obenauer (1994:193). (21a) is odd because we have forced a partitive reading by choosing a possessive DP.

(21)   a.?***Combien**   as-tu   lu   **de   mes   articles** ?
          how-many   have-you   read   of   my   articles

       b.   **Combien   de   mes   articles**   as-tu   lus ?
          how-many   of   my   articles   have-you   read-MAS-PL
          'How many of my articles have you read?'

Third, in situ *de*-phrases can clearly appear in existential contexts, indicating that they introduce a new discourse referent. The following is a mini-corpus consisting of a series of examples taken from the Web after a search on Google. It is interesting to see that in existential contexts splitting of *combien* from the nominal with which it is normally associated is much more widespread on the Web than non-splitting.

(22)   a.   **Combien**   y a-t-il   **de centres de la petite enfance**   en Ontario ?
          how-many there is of centers of the small childhood in Ontario
          'How many infancy centres are there in Ontario?'
          http://www.ontarioearlyyears.ca/oeyc/fr/Questions/howMany.htm

       b.   **Combien**   y a-t-il   **de polluants**   dans un   béluga ?
          how-many   there is   of   polluants   in   a   beluga
          'How many polluants are there in a beluga?'
          http://www.baleinesendirect.net/FSC.html?sct=2&pag=2-1-3.html

       c.   **Combien**   y a-t-il   **d'atomes**   dans l'univers ?
          how-many   there is   of-atoms   in   the-universe
          'How many atoms are there in the universe?'
          http://www.dstu.univ-montp2.fr/GRAAL/perso/magnan/dixpuissance80.html

d. **Combien**   y   a-t-il **de langues   différentes** sur Terre ?
    how-many there has-it of languages different   on Earth
    'How many different languages are there on Earth?'
    http://www.cybersciences.com/Cyber/2.0/Q7627.asp

e. **Combien**   y a-t-il   **de Chines** ?
    how-many there is of Chinas
    'How many Chinas are there?'
    http://www.warc.ch/up014/14-f.html

f. **Combien**   y a-t-il   **de débris** en orbite   autour   de la Terre ?
    how-many there are of debris in orbit   around   of the Earth
    'How many are debris in orbit around the Earth are there?'
    http://www.cybersciences.com/Cyber/2.0/Q2768.asp

g. **Combien**   y a-t-il   **de fumeurs** au Canada ?
    how-many there are of smokers   in Canada
    'How many smokers are there in Canada?'
    http://www.hcsc.gc.ca/hecssesc/tabac/recherches/esutc/trends/how_many.
    html

h. **Combien** y a-t-il   **d'abonnés   aux offres Télévision UPC**?
    how-many there have of-subscribers to the offers Television UPC
    'How many subscribers to the offers Television UPC are there?'
    http://www.upcfrance.com/services/television/questions/q_0000000616.sht
    ml

i. **Combien**   y a t-il   **de travailleurs autonomes** ?
    how-many there have of workers   autonomous
    'How many autonomous workers are there?'
    http://strategis.ic.gc.ca/epic/internet/insbrp-rppe.nsf/fr/rd00697f.html

j. **Combien**   y aura-t-il   **de coupures de billets en euros** ?
    how-many there will be of bank notes   in euros
    'How many bank notes in euros will there be?'
    http://www.euro-institut.org/Reponses.htm

k. **Combien**   y avait-il **de robocops**   à Genève   pendant le   G8 ?
    how-many there was of robocops   in Geneva during   the G8
    'How many robocops were there in Geneva during the G8 meeting?'
    http://www.quellesconnes.com/~anti-g8//breve.php3?id_breve=142

l. **Combien**   il y avait **de faux lee harvey oswald** ?
    how-many there was of false lee harvey oswald
    'How many false Lee Harvey Oswalds were there?
    http://www.jfk-fr.com/fil_401-0.php

It must also be noted that the in-situ alternative is most natural when the nominal is interpreted as a kind (let us suppose that in this case the variable introduced by the nominal is bound by a Generic operator).

(23) **Combien** existe-t-il   **de   types de porphyrie** ?
how-many exists-it   of   types of porphyria
'How many types of porphyria exist?'
http://www.porphyria-europe.com/FR/00-Info_Patients/question-03.asp

In conclusion, I would like to claim that split *combien de* constructions in French are parallel to the following West Greenlandic examples where the WH-phrase 'how many' has raised to a sentence-initial position and the nominal with which the WH-phrase is associated has literally incorporated into the verb:

(24) a. **Qassi-nik**   **qimmi**-qar-p-i-t?
how-many_INST.PL   dog-have_INTER-[–tr]-2SG
'How many dogs do you have?'

b. **Qassi-nik**   **aalisaga**-tur-p-i-t?
how-many_INST.PL   fish-eat_INTER-[–tr]-2SG
'How many fish have you eaten?'   (Van Geenhoven 1998: 20)

The aim of the present section was to compare the syntactic and semantic properties of INs with those of SNs in split constructions. In the next section, the discourse properties of both INs and SNs is the focus of attention. The discussion will lead us to section 5 where a formal account of SNs is given.

4.   The Discourse Properties of INs and SNs: A Comparative Analysis

4.1   The Case of Noun Incorporation

Before we begin, it must be stressed that there are several types of noun incorporation languages, and that the pragmatics of the phenomenon varies from one language to another. For example, Mithun (1984) divides noun incorporation (henceforth, NI) languages into four groups according to functional criteria. Type I NI is found in Oceanic, Mayan, Aborigine, Turkish, and English (*to baby-sit*) among others. It involves lexical compounding that express conventionalized activities (for example, as pointed out by Mithun, *bus money* or *lunch money* are more likely nominal compounds than *sock money* or *screwdriver money*). The IN is generic and cannot receive a referential interpretation. If the referent is new, an independent NP must be used.

   Type II NI is found in Tupinambá, Blackfoot and Yucatec Mayan. In these languages NI is used to manipulate the case marking of various participants in a sentence, thus it is relevant to the verb and its internal arguments. After NI,

the direct object slot is left open, and an oblique NP can be promoted to direct object status while the demoted direct object is still present as the IN.

In Type III NI (e.g. Chukchi, Nahuatl and Tanoan), the IN receives a referential interpretation. It can be definite and specific, it can introduce a referent into discourse, and it can function as the antecedent of discourse anaphora. NI is used to background a particular referent, making it less salient in discourse. It appears that West Greenlandic as described by Bittner (1994) and Van Geenhoven (1998) is close to type III, yet differs from those languages belonging to that class, in that in West Greenlandic INs are referential, but cannot be definite. They are always interpreted as non-specific.

Type IV NI functions as a classifier system; a semantically general noun is incorporated by the verb, which remains transitive, and the IN can be modified by a more specific external NP (e.g. Mohawk).

According to Farkas & de Swart, incorporating constructions are characterized by a special morphosyntax that sets them apart from non-incorporating structures (the assumption is thus different from the one proposed by Van Geenhoven, since according to Van Geenhoven semantic incorporation is much more general process that happens even in the presence of referential determiners). Van Geenhoven's theory of semantic incorporation will be given in full in section 5. (25a) is an example from West Greenlandic and shows literal syntactic incorporation. (25b) is an example from Hungarian, a language that has a special pre-verbal position for objects when they are incorporated. This is the position called 'predicate-operator' or 'pred-op' for short by Szabolcsi (1997).[2] (25c) is an example from Ponapean, a Micronesian language where a special post-verbal position is used for incorporated objects. (25d) is an example from Maori, a language that uses a special determiner for incorporating structures.

(25) a. Suulut   **timmisartu**-liur-p-u-q.
          Søren.ABS   airplane-make-IND.[-tr]--3SG
          'Søren made an airplane.'   (Sadock 1980: 46)

      b. Péter **u ságot**   olvas.
          Peter   newspaper.ACC   reads
          'Peter is reading a newspaper.'   (Mithun 1984: 47)

      c. I   keng-**winih**-la
          I   eat-medicine-Comp
          'I completed my medicine-taking.'   (Mithun 1984: 48)

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[2] Szabolcsi (1997) in fact splits the pre-verbal Focus position into PredOp and Focus. The former is the position for the restricted set of quantifiers which appear immediately preverbally (rather than in the Topic or Quantifier positions). It is also the unmarked position for bare object nominals and certain verbal prefixes.

d. He **tuna** no roto I nga awa a
a eel T.of inside DO the.PL river and
he **man** no rung I nga maunga
a bird T.of top DO the.PL mountain in the ranges
'There were eels in the river, and birds in the ranges.'

(Chung & Ladusaw 2004: 49)

A number of languages contain a construction in which a V and its direct object are simply juxtaposed to form an especially tight bond. The V and N remain separate words phonologically; but as in all compounding, the N loses its syntactic status as an argument of the sentence, and the VN unit functions as an intransitive predicate. The placement of adverbs reveals the bond between Vs and incorporated objects. To illustrate, note the position of *upac* in the following Kusaien sentences (Lee 1975). It follows the verb in transitive sentences (26a), but in NI structures, the adverb follows the verb-noun complex (26b).

(26) a. Sah el twem upac **mitmit** sac.
Sah he sharpen diligently knife the
'Sah is sharpening the knife diligently.'

b. Sah el twetwe **mitmit** upac.
Sah he sharpen knife diligently
'Sa is diligently knife-sharpening.' (Mithun 1984: 851)

Despite the differences in the degree of formal cohesion between the constituent stems and the differences in terms of discourse, all nominal incorporation constructions share a number of characteristics. It is worth quoting Mithun (1984) in full on the matter:

> In all of them, a V stem and an N stem are combined to form an intransitive predicate denoting a unitary concept. The compound is more than a description; it is the name of an institutionalized activity or state. The IN loses its individual salience both semantically and syntactically. It no longer refers to a specific entity; instead, it simply narrows the scope of the V. It is thus unaccompanied by markers of definiteness or number, or by demonstratives. [...] Since IN's do not refer to specific entities, these constructions tend to be used in contexts without specific, individuated patients. They may be generic statements; or descriptions of on-going activities, in which a patient has been incompletely affected; or habitual activities, in which the specific patient may change; or projected activities, in which the specific patient is not yet identifiable; or joint activities, where an inviddual agent incompletely affects a particular patient; or activities directed at an unspecified portion of mass. (Mithun 1984: 856).

In short, INs are not salient constituents in themselves, whose presence might obstruct the flow of information. They simply ride along with their host Vs. (Mithun 1984: 859). In the turn-taking below from Huahtla Nahuatl a new

entity is first introduced by a non-incorporated nominal, but once it has been introduced and is thus old information, it is incorporated:

(27) A. askeman   ti-'kwa   **nakatl**.
          never   you-it-eat   meat
          'You never eat meat.'

      B. na' ipanima   ni-**naka**-kwa.
          I   always   I-meat-eat
          'I eat it (meat) all the time.'

In the same spirit, Dayal (1999) shows for Hindi that nominal incorporation is possible only if the event is relatively frequent and sufficiently distinct from other similar activities. She gives an example like *cooking by stirring in a hot pan with a little oil* and shows that it has become lexicalized into *stir-fry*, but that while we can conceptualize an event of cooking an egg by putting it in a pan and placing it on hot car engine we would not expect to see a lexical manner of the verb for such events. According to Dayal, the same is true of noun incorporation. She argues that a form of hidden modality is needed in order to capture the intuition about prototypicality voiced by Mithun (1984). It is thus not a lexical property of a particular verb or nominal whether it can participate in incorporation. *Dekhnaa* 'to see', for example, incorporates with *laRkii* 'girl' but not *aurat* 'woman'. Similarly, *bacca* 'child' lends itself to incorporating with a verb like *sambhaalnaa* 'to manage' but not 'to beat'. To paraphrase Dayal, the case is clear with animate objects. *laRkii dekhnaa* 'girl seeing' cannot be used to describe a situation in which one is sitting by the window watching people to go by, some of whom happen to be girls. Rather, it refers to the act of looking for prospective brides with the purpose of arranging a marriage. There is thus a certain amount of idiosyncrasy typically associated with lexical processes. There is no logical reason that *laRkii dekhnaa* should be acceptable but not *aurat dekhnaa* 'woman seeing'.

In the next section, we turn to the discursive behaviour of SNs.

4.2   The Case of Stranded Nominals

In this section, a correlation between the patterns noticed by Obenauer (1994) for *combien* constructions and those that exist in the case of INs is being made. Two things can be said about the semantic properties of SNs. First, they receive what Obenauer (1994) — see also Dobrovie-Sorin (1994) — calls a cardinality reading (interpretation within VP) and what we will call a background topic reading.

As was mentioned at the outset of this paper, according to Obenauer (1994) and Rizzi (2001), the nominal in a *combien* interrogative is interpreted as specific or D-linked when it raises along with the WH operator. On the other hand, when it remains in situ it is focused and receives a so-called

cardinality/quantity reading. The fact that SNs can appear in existential constructions suggest that they are focused elements indeed (see the examples introduced in (22)). In addition, it appears that the SN receives default nuclear stress (cf. Zubizarreta 1998) indicating that the nominal is focused.[3]

(28) **Combien** as-tu   lu   **DE LIVRES** ?
how-many have-you read of   books
'How many books have you read?'

The conclusion we reach from these remarks is that the SN introduces a new discourse referent. However, I want to argue that unlike traditional focused constituents the nominal is not salient, i.e. it is not what the sentence is about. In reply to a question such as (29A), *du poulet* is what the sentence is about. It is in this sense that the constituent *du poulet* is focused.

(29) A. Qu'est-ce   que   tu as   mangé?
what-is-this that   you have   eaten
'What have you eaten?'

B. J'ai   mangé DU   POULET.
I-have eaten   some chicken
'I have eaten CHICKEN.' (capitalized letters for default stress)

In the case of SNs, however, the nominal is not interpreted as a salient entity. Instead, it is relegated to background information. I would like to suggest that a SN is an asserted background nominal in the sense of Chierchia & McConnell-Ginet (2000). Crucially, it is not presupposed, but asserted. This notion will be made more precise below. For the moment, let us examine closely the examples introduced originally by Obenauer (1994) and taken up by Rizzi (2001) that are supposed to show that the in-situ nominal in *combien* constructions is interpreted as non-specific or non-D-linked. Compare (30a) with (30a′), (30b) with (30b′) and (30c) with (30c′).

(30) a. ***Combien   de personnes** penses-tu qui
how-many of persons   think-you that-AGR
tiennent dans une Twingo ?
hold   in   a   Twingo

a′. ?**Combien** penses-tu que **de personnes** tiennent dans une Twingo?
'How many people do you think can fit in a Twingo?'

---

[3] The [*de* N] constituent can be interpreted contrastively, but this is not what is intended here by capitalizing the constituent in question. What we have in mind is simple default stress.

b. ***Combien de torpilles** croit-on   qui
how-many of torpidoes believe-you that-AGR
ont   coulé le   Tirpitz ?
have sunk the Tirpitz

b′. ?**Combien** croit-on que **de torpilles** ont coulé le Tirpitz ?
'How many do you think sank the Tirpitz ?'

c. ***Combien de kilomètres** crois-tu   qui
how-many of kilometers   believe-you that-AGR
séparent Boston de   New York ?
separate Boston from New York

c′. ?**Combien** crois-tu que **de kilomètres** séparent Boston de New
York?
'How many kilometers do you think separate Boston from New
York ?'   (Obenauer 1994: 203)

The primed examples are slightly deviant because of the long distance
relationship. However, they are much better than the raised WH operator +
nominal alternative. The idea, according to Obenauer, is that this is because it
makes no sense for the nominal to be interpreted as specific or D-linked. For
example, (30a) forces a reading according to which the question is about
specific persons and we ask how many of these persons might fit in a Twingo.
But the most natural reading this sentence receives is one according to which
we do not know the people involved; the question is a general question. It
must be said, however, that the non-primed examples have a feel about them
that suggests that they are deviant not because they are ungrammatical, but
because they are not felicitous. If this is true, this means that the specific
versus non-specific dichotomy might not be on the right track, and crucially
that it is not a dichotomy that is part of syntax, but of pragmatics. Let us now
turn to cases where raising of the nominal is supposedly forced.

According to Obenauer (1994) and Rizzi (2001), in some contexts pied-
piping of the nominal together with the WH element is obligatory, because a
specific interpretation is forced.

(31) a. ?**Combien d'hommes** crois-tu   qui   seraient
how-many of-men   believe-you that-AGR be-COND
capables d'escalader   le   Mont Blanc ?
capable of-escalading the Mont Blanc
'How many men do you think could climb the Mont Blanc?'

b. **Combien   de   personnes**   veux-tu   qui
how-many   of   persons   want-you   that-AGR
soient   invitées à   la   fête ?
be-SUBJ   invited   to   the   party
'How many people do you want invited at the party?'

c. ?**Combien   de députés**   crois-tu   qui
how-many   of   MPs   believe-you   that-AGR
voteront   la   motion ?
vote-AGR   the   proposition
'How many MPs do you think will vote the proposition?'

d. ?**Combien   de journaux**   crois-tu   qui
how-many   of   newspapers   believe-you   that-AGR
publieront   cette nouvelle ?
publish-AGR   this   news
'How many newspapers do you think will publish this piece of
news ?'   (Obenauer 1994: 202)

I agree that in these contexts pied-piping of the nominal might be preferred.
However, this is more so in (31a) and (31b) than in (31c) and (31d). It is
important to stress that the nominal is not presupposed, since an answer to the
questions in (31) could in fact all be negative (in the case no one is today
capable of climbing the Mont Blanc, the party has been cancelled, the
proposition will be rejected by all MPs, it turns out, no newspaper will publish
this piece of news, because it is irrelevant, etc.). I suggest that the pied-piped
nominal is a topic, but in the sense of *foreground* or what the sentence is
about. In the literature, *topic* either means 'old', 'presupposed' or 'D-linked'
or it means *background.* I believe that these notions are complementary, i.e.
that there are different kinds of topics. In sum, the notion of topic is not a
unitary notion. In particular, the distinction between *foreground* and
background is relevant in the case of discontinuous structures.

The contention is that a split *combien* construction like that in (32a) is most
appropriate in a context where the nominal is the focus of attention, the topic
under discussion (and of course this *may* involve a D-linked or partitive
context). On the other hand, stranding the nominal is more appropriate in a
context where the nominal is not the focus of attention or the topic under
discussion. To ask a question such as (32b) is therefore to ask a question, not
about specific *books,* but more about the event of reading.

(32) a. **Combien   de livres**   as-tu   écrit ?
how-many   of   books   have-you   written-MAS.PL
www.bataille-des-livres.ch/batlivre/activite/ 2001-
02/atelier/begag/begag03_perso.pdf

> b. **Combien** as-tu   écrit   **de livres** ?
> *how-many have-you written of books*
> http://felix.cyberscol.qc.ca/LQ/auteurD/dube_jas/entrevue.html
> 'How many books have you written?'

Imagine a context according to which a speaker A is asking person B how many books person B has re-read over the summer? (33a) is clearly about a set of books under the focus of attention while in (33b) the focus of attention is not a set of books. Rather, the sentence is asking about the event of re-reading books.

> (33) a. **Combien de livres** as-tu   relus   l'été dernier ?
>   *how-many of books have-you reread the-summer last*
>
> b. **Combien** as-tu   relu   **de livres**   l'été dernier ?
>   *how-many have-you reread of books   the-summer last*
>   'How many books have you re-read last summer?'

The interpretation obtained in (32b) and (33b) resembles the interpretation that one gets with in-situ interrogatives in French (Boeckx 1999; Chang 1997; Cheng & Rooryck, 2000; Mathieu 1999, 2004; Zubizarreta & Vergnaud 2003).

The interpretive divide is very clear in the following attested example. Whereas (34a) is about the event of adopting rats, (34b) is about rats.

> (34) a. **Combien**   adopter   **de rats** ?
>   *how-many   adopt-INFIN of rats*
>   'How many rats should one adopt?'
>   http://lerafu.free.fr/combien.html
>
> b. **Combien de rats** adopter?
>   *how-many of rats adopt-INFIN*
>   'How many (of the) rats should we adopt?'

We can extend to SNs Mithun's (1984) thesis according to which the primary function of noun incorporation is the manipulation of discourse structure and the expression of a conventionalized activity or the background of a given referent. Noun incorporation and nominal stranding thus leads to a thetic statement in the sense of Kuroda (1972) (see also Sasse 1987 and Ladusaw 1994). In-situ interrogatives are thus what we might call thetic questions: they are about an event, not about an entity (the idea of a thetic *question* is novel, but the thetic versus non-thetic distinction is of course well-motivated). Thetic statements assert, but not presuppose the existence of the object talked about. A prototypical example of a thetic sentence is the so-called presentational construction in French, as shown in (35).

(35) Y a   Jean qui   est arrivé   en retard.
      there is Jean that-AGR   is   arrived late
      'Jean arrived late.'

(35) is not about *Jean*, but about the event of Jean coming. (35) contrasts with (36), a categorical statement, which is about an individual, namely *Jean.*

(36) Jean est arrivé   en retard.
      Jean is   come   late
      'Jean arrived late.'

In sum, the idea is that SNs are new topics. They are like shifted topics (in the sense of Aissen 1992), in that they are not given, yet differ from them in that they are not what the sentence is about. They thus share with continuing topics (again in the sense of Aissen 1992) the property of being minus aboutness. Table 1 summarises the differences between shifted, continuing and new topics:

	New	*Old*	*Aboutness*
Shifted topics	+	–	+
Continuing topics	–	+	–
New topics	+	–	–

Table 1

The concept of new topic is extremely closed to that of lower-order topic (cf. Sasse 1984). Lower-order topics are non-prominent entities (backgrounded elements), whereas higher-order topics are prominent (foregrounded elements). Whereas foregrounding highlights the most important information in the sentence (this notion is thus close to that of theme), background information means the less important information under discussion. It is not necessarily old or presupposed or given, and not necessarily unstressed.

   In the next section, a formal account of SNs is given. We give a semantic interpretation to this kind of nominals and argue in particular that the variable they introduce is interpreted below an event variable. This will account for the scope effects noticed in connection with INs and SNs. These scope effects are part of the semantics rather than the pragmatics of these constructions.

5.   A Formal Account

5.1   The Semantics

The aim of the present section is to first briefly review the previous analyses of semantic incorporation and secondly to give an alternative account. Let us

begin with Van Geenhoven's theory of semantic incorporation, which is perhaps the best-known analysis of semantic incorporation.

Van Geenhoven's hypotheses are the following: (i) the IN does not introduce a variable; (ii) neither does it introduce a discourse referent; (iii) the noun denotes only a property P that is absorbed by the predicate and that restricts the argument's variable. This variable denotes, not an individual (type *e*), but a property (type $<e,t>$); (iv) the nominal receives an existential interpretation from the verb. The incorporating verb: (i) introduces a variable corresponding to the internal argument; (ii) introduces a discourse referent; (iii) provides an existential quantifier; existentially binds the argument's variable; incorporates the property denoted by the predicative indefinite (= semantic incorporation).

In other words, INs are indefinites that are 'co-predicates' of the verb (see also Dobrovie-Sorin 1997; Dobrovie-Sorin & Laca 1998; Laca 1996; McNally 1995, 1998, for the same hypothesis applied to Romance languages). Since the existential interpretation of a predicative indefinite comes from the verb, this allows the distinction between constructions such as the one as (37a) versus (37b).

(37) a.   French people eat snails.
           √Generic interpretation/✗Existential interpretation.

      b.   French people ate snails.
           ✗Generic interpretation/√Existential interpretation.

According to Van Geenhoven, there are in fact three different types of verbs: (i) intrinsically incorporating verbs (existential verbs, cf. McNally 1998; McNally & Van Geenhoven 1997); (ii) verbs that are never incorporating (psychological verbs, *I hated lawyers* cannot receive an existential interpretation); (iii) ambiguous verbs (e.g. *eat*).

Van Geenhoven's analysis is purely semantic in that she argues that all narrow scope indefinites are semantically incorporated regardless of the morpho-syntax involved. According to her, not only nouns in incorporating languages are incorporated, but so are bare plurals in Germanic languages, discontinuous topics in German and weak indefinites in sentences like *Everyone read a book* when interpreted under the scope of the universal quantifier. This means that, on her view, nominal incorporation is possible even in the presence of a referential determiner.

To recap, the IN is not interpreted like an argument. It is absorbed by the verb as the predicate of the argument's variable corresponding to the internal argument. (38a) shows the lexical entry for a transitive, non-incorporating verb, whereas (38b) shows the lexical entry for an intransitive, incorporating verb.

(38) a.   λy λx [Verb (x, y)]

b. $\lambda P_{<e,\,t>}\,\lambda x_e\,\exists y$ [Verb (x, y)] ∧ P(y)]

The crucial element in Van Geenhoven's analysis is the change of the verb's type: the incorporating verb takes a property as an argument. The verb is thus a second-order predicate (first-order verbs are intransitive verbs like *sleep, run*). Importantly, on this analysis, the property saturates one of the predicate's arguments.

There are many problems with Van Geenhoven's analysis. One particularity of West Greenlandic is to have a limited series of incorporating verbs. However, this is not the case in other languages (e.g. Hungarian). Besides, some verbs in West Greenlandic also have some transitive uses, that is non-incorporating uses. Since Van Geenhoven rejects the transformational analysis of nominal incorporation (cf. Baker 1988), she must postulate a lexical ambiguity for these verbs, which means we end up with lexical reduplication (this argument is made by Cohen 1999).[4] This is problematic for languages like Hungarian where the amount of verbs that allow nominal incorporation is much larger than in West Greenlandic (cf. Farkas & de Swart 2004).

Second, Cohen (1999) also notes that Van Geenhoven's analysis does not account for the fact that singular indefinites seem to always have wider scope than bare plural nominals (cf. Carlson 1977).

(39) a.   A dog was everywhere.   Wide scope for *a dog*

a′.   Dogs were everywhere.   Low scope for *dogs*

b.   An accident happened today three times. Wide scope for *an accident*

b′.   Accidents happened today three times.   Low scope for *accidents*

c.   Max killed a rabbit for three hours.   Low scope for *a rabbit*

c′.   Max killed rabbits for three hours.   Low scope for *rabbits*

Farkas & de Swart (2004) develop an account that allows a distinction between incorporation of singular and plural bare nouns and that is capable of accounting for the contrasts described in (39).

Third, given that the property introduced by the IN saturates the relevant argument of the predicate, it is difficult to account for examples in which the IN is modified by an adjective.

(40) Esta   nutaa-mik   **aalisagar**-si-v-u-q.
     Esta-ABS fresh-INST.SG   fish-buy-IND-[-tr]-3SG
     'Ester got fresh fish.'   (Van Geenhoven 1998:18)

---

[4] According to Van Geenhoven (1998), INs are base-generated in the position they surface in.

The problem is that the adjective and the IN are both predicates of the same variable: at the point of the concatenation of the verb and the nominal, the predicate is saturated when it comes to the variable corresponding to the theme. Then, it is impossible to continue the semantic interpretation and to compose the verb (and the incorporating nominal) with the adjective.

The tentative solution Van Geenhoven proposes relies on a *recomposition strategy* according to which the complex verb (verb + incorporated verb) is decomposed, then recomposed. The idea is that we have to go one step back in the Logical Form. Before the incorporation of the nominal, the principle consists in modifying the semantic type of this nominal: from type $<e, <e,t>>$ (it is a property), the noun becomes type $<<e,t>,<e,t>>$ (which is the type of modified elements). In parallel the verb changes its type so that it is compatible with the new type of its modified argument. This operation is rather costly and it is not even clear that such a backtrack operation is desirable in the grammar or even possible. For example, what consequences would it have for compositionality? How would it be constrained? (see Chung & Ladusaw 2004 for a critique).

Fourth, according to Dayal (1999), the syntactic visibility of the IN in Hindi makes it difficult to locate the existential quantifier in the lexical component. As the examples in (25) show there seems to always be a syntactic effect associated with nominal incorporation. For instance, as we have seen, some languages use a special pre-verbal position, while others use a special post-verbal position.

Another problem for Van Geenhoven's account concerns the phenomenon of 'doubling' (Mithun 1984). Doubling is when the IN is doubled by a DP. The following example is from Chamorro.

(41) Gäi-ga'   **un ga'lagu** ennao na patgun.
     AGR.have-pet a   dog   that   L child
     'That child has a pet dog.'   (Chung & Ladusaw 2004: 124)

In (41b), the predicate is the existential verb *gäi* and the IN is *ga'* 'pet'. The doubled NP is *ga'lagu* 'dog'. Doubling of this sort has an effect that resembles the one obtained in the following two English examples.

(42) a.   Mary is newspaper-reading the Times.

     b.   John pet-has a dog.

Chung & Ladusaw (2004) — like Farkas & de Swart (2004) — argue that the additional noun is an argument and not an adjunct. If the doubled nominal is indeed an argument, then the problem for Van Geenhoven is that the property denoted by the IN saturates the predicate. The latter is no longer available for further composition. Thus, doubling remains unaccounted for under such an analysis. However, if the added nominal is an adjunct, then the problem

disappears. For example, Carlson (2003) argues that in Mohawk the additional NP is not an argument, but an adjunct and that the construction is rather rare.

Finally, I would like to add that ideally it is best to stick to a classical account of indefinites where indefinites introduce an existential quantifier. This means that the idea that indefinites introduce a variable *à la* Heim or a property *à la* Van Geenhoven should be abandoned. In addition, type-shifting, which is a costly operation, and flexible-type theory in general should be dispensed with. As we will demonstrate an event semantics and indefinites as existential quantifiers together with a predicate logic with anaphora (*à la* Dekker 2002) can do all the work. We will sketch such a classical view of indefinites and its possible extension to INs below, but before that let us continue with the various accounts of semantic incorporation that are available in the literature. The reason for this comparison of analyses is to gradually introduce our own account and to get to the heart of the matter, event semantics.

Formally, Dayal proposes like Van Geenhoven (1998) that initially the IN denotes a property ($<e,t>$). However, whereas Van Geenhoven postulates ambiguity of the verb (incorporating verb versus non-incorporating verb), Dayal proposes that via type-shifting the noun comes to denote an entity of type *e*. The type of the verb is thus maintained constant. Dayal further proposes that in incorporating structures the theme is suppressed (this explains why an incorporating noun does not introduce a discourse referent in Hindi). In order to account for the prototypicality mentioned above she introduces an implicit modality in the semantic representation: the event must receive a particular interpretation, namely the description of a routinized event. (43a) is the logical representation for a non-incorporating verb whereas (43b) is the representation for an incorporating verb.

(43) a. $\lambda x \lambda y \lambda e$ [V(e) & Ag(e)=y & Th(e)=x]

b. $\lambda P_{<e,t>} \lambda y \lambda e$ [P-V(e) & Ag(e)=y & Appropriately-Classificatory(e)]

The interesting components of Dayal's analysis is that she introduces an event variable in the semantic representation. This allows a proper account of the thetic feel to incorporating structures (and for us of stranded elements as well). However, like Van Geenhoven, the IN denotes a property and the account relies on flexible-types. The difference with other competing analyses of semantic incorporation is that Dayal argues the theme is suppressed.

Chung & Ladusaw (2004) propose two modes of composition of predicates with their arguments, Restrict and Specify, the first of which is new. Restrict has the particularity of modifying one of the arguments of the predicate without saturating it. This means that the argument in question is available for a further mode of composition, namely Specify. On this view, the doubling phenomena discussed above can be easily accounted for (see example (41)).

Like other analyses, a nominal starts by denoting a predicate of type $<e,t>$. Of course, there is incompatibility of types when a predicate selects a argument of type e. In this case, the operation Specify together with choice functions applies. The use of choice functions implies a type shift. The choice function takes an expression of type $<e,t>$ to return an expression that corresponds an expression of type e (FA = Function Application).

(44) FA ($\lambda x \lambda e$ [bark′$(x)(e)$]), CF([dog′(y)]))
       $= \exists f \exists e$ [bark′$(f$(dog′)$(e))$])

We get to the last part of the interpretation after the existential closure of the event variable and of the functional variable. Specify saturates the argument on which it operates. The lambda index is gone and thus the argument is no longer available for another mode of composition. Note that the function is existentially closed above the event.

As for Restrict, the idea is that the variable that corresponds to the theme is restricted by the property for this variable. This means that the variable in question is always bound by a lambda, although there is a change in the position of the lambda operator, this to signal that the argument has been operated on by concatenation. Next, the operator lambda is eliminated by an existential quantifier that binds the variable in question. To illustrate, consider the following example, *dog* is a noun that denotes a property and that composes with the predicate *feed* by Restrict and *John* is an expression that denotes an entity.

(45) a. John **dog**-fed.

      b. FA(Restrict ($\lambda y \, \lambda x \, \lambda e$ [feed′$(y)(x)(e)$], dog′), j)
          = FA($\lambda x \, \lambda y \, \lambda e$ [feed′$(y)(x)(e) \wedge$ dog′(y)], j)
          = $\lambda y \lambda e$[feed′(y)(j)$(e) \wedge$ dog′(y)]

(46) a. EC(EC($\lambda y \, \lambda e$[feed′(y)(j)$(e) \wedge$ dog′(y)]))

      b. = $\exists e \exists y$[feed′(y)(j)$(e) \wedge$ dog′(y)]

As for the scope of INs versus non-incorporated nominals, INs receive a wide scope because a choice function is existentially quantified (Chierchia 2001; Matthewson 1999; Reinhart 1998; Winter 1997). For INs, one must note that once one arrives at the argument's variable, all the arguments of the predicate that have not been saturated must be existentially closed. The argument y is existentially closed under the scope of the event scope. Since the nominals introduced by the mode of composition restrict are existentially closed under the event, they automatically receive low scope.

I would like to build on Chung & Ladusaw's (2004) proposal and adopt their idea that in an incorporating structure the argument variable is interpreted above the argument's variable corresponding to the theme. To illustrate, in the

following example, *x* corresponds to *un homme* (a man) and *y* to a number of books.

(47)　a.　$\lambda x \lambda e \lambda y$ [Verb (x,y)(e) $\wedge$ P(y)]

　　　b.$\rightarrow \exists x \exists e \exists y$ [Verb (x, y)(e) $\wedge$ P(y)]

　　　c.　**Combien**　un homme　a-t-il　　lu　　**de livres** ?
　　　　　how-many　a　man　　has-he　read　of　books
　　　　　'How many books has a man read?'

Note that event variable, which has been introduced as part of our ontology, is existentially quantified. This is the option for cases where the discontinuous structure is interpreted neither generically or habitually. We can take this case as the default case. When the structure is interpreted generically, the event variable is bound by a generic operator (this is the analysis for the example in (23)).

(48)　$\exists x \text{GEN} e \exists y$ [Verb (x, y)(e) $\wedge$ P(y)]
　　　Combien　existe-t-il **de types de porphyrie** ?
　　　how-many　exists-it　of　types　of　porphyria
　　　'How many types of porphyria exist?'
　　　http://www.porphyria-europe.com/FR/00-Info_Patients/question-03.asp

In the case where the discontinuous construction is associated with a habitual reading ('habitual' indicates that the action is repeated on a number of occasions, or is performed on a regular basis), the event variable is bound by a habitual operator (a kind of frequency adverb).

(49)　$\exists x \text{HAB} e \exists y$ [Verb (x, y)(e) $\wedge$ P(y)]
　　　Combien lis-tu　　**de livres** pendant　les　vacances d'été?
　　　how-many read-you of　books　during　　the　holiday　of-summer
　　　'How many books do you read during the summer holiday?'

As argued by Van Geenhoven (1998), semantic incorporation is impossible with some predicates — for example, psychological verbs and predicates such as *quite common* and *rare*. By way of illustration, the example in (48a) can only be interpreted generically; it cannot receive an existential interpretation. (48b) and (48c) show that existentials such *parts of this machine* and *dogs that are sitting here* cannot combine with individual-level predicates like *quite common* and *rare*.

(50)　a.　I hate/hated lawyers.

　　　b.??Parts of this machine are quite common.

　　　c.??Dogs that are sitting here are rare.

It must be noted that semantic incorporation is not impossible with all individual-level predicates. By definition, individual-level predicates describe

permanent properties or properties that independent of the context. Following Carlson (1977), Chierchia (1995) distinguishes between three types of individual level predicates: (i) psychological verbs like *love, hate, adore;* (ii) nominal predicates such as *to be a mammal*, *to be a doctor* or *to have blue eyes*; (iii) adjectival predicates such as *to be intelligent*, *to be tall* or *to be blond*. Incorporation in West Greenlandic appears to be impossible with (i), but possible with (ii).

Of particular interest to us is that some individual-level predicates are odd with split *combien* constructions while others are perfectly OK. In this respect, we differ from Obenauer's (1994) claim according to which individual-level predicates are all fine with split *combien* constructions.

(51) a. **Combien** le critique a-t-il apprécié **de films** ?
   how-many the critic has-he appreciated of films
   'How many films has the critic appreciated?'

   b. **Combien** a-t-il possédé **de tableaux** ?
   how-many has-he own of paintings
   'How many paintings has he owned?'   (Obenauer 1994: 129)

The following two examples are attested examples.

(52) a. **Combien** possedez vous **de dvd** ?
   how-many own you of dvd
   'How many DVDs do you own?'
   http://forum.rue-montgallet.com/ruemontgallet/DVD/sujet-23-1.htm

   b. **Combien** possèdes-tu **d'appareils différents**
   how-many own-you of-machines different
   pour écouter de la musique ?
   for listen-INF of the music
   www.esigge.ch/primaire/2-objets/3musique/ 4complem/0complement.htm

Splitting is odd, however, with predicates like *préférer* 'prefer' or *connaître* 'know', as shown in (53a) and (53b).

(53) a.?***Combien** connais-tu **de langues** ?
   how-many know-you of languages

   a' **Combien de langues** connais-tu ?
   'How many languages do you know?'

   b.?***Combien** préfères-tu **de gâteaux** ?
   how-many prefer-you of cakes

   b' **Combien de gâteaux** préfères-tu ?
   'How many cakes do you prefer?'

I suggest that these contrasts arise because some, but not all, individual predicates introduce an event variable. In the literature, the term 'event', which Davidson (1980) originally used for the extra event argument in a sentence with an action verb, usually stands in for 'eventuality', which Bach (1986) defined as covering 'states, processes, and events'. On this view, all individual-level predicates introduce an event (of some kind). Another view, that of Kratzer (1989), is that only stage-level predicates, but not individual ones, contain an event variable. The view defended in this paper is thus a kind of a third-way view, where some but not all individual-level predicates introduce an event variable.

Interestingly, the kind of presentational sentences introduced in (35) are impossible with (some) individual-level predicates. This confirms the thetic statement of split interrogatives. The pattern are described for Québec French by Côté (1998).

(54) a. *Y a   Marie qui   est intelligente.   (no focus on *Marie*)
         there is Marie that-AGR is   intelligent
         'Marie is intelligent.'

     b. *Y a   Jean   qui   aime Montréal.   (no focus on *Jean*)
         there is Jean   that-AGR love Montréal
         'Jean loves Montreal.'

Based upon the above facts, Côté (1998) claims that sentences such as those in (54) do not assert the existence of an individual but that of an event, and that the reason why only stage-level predicates are allowed can be accounted for by Kratzer's (1989) hypothesis that only stage-level predicates, but not individual ones, contain an event variable, given the assumption that the existential operator in the existential construction can quantify over either event variables or individual ones. It must be noted, however, that *some* individual predicates can occur in presentational constructions, as witnessed by (55).

(55) Y a   Jean   qui   possède plein de DVD.
     there is Jean   that-AGR owns   lots   of dvd
     'Jean owns lots of DVDs.'

Turning now to the semantic representation for the non-incorporating structure, I argue that there is no need for the choice function mechanism postulated by Chung & Ladusaw. I follow Dekker's (2002) idea that indefinites introduce an existential quantifier as in the classic theory of indefinites. On this view, anaphoric relations are stated in the semantics, hence the name of the proposal *Predicate Logic with Anaphora.*

(56) a. $\lambda x \, \lambda y \lambda e \, [\text{Verb} \, (x,y)(e)]$

     b. $\rightarrow \exists x \exists y \exists e \, [\text{Verb} \, (x, y)(e)]$

   c. **Combien   de livres** un homme a-t-il   lu ?
       how-many of books   a man   has-he read
       'How many books has a man read?'

The present analysis of SNs is very similar to the analysis proposed by Carlson (2003) for incorporated objects. Carlson reduces Diesing's (1992) Mapping Hypothesis, which bears on the syntactic contribution to the semantics partition of quantificational structure, to the semantics. This is achieved by the appeal to event semantics. However, there is a syntactic residue to which we turn in the next section.

5.2   A Syntactic Residue

In previous work (Mathieu 2004), I analysed SNs as semantically incorporated *à la* Van Geenhoven. I argued that the predicate introduced by the stranded indefinite is absorbed by the verb as the predicate of that verb's internal argument's variable. The valence of the verb which incorporates the noun is reduced by one. The transitive sentence becomes intransitive which means that the nominal is dethematized semantically (the theme or patient has been absorbed), and pragmatically, the noun is non-prominent. As noted above in the text, Van Geenhoven's analysis is purely semantic and does not correlate semantic incorporation to morpho-syntactic properties of the objects involved. No attempt on my part was made to motivate a morpho-syntactic correlate to the semantic incorporation analysis of SNs.

    However, I have come to notice that there is evidence for the idea that stranding of the nominal has a syntactic effect. Evidence from the placement of adverbs suggests that there is dedicated syntactic position for stranded/incorporated nominals in split constructions. The adverb *souvent* 'often' can be placed post-verbally, as shown in (57a), or pre-verbally as in (57a′) — although the second option is irrelevant for us, and is shown only for the sake of completeness — but when the nominal is stranded the adverb can no longer be placed post-verbally, as demonstrated by (57b). The adverb can, of course, also be placed pre-verbally, as shown in (57b′).

(57) a. **Combien   de livres** as-tu   lu   souvent ?
        how-many of books   have-you read   often

    a′. **Combien de livres** as-tu souvent lus?

    b.?***Combien**   as-tu   lu   souvent **de livres** ?
        how-many have-you read   often   of books

    b′. **Combien** as-tu souvent lu **de livres** ?
        'How many books have you often read?'

We know independently that in French it is perfectly acceptable to have an adverb between the verb and the object, since the verb has raised to Infl (Pollock 1989).

(58) J'ai lu souvent des livres de Zola.
I-have read often some books of Zola
'I have often read Zola's books.'

The fact in (44b) suggests that there is a special postverbal position in French for new topics/INs. In this respect, French resembles Kusaien (recall that in that language a special post-verbal position is used for incorporated objects and that the V and the N remain separate words phonologically).

Another possibility is that the nominal has raised higher in the clause to a position adjacent to that of the verb, but that its movement has been masked by verb movement in the T domain. Suppose the verb is in Tense, then the nominal must be higher than vP but below Tense (Case-checking has been achieved via a specifier of vP overtly, via successive movement). If the nominal had remained in its canonical object position, then we would expect an adverb could intervene between the verb and the nominal (Case-checking would in this case be via Agree, and no overt movement would be necessary). The position the SN moves to might be a topic position. However, this topic position must be a different one from the IP extended domain. If this is true, then Belletti's (forthcoming) idea that internal topics are interpreted like external topics must be wrong. Let me explain.

The split-CP hypothesis put forward by Rizzi (1997), and further developed by Poletto (2000), Benincá (2001), and Benincá & Poletto (to appear), has been very influential in recent years. It pertains to the view that the external area of IP is far richer than presumably thought. Very much in the spirit of Pollock (1989), who split IP in a series of distinct functional projections, the CP is now decomposed in several layers, one of which being a Focus projection. The Focus projection is unique and topic positions are folded around it. According to Rizzi, topic, unlike focus is recursive: more than one topic can be appear in the sentence and the order of these topic elements is free. On the other hand, Benincá & Poletto have recently argued that there are dedicated positions for Topic(s) in the left periphery of the clause (e.g. a position for Hanging Topics, one for Left Dislocated topics, etc.). Haegeman (2004) argues that there are differences between Germanic and Romance languages.

Another trend has recently flourished: Belletti (to appear) argues that the area immediately above VP also contains a Focus position surrounded by Topic positions (see also Belletti & Shlonsky 1995 and Cecchetto 1999). On this proposal, the internal Focus position is associated with a different interpretation from that of the external position (contrastive focus for the external position vs. informational focus for the internal position). On the

other hand, it is suggested that the topic interpretation is uniform in both peripheries and is assimilated to 'given', 'known', 'non-focus' interpretation.

Based on the French data involving *combien* constructions and following the logic developed in the last two paragraphs, we might conclude, *contra* Belletti, that internal topics are interpreted differently from the external ones. However, it remains to be established whether there is indeed a position to left periphery of *v*P for the kind of topicalized elements that were described in this paper. This position might correspond to the pre-verbal position found in Hungarian for incorporated elements. But since in Hungarian the verb surely must also like French be raising to the T domain, the putative masking effect found in French is almost quite possibly on the wrong track, leaving the special postverbal position the only feasible alternative.

One final question that arises is the status of *de* in split *combien* constructions. I would like to argue that it is an expletive/deficient determiner and not a referential determiner (see also Heyd 2003 for *de* N structures in negative contexts). French SNs have thus the property of both Maori (a special determiner) and Kusaien where a special post-verbal position is used for incorporated objects.

6.   Conclusion

To conclude, stranded nominals in split constructions share many syntactic and semantic properties with incorporated nominals. They involve a specific post-verbal position, a non-referential determiner, and introduce a variable that is interpreted VP internally/under the event variable. The stranded nominal is an asserted background topic and questions that involve the splitting of a nominal from the operator with which it is normally contiguous are thetic interrogatives: they are about an event, and not about particular entities. It was shown that the notion of specificity or D-linking for the raised nominal is too strong while on the other hand it was argued that the stranded nominal is not a focused element: it does not introduce a foregrounded entity.

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Abstract

Chicheŵa, a Bantu language of East Central Africa, displays mixed properties of configurationality such as the existence of VP, on the one hand, and discontinuous constituents (DCs), on the other. In the present work we examine the discourse and syntactic properties of DCs, and show that DCs in Chicheŵa arise naturally from the discourse-configurational nature of the language. We argue that the fronted DCs in Chicheŵa are contrastive topics that appear in a left-dislocated external topic position, with the remnant part of the split NP in the right-dislocated topic position. Once the precise discourse functions of DCs are properly integrated into the syntactic analysis, all the facts and restrictions observed in Chicheŵa DCs can be explained in a straightforward fashion.

1 Mixed (Non-)Configurational Properties in Chicheŵa

Bantu languages display rich verbal agreement morphology comprising 16-18 noun classes that cross-reference the verb's core arguments (subject and primary object). As might be expected given such a elaborate system of noun classes, they exhibit properties of non-configurationality, but only partially. For example, the example in (1a) illustrates the unmarked word order (SVO) in a transitive sentence in Chicheŵa (Mchombo 2002). Here, the verb stem obligatorily inflects for the subject marker (SM) *zi-*, which agrees in the relevant ϕ-features with the subject NP *njuchi* 'bees'. The obligatory verbal agreement with the subject NP allows for relative freedom of word order, as illustrated in (1b).

(1) a.   SVO: Njûchi zi-ná-lúm-a   alenje.   Chicheŵa
            10bees 10-PAST-bite-INDIC 2hunters
            'The bees bit the hunters.'

     b.   VOS: Zinálúma alenje njûchi.

Objects in Chicheŵa, on the other hand, are licensed configurationally inside VP. Thus, unlike the subject NP, whose ordering is relatively free, the object NP must be immediately postverbal. As shown in (2), any other patterns of word order are ungrammatical (Bresnan and Mchombo 1987: 744–745).

(2) a.   OVS: *Alenje   zi-ná-lúm-a   njûchi.
            2hunters 10-PAST2-bite-INDIC 10bees

     b.   VSO: *Zinálúma njûchi alenje.

     c.   SOV: *Njĉhi alenje zináluma.

    d.   OSV: *Alenje njûchi zináluma.

The non-VO orders are permitted only with the presence of an object marker (underlined), as shown in (3).

(3)   a.   SVO: Njûchi zi-ná-<u>wá</u>-lúm-a   alenje.
              bees   SM-PAST-OM-bite-INDIC hunters
              'The bees bit them, the hunters.'

    b.   VOS: Ziná<u>wá</u>lúma alenje njûchi.

    c.   OVS: Alenje ziná<u>wá</u>lúma njûchi.

    d.   VSO: Ziná<u>wá</u>lúma njûchi alenje.

    e.   SOV: Njĉhi alenje ziná<u>wá</u>luma.

    f.   OSV: Alenje njûchi ziná<u>wá</u>luma.

As argued thoroughly and conclusively by Bresnan and Mchombo (1987), these word order facts can be explained by the following assumptions: (i) the subject marker (SM) is functionally ambiguous between grammatical agreement and topic-anaphoric agreement; and (ii) the object marker (OM) is unambiguously used as a pronominal argument. Thus, as grammatical agreement, the verbal agreement with a clause-internal subject NP is obligatorily present, as in (1). The assumption in (i) that the SM can also function as a pronominal argument is verified by examples like that in (4), where the formally identical SM functions as a topic-anaphoric pronoun.

(4)   Zi-na-wá-lúma.
       10SM-PST-2OM-bite
      'They (bees) bit them (hunters).'

The SM as a pronoun can also be the antecedent for the reflexive, as illustrated in (5).[1] In (5a) the reflexive *dzi* is locally bound to its antecedent *mikango*. In (5b) the reflexive still has the nominal *mikángo* as its antecedent. However, the antecedent is not within the local domain. It is the SM in the embedded clause that is in an anaphoric relation with the nominal *mikángo* 'lions'.

(5)   a.   Mikángo í-ma-dzi-kánd-a.
          4lion   4-hab-refl-scratch-fv
          'Lions scratch themselves.'

---

[1]In many Bantu languages the reflexive morpheme is invariant, and it appears in the morphological position of the OM.

    b.   Mikángo i-ku-úz-á   anyáni kutí sí-í-ku-fún-á   kutí
            4lion   4-pres-tell-fv 2baboon that NEG-4-PRES-want that
            njovu   z-dzíw-é   kutí í-ma-dzi-kánd-a.
            10elephant 10-know-SUBJN that 4-HAB-REFL-scratch-fv
            'The lions are telling the baboons that they don't want the elephants
            to know that they (lions) scratch themselves.'

Hale (1983) identifies three major properties associated with non-configurationality: (i) free word order, (ii) null anaphora, and (iii) the existence of (syntactically) discontinuous expressions. By 'null anaphora', Hale refers to the 'situation in which an argument (e.g. subject, object) is not expressed by an overt nominal expression in phrase structure' (Hale 1983:40). This is illustrated in examples like that in (4) for Chicheŵa. As already mentioned, the fact that the verbal agreement morphology also functions as a pronominal argument (in the case of the SM) allows for the freedom of word order (for the subject). There are also instances of discontinuous expressions, as we discuss in the remainder of this paper. In this sense, Chicheŵa (and Bantu in general) might be viewed as at least partially non-configurational. As it turns out, these non-configurational properties are always closely tied to the *discourse*-configurational nature of this language family, in which there are designated structural positions for discourse elements such as topic and focus. It is these discourse-related properties of referents that allow them to be freely displaced from their canonical syntactic positions. As discussed below, we see this not only at the sentential level, but also in the nominal domain, in which such discourse-driven restructuring results in discontinuous expressions.

The discussion in the rest of the paper proceeds as follows. In section 2 we present data on discontinuous constituents in Chicheŵa and provide a brief critical review of previous analyses of DCs. In section 3, we establish the discourse basis for our analysis of Chicheŵa DCs; and in section 4 we offer a structural analysis based on the crucial distinction between internal and external topic, the precise discourse properties of split NPs, and their structural correlates. The final section summarizes our discussion.

2   Discontinuous Constituents

The noun class concord in the verbal domain is also quite extensive in the nominal domain, as exemplified in (6). In (6a), the constituents of the complex NP meaning 'these foolish hunters' all agree with the noun class of the head (class 2). In (6b) the head noun *mikángó* 'lion' is class 4, and the modifiers also must agree.

(6)   a.   Njúchí izi   zi-ná-lúm-á álenje awa   ópúsa.
            10.bees 10prox.dem 10-PST-bite-fv 2-hunter 2prox.dem 2-foolish

'These bees bit these foolish hunters.'

    b.   Mikángó i-tátu i-ná-gúmúl-á   makólá ónse a-náyi.
          4lions   4three 4PST-pull.down-fv 6corrals all   6four
          'Three lions pulled down all the four corrals.'

Although parts of these complex NPs typically occur together with the head noun,[2] it is possible, to split these nominal constituents although this option is restricted. Example (7a) shows the canonical NP structure in Chicheŵa. As shown, it exhibits a strict head-initial structure with Head-Demonstrative-Adjective order. The examples in (7b)-(7f) show various patterns of discontinuity of that NP (boldfaced).

(7)   a.   Njúchií izi   zi-ná-lúm-á   **álenje awa**
            10.bees 10.PROX.DEM 10-PST-bite-FV 2.hunter 2.PROX.DEM
            ópúsa.
            2-foolish
            'These bees bit these foolish hunters.'   . . . [H D A]

    b.   **awa** njúchií izi zi-ná-<u>wá</u>-lúm-a **álenje ópúsa**.   D . . . [H A]

    c.   **álenje** njúchií izi zi-ná-<u>wá</u>-lúm-a **awa ópúsa**.   H . . . [D A]

    d.   **álenje awa** njúchií izi zi-ná-<u>wá</u>-lúm-a **ópúsa**.   [H D] . . . A

    e.   **awa ópúsa** njúchií izi zi-ná-<u>wá</u>-lúm-a **álenje**.   [D A] . . . H

    f.   **álenje ópúsa** njúchií izi zi-ná-<u>wá</u>-lúm-a **awa**.   [H A] . . . D

    Note that all the instances of discontinuity of the object NP above are accompanied by the presence of the OM that is coreferential with the whole NP, regardless of which part of the object NP (head or modifier) is discontinuous. Without the OM the examples are ungrammatical:

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[2]The integrity of the complex NPs in (6) can be shown by their occurrence in displaced positions such as passive, topicalization, and cleft (see Kathol and Rhodes 2000 for relevant observations).

(i)   a.   Álenje awa   ópúsa a-ná-lúm-ídw-á   ndí njúchí izi.
          2hunter 2prox.dem 2foolish 2-PST-bite-PASS-fv by 10bees 10prox.dem
          'These foolish hunters were bitten by these bees.'

    b.   Ndi makólá ónse anáyi améné mikángó itátu   íná-gúmúl-á.
          COP 6corrals all   6four 6replo 4lion   4three 4-PST-pull.down-fv
          'It was all the four corrals that the three lions pulled down.'

(7′)   b′.   ***awa** njúchií izi zi-ná-∅-lúm-a **álenje ópúsa**.

     c′.   ***álenje** njúchií izi zi-ná-∅-lúm-a **awa ópúsa**.

     d′.   ***álenje awa** njúchií izi zi-ná-∅-lúm-a **ópúsa**.

     e′.   ***awa ópúsa** njúchií izi zi-ná-∅-lúm-a **álenje**.

     f′.   ***álenje ópúsa** njúchií izi zi-ná-<u>wá</u>-lúm-a **awa**.

The presence of the OM is crucial in that those NPs that cannot be cross-referenced by the corresponding OM (or SM) cannot be discontinuous. For example, an instrumental phrase like *ndí makású awa óbúntha* 'with these blunt hoes' in (8) in a non-applicative construction cannot be discontinuous.

(8) a. Mikángó yókálamba i-ná-zí-gúmúl-a   **ndí makású**
         4lion   4aged   4SM-PST-10OM-demolish-fv with 6hoe
         awa   óbúntha nkhókwe.
         6these 6blunt   10granary
         'The aged lions pulled down the granaries with these blunt hoes.'

    b. ***Awa   óbúntha** mikángó yókálamba i-na-zí-gúmúl-a
         6these 6blunt   4lion   4aged   4-PST-10OM-demolish-fv
         ndí mákásu nkhókwe.
         with 6hoe   10granary

Chicheŵa exhibits object asymmetry (see Alsina and Mchombo 1993; Bresnan and Moshi 1990; Ngonyani 1998). In an applicative construction, only the applied object has the properties associated with the primary object. For example, in (9), only the beneficiary object introduced by applicative *mikángó yókálamba* 'aged lions', and not the theme object *makású awa óbúntha* 'these blunt hoes', can be in anaphoric relation with the incorporated pronominal object.

(9) a. Anyání a-na-í-gúl-íl-á   makású awa   óbúntha
         2baboon 2-PST-4OM-buy-APPL-fv 6hoe   6these 6blunt
         mikángó yókálamba.
         4lion   4aged
         'The baboons bought (for) them these blunt hoes, (for) the aged lions.'

    b. *Anyání a-na-wa-gúl-íl-á   mikángó yókálamba makású
         2baboon 2-PST-6OM-buy-APPL-fv 4lion   4aged   6hoe
         awa   óbúntha.
         6these 6blunt
         [Intended as:] 'The baboons bought them for the aged lions, these blunt hoes.'

The examples in (10) show that only the applied beneficiary, and not the theme object, can be discontinuous.

(10) a. **Yókálamba** anyání a-na-í-gúl-íl-á makású awa
4aged 2baboon 2-PST-4OM-buy-APPL-fv 6hoe 6these
óbúntha **mikángó**.
6blunt 4lion
'The baboons bought the aged lions these blunt hoes.'

b. *__Awa__ óbúntha anyání a-na-wa-gúl-íl-á **makású**
6these 6blunt baboon 2-PST-6OM-buy-APPL-fv 6hoe
mikángó yókálamba.
4lion 4aged

Similarly, the oblique agent in a passive sentence cannot be cross-referenced by an OM and hence resists discontinuity, as shown in (11).

(11) a. Mikángó i-na-ph-édw-á ndí **alenje awa ó-dzí-kónd-a**.
4lion 4-PST-kill-PASS-fv by 2hunter 2these 2-REFL-love-fv
'The lions were killed by these selfish (self-loving) hunters.'

b. *__Ó-dzí-kónd-a__ mikángó i-na-ph-édw-á ndí **alenje awa**

c. *__Awa__ mikángó i-na-ph-édw-á ndí **alenje ó-dzí-kónd-a**

As expected from the obligatory presence of the topic-anaphoric OM with a discontinuous object NP, the DCs receive a topic interpretation. More precisely, our preliminary inquiry into discourse contexts of various instances of DCs suggests that the fronted element is often a contrastive topic equivalent to a left-dislocated topic, rather than simply given information, or continuing topic. Given the analysis of the Chicheŵa OM as a topic-anaphoric pronoun, the fact that the OM is required when part of the object NP is discontinuous shows that at least the fronted discontinuous part of the NP must be outside the minimal clausal domain.

In short, the discontinuous examples presented above share the following basic characteristics: (i) DCs in Chicheŵa occur clause-initially; and (ii) clause-initial DCs receive contrastive topic interpretation and require an anaphoric pronoun on the verb corresponding to the whole NP. The observation in (i) that DCs appear in the clause-peripheral position seems to be true for a majority of languages that allow such split NP construction (see Baker 1996 for polysynthetic languages; Dahlstrom 1987 for Algonquian languages in particular). Given that in many languages, clause-initial position is reserved for discourse-related elements such as topic and focus, the observation in (i) lends itself well to another aspect noted in (ii): that fronted DCs receive topic interpretation. In fact, we will show that 'topicalizability' is a precondition for any constituent to be discontinuous (at least in Bantu). As argued by Bresnan and Mchombo (1987), the Chicheŵa object marker is employed only as a pronominal argument anaphoric

to a floating topic outside the minimal clause nucleus (S/IP), never as grammatical agreement to a non-topical (clause-internal) NP. The observation in (ii) is therefore confirmed by the morphosyntax as well. In previous generative studies of DCs (e.g. Baker 1996, Jelinek 1984, Speas 1990), however, relatively little attention is given to the discourse function of DCs.

There is nonetheless some important work that recognizes the role of information structure in split constituents in general: Reinholtz (1999), for example, argues that clause-initial DCs in Swampy Cree have the discourse function of Focus, and that more generally, the Swampy Cree split NP construction has 'all of the hallmarks of *wh*-movement in so-called configurational languages' (p.202) in that '... both movement types show the ability to span several clauses, a limited application in relative clauses or embedded questions, and an inability to move any material out of adverbial constituents' (p.218). Reinholtz therefore argues that DCs arise as a result of *wh*-movement.

Fanselow (2001) examines split XP constructions in general, such as split VPs as in (12) and split DPs as in (13) in German.

(12)   **Keine Bücher** hat er [__ gelesen].
        no   books   has he   read

(13)   **Schrecklicher Morde   an Studenten** ist er **vieler** beschuldigt
        horrible   murders at students   is he many   accused
        worden.
        been
        'He has been accused of many horrible murders of students.'

Fanselow argues that such split XP constructions are generally associated with a particular pragmatic structure: 'in a split construction, the right part of XP must be focal, while the lefthand part may be a (link-)topic or a second focus' (p.85). Although the precise pragmatic nature of the fronted elements still deserves further discussion, these studies nonetheless suggest that the discourse-pragmatic functions of split constructions must be part of any analysis.

Two other observations are relevant for our analysis of the syntax of Chicheŵa DCs. First, regardless of the position, the ordering of *contiguous* elements is fixed – H(ead) > D(emonstrative) > A(djective) – as shown by the contrast between (7) and (14).

(14)   a.   *Njúchií izi zi-ná-lúm-á **awa álenje ópúsa**.   *... [D H A]

        b.   ***awa** njúchií izi zi-ná-<u>wá</u>-lúm-a **ópúsa álenje**.   *D ... [A H]

        c.   ***álenje** njúchií izi zi-ná-<u>wá</u>-lúm-a **ópúsa awa**.   *H ... [A D]

        d.   ***awa álenje** njúchií izi zi-ná-<u>wá</u>-lúm-a **ópúsa**.   *[D H] ... A

e. ***ópúsa awa** njúchií izi zi-ná-<u>wá</u>-lúm-a **álenje**.   *[A D] . . . H

f. ***ópúsa álenje** njúchií izi zi-ná-<u>wá</u>-lúm-a **awa**.   *[A H] . . . D

The ordering restriction on the fronted elements suggests that they form a single constituent. This need not always be the case, however. For example, when the subject NP is left-dislocated, it can come between the two parts of the object DCs, as in (15). In such cases, these discontinuous parts of the object NPs may come in any order, each forming a separate constituent: as shown in (15), the canonical head-modifier ordering *mikángo (lion) ó-kálamb-a (aged)* is not maintained.

(15)   **Yó-kálamb-a** anyaní   **mikángo** a-na-í-gúl-íl-á   makású
        4aged   2baboons 4lion   2-PST-4-buy-APPL-fv 6hoes
        awa   ó-búnth-a.
        6these 6-blunt-fv
        'The aged lions$_j$, the baboons$_i$, they$_i$ bought them$_j$ these blunt hoes.'

The second additional observation concerns DCs involving complex possessive NPs. As shown by example (16), a possessive NP can be split in Chicheŵa.

(16)   a.   Anyaní á   mísala   a-ku-pwány-a   **chipanda**
              2-baboon 2ASSOC 4-madness 2-PRES-smash-fv 7-calabash
              chá   kazitápé.
              7ASSOC 1-spy
              'The mad baboons are smashing the calabash of the spy.'

        b.   **Chipanda** anyaní á mísala a-ku-<u>chí</u>-pwány-a **chá kazitápé**.
              'The calabash, the mad baboons are smashing (it) of the spy'

        c.   **Chá kazitápé** anyaní á mísala a-ku-<u>chí</u>-pwány-a **chipanda**.
              'Of the spy, the mad baboons are smashing (it) the calabash'

However, as soon as we add another layer of possessive NP, splitting gets more constrained. Consider the examples in (17). Example (17a) is a non-discontinuous example. The element in question, the object possessive NP, is in boldface. In (17b) we front the head noun of the possessive NP, and the result is ungrammatical.[3] In (17c) we front a possessor *a mfumu* 'of the chief'. Again

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[3]Note that the example (17b) would be good if there were no OM. In this case, however, we only get the appositive interpretation of the fronted element. The absence of the corresponding OM thus suggests that nothing is out of the basic clause, and that the sentence-initial element is added on to the sentence as an appositive. We return to this contrast between (17b) and the appositive reading without an OM when we discuss the information structure of the non-fronted elements.

the example is rendered ungrammatical. Example (17d), on the other hand, shows that it is possible to front the entire possessor and leave the head noun postverbal.

(17)   a.   Anyaní   a-na-mphwanya **chipanda chá   alenje a**
            2baboons 2-PAST-smash   7calabash 7ASSOC 2hunter 2ASSOC
            mfumu.
            1chief
            'The baboons smashed the calabash of the hunters of the chief.'

       b.   *$\textbf{Chipanda}_i$ anyaní   a-na-chi-mphwanya $\_\_\_i$ **chá   alenje**
            7calabash   2baboons 2-PAST-7-smash   7ASSOC 2hunter
            a   mfumu.
            2ASSOC 1chief
            'The calabash, the baboons smashed of the hunters of the chief.'

       c.   *$\textbf{A}$ $\textbf{mfumu}_i$ anyaní   a-na-chi-mphwanya **chipanda**
            2ASSOC 1chief   2baboons 2-PAST-7-smash   7calabash
            chá   alenje $\_\_\_i$.
            7ASSOC 2hunter
            'Of the chief, the baboons smashed the calabash of the hunters.'

       d.   **Chá   alenje a $\textbf{mfumu}_i$** anyaní   a-na-chi-mphwanya
            7ASSOC 2hunter 2ASSOC 1chief   2baboons 2-PAST-7-smash
            chipanda $\_\_\_i$.
            7calabash
            'Of the hunters of the chief, the baboons smashed the calabash.'

At this point, we leave these facts simply as an additional observation about complex possessive NPs. In the analysis to follow, we suggest that the constraint that bans the examples in (17b, c) must be formulated in terms of the information structure and heaviness of the parts of the NP that remain postverbal rather than the syntax of complex possessive NPs. In the next section, we develop a base-generation account of our DC data, taking into consideration the information structure of both parts of the split NPs.

3   Chicheŵa DCs as an External Topic Construction

Based on the basic properties observed earlier that (i) DCs in Chicheŵa must occur clause-initially; and (ii) clause-initial DCs receive topic interpretations and require an anaphoric pronoun on the verb corresponding to the whole NP, we analyze the split NP constructions as instances of topicalization, in which the

clause-initial DCs are left-dislocated outside the minimal clause. The topicalization analysis of DCs is consistent with the fact that every instance of DCs requires the OM on the verb and with the analysis given by Bresnan and Mchombo (1987) that the OM in Chicheŵa is reserved only for topic-anaphoricity.

Additional data show that 'topicalizability' is in fact a pre-condition for a constituent to be discontinuous. For example, Chicheŵa has a number of verb-object idioms, in which the object is formally non-referential, as in example (18a). Non-referential NPs can never be topics, and, as such, they cannot be discontinuous, as demonstrated in (18b, c).

(18) a. Nd-a-gwil-a   mwendo wáko.
          1SG-PREF-grab-fv 3leg   3your
          (lit.) 'I have grabbed (your) leg.' = 'I apologize.'

      b. *Wáko nd-a-gwil-a mwendo.

      c. *Mwendo nd-a-gwil-a mwendo.

Similarly *wh*-phrases, which are inherently focused, cannot be fronted:

(19) a. Mikango u-na-gumula   **nyumba ya yani**? *wh*-phrases
          lion   sm-past-destroy house   of who
          'Whose house did the lions destroy?'
      b. ***ya yani** mikango u-na-gumula **nyumba**?

More precisely, following Morimoto's (2000) proposal that Bantu languages exhibit two types of topic, EXTERNAL and INTERNAL, we take these clause-initial DCs to be EXTERNAL TOPICS. Before we present our analysis of split NPs, in the next section we briefly discuss the nature of external and internal topics and the motivation for this distinction in Bantu languages.

3.1   Two Types of Topic in Bantu

The two types of topic, internal and external, are distinct both structurally and pragmatically, and are motivated for various unrelated languages. Core characteristics of these types of topic are summarized in Table 1.

As for the structural position, external topics (E-TOPs) are always outside the minimal nuclear clause; in many languages, they occupy adjoined positions – CP-adjoined, as in Russian (King 1995) or IP-adjoined, as in Malay (Alsagoff 1992) – or E(xpression) nodes as in Mayan languages (Aissen 1992). As such, the E-TOP is generally allowed only in matrix clauses. The internal topic (I-TOP), on the other hand, appears inside the minimal nuclear clause, often conflates with the grammatical subject in so-called 'subject-oriented' languages like English, and hence, is typically not marked off intonationally from

	EXTERNAL TOPIC	INTERNAL TOPIC
Position	E(xpression) node (Mayan, Russian)	SpecCP (Mayan) IP-adjoined (Russian)
Bind argument?	no	yes
Resumptive pronoun?	yes	no
Island constraint?	no	yes
Discourse status	new topic (Mayan)	continuing topic (Mayan)
Definite?	yes	yes
Embedding?	no (Mayan, Russian)	yes (Mayan, Russian)

Table 1: Characteristics of external and internal topics

the rest of the clause. E-TOPs may be either arguments or adjuncts, while I-TOPs must be one of the core arguments (subject, primary object). Thus, there can naturally be multiple E-TOPs, while the I-TOP is restricted to only one per clause. Pragmatically, the E-TOP is used for contrastive/new topic while the I-TOP is old information, continuing topic.[4]

These two types of topic are also motivated independently of split constructions in Bantu (see Morimoto 2000). An external topic in left-dislocation is exemplified in (20) from Kinyarwanda. (21) exemplifies multiple left-dislocated topics in Kirundi (Sabimana 1986). Being characteristic of E-TOP, these topics are marked off intonationally in Bantu; they are in an anaphoric relation to the corresponding pronouns in the clause. For example, in (21), the class 1 subject marker *y* on the verb corresponds to Mudúga, the class 7 object marker *ki* corresponds to the secondary object *igitabo* 'book', and the class 2 object marker *bá* corresponds to the primary object *abâna* 'children'. They are pronominal arguments coreferential with the dislocated elements.

(20)   **bîno bitabo**$_i$, úmwáalimu a-ra-shaak-a   ko
        these books   teacher   SM-PRES-want-ASP that
        tu-*(<u>bi</u>)-sóm-a   ___$_i$.
        SM-OM-read-ASP
        (lit.) '**These books**, the teacher wants that we read them.' Kinyarwanda

(21)   **Igitabo**, **Mudúga**, **abâna**,   y-a-rá-ki-bá-ha:ye
        7book   1Muduga 2children 1-PST-FOC-7-2-give
        'The book, Muduga, (to) the children, he gave it to them.'   Kirundi

The internal topic is observed most readily in inversion constructions. (In canonical word order subjects are often default I-TOPs.) For example Kirundi

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[4]For a detailed discussion, see Aissen 1992, Alsagoff 1992, King 1995, and Morimoto 2000.

exhibits inversion of subject and object in a transitive sentence, where the canonically postverbal object appears in the preverbal subject position just in case it is a (continuing) topic, and the (focused) subject appears postverbally, as illustrated in (22).

(22)   a.   Uwo muhungu a-a-ra-gaburiye   ubuyabu.
             that boy   3s-PST-AF-feed.ASP cats
             'That boy fed the cats.'   Kirundi (Morimoto 2000)

       b.   Ubuyabu bu-a-gaburiye   uwo muhungu.
             cats   3pl-PAST-feed.ASP that boy
             '(It's) That boy$_{FOC}$ (who) fed the cats$_{TOP}$.'   subject-object
             reversal

In Chicheŵa a similar construction is observed involving locative, where the logical subject appears postverbally and the locative preverbally. The inverted locative is typically old information (Bresnan and Kanerva 1989).

(23)   m-nkhalăngo mw-a-khal-á   míkângo.
        18-9forest   18-PERF-remain-FV 4-lion
        'In the forest have remained lions.'   Chicheŵa locative inversion

The distinct properties of the internal topic are manifested in various ways. Unlike the external topic, the internal topic is not marked off intonationally and is not accompanied by an object marker; instead (in the inversion constructions), the preverbal object agrees with the verb like the canonical subject (note the 3rd person plural agreement *bu* on the verb corresponding to *ubuyabu* 'cats' in (22b)). These facts suggest that the internal topic occupies a clause-internal position generally reserved for subjects. Pragmatically, the internal topic is a continuing (old) topic rather than a new or contrastive topic. The preverbal constituents in inversion constructions have exactly that pragmatic function. In many Bantu languages, subjects also have the restriction that they must be old information. In those languages, we may assume that subjects are always internal topics (see Morimoto 2000 for a discussion of Bantu subjects as default internal topics).

3.2   Discourse Functions and Syntactic Positioning of Split NPs

Having established the two types of topic for Bantu, we now turn to the discussion of the discourse functions and structure of the split construction in Chicheŵa. As mentioned earlier, the fronted part of a split NP is typically a contrastive topic, and this is in line with the assumption that functionally the fronted part is an external topic. According to C. Lee (1999a,b) while TOPIC is prototypically given, presupposed, and anchored in speech situation, CON-

TRASTIVE TOPIC has a focal part in contrast with the (aforementioned) discourse topic, and the speaker has the alternatives in contrast or contrast set in mind. While topic can be unaccented, contrastive topic shows a prominent intonation pattern cross-linguistically.

In Chicheŵa, the contrastive part of a topic constituent appears in the left-dislocated position, resulting in a split construction. For example, for the split example in (7d), repeated here in (24), the most likely context is where there are two sets of foolish people in prior discourse – these foolish hunters and those foolish fishermen. The expression *álenje awa* 'these hunters' is then contrasted with 'those fishermen' in the example. The 'foolish' part of the NP is old, non-contrastive information, and remains postverbal. Indeed, the fact that every instance of a discontinuous object NP requires the corresponding OM suggests that no part of the object NP remains inside the VP. This means that the remaining postverbal part of the object NP must be right-dislocated. This assumption is in line with the presumed discourse function of this part of the DC: it is the non-contrastive, given information.

(24) **álenje awa**   njúchií izi   zi-ná-wá-lúm-a
      2.hunter 2.PROX.DEM 10.bees 10.PROX.DEM 10-PST-2-bite-FV
      ópúsa.
      2foolish
      'These bees bit these foolish hunters.'

Preliminary investigation of the phonological phrasing of split examples in Chicheŵa (Féry, Mchombo, and Morimoto, in preparation) corroborates the observations regarding the discourse status and syntactic positions just noted. In a canonical SVO sentence in Chicheŵa, the subject forms its own phonological phrase separate from the VP, and the verb and object form one phonological phrase (see also Bresnan and Kanerva 1989), as schematically shown in (25).

(25) $(\text{subject})_{pp}$ $(\text{SM-verb object})_{pp}$ Canonical SVO sentence

The immediate postverbal object position is also a designated focus position in Chicheŵa (Bresnan and Kanerva 1989; Morimoto 2000). When the subject is focused and is in this postverbal focus position inside VP, as in the inversion construction we saw earlier in (23), the postverbal subject is phrased together with the verb like an object.

(26) $(\text{I-topic}_i)_{pp}$ $(\text{SM}_i\text{-verb focus})_{pp}$ Logical subject in focus position

When the object is right-dislocated and the OM is present on the verb, the right-dislocated object forms its own phonological phrase separate from the verb:

(27) $(\text{subject})_{pp}$ $(\text{SM-TNS-OM}_i\text{-verb})_{pp}$ $(\text{object}_i)_{pp}$ Object right dislocation

Now in a split NP construction like that in (24), the fronted part forms its own phonological phrase, and then comes the subject, forming another phonological phrase as in the usual case. Then next comes the verb, again with its own phonological phrase, separate from the remaining part of the split object NP.

(28) $(DC)_{pp}$ $(subject)_{pp}$ $(SM\text{-}TNS\text{-}OM\text{-}verb)_{pp}$ $(rest\text{-}of\text{-}DC)_{pp}$

Split construction

The phonological phrasing of the split construction in (28) clearly shows that no part of the split NP is inside the minimal clause nucleus consisting of the subject and VP. In addition, we also have a preliminary result showing that the two contiguous parts of the fronted DC form one phonological phrase, suggesting that syntactically they also form one constituent.
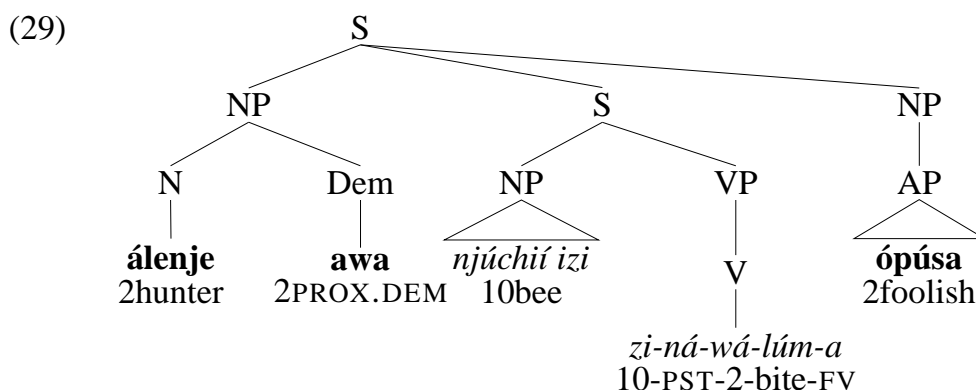
To summarize, the available data suggest that DCs in Chicheŵa are best analyzed as an external topic construction, in which the dislocated elements are external to the minimal nuclear clause. Pragmatically they serve as a contrastive topic rather than continuing topic, as characteristic of external topics in other languages. The external topic analysis of DCs in Chicheŵa is not in line with Reinholtz's (1996) analysis that DCs have focus and arise by way of *wh-*movement. We suggest here that languages that permit split NP constructions make use of them for discourse purposes, but exactly what function DCs have may depend on the information structuring of an individual language. While focus (or discourse-prominent elements in general) may be expressed clause-initially in Algonquian languages (see Aissen 1992), in Bantu languages clause-initial position is strictly reserved for topic, and focus is expressed postverbally (see Morimoto 2000). Thus, given the patterns of information structuring in Bantu, clause-initial DCs would naturally receive a topic interpretation.

4   Discourse-Configurational Analysis

Taking the discourse functions and phonological phrasing as our basis, we now consider the syntactic structure of split NPs. The key analytical problems we wish to solve are the following: (i) functional identification of the DCs with the associated argument function; and (ii) configurational identification of the types of topic involved the split construction – namely the external, contrastive topic in the left-periphery and the afterthought topic in the right-periphery. We first lay out some theoretical assumptions in our analysis.

4.1   Parallel Structures

Based on the previous discussion we propose a syntactic structure for the split construction as shown in (29). For illustration, we use the example in (24) above.

(29)

```
                          S
          ┌───────────────┼───────────────┐
         NP               S               NP
       ┌──┴──┐         ┌──┴──┐             │
       N    Dem       NP    VP            AP
       │     │                │
     álenje  awa   njúchií izi V          ópúsa
     2hunter 2PROX.DEM 10bee              2foolish

                           zi-ná-wá-lúm-a
                           10-PST-2-bite-FV
```
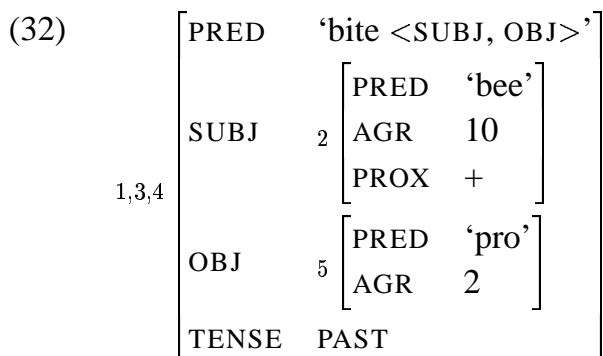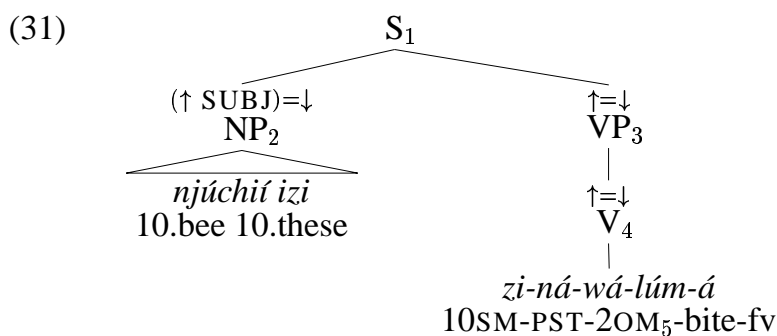
The proposed structure assumes the basic architectural properties of Lexical-Functional Grammar, a representational theory of grammar in which parallel levels of representations are related not through derivations but via a set of correspondence principles (see Bresnan 1982, 2001; Bresnan and Kaplan 1995). Grammatical principles postulated in this framework are thus interpreted as constraints on surface forms. The two parallel structures fundamental in LFG are C(ONSTITUENT) STRUCTURE and F(UNCTIONAL) STRUCTURE.

The c-structure is represented as a familiar phrase structure tree and encodes precedence and dominance relations among syntactic words and phrases (NP, VP, CP, etc). Unlike the phrase structure assumed in derivational approaches, the c-structure directly models the surface forms of language. Thus, no empty nodes and traces are represented. Consequently, languages can vary in the c-structure representation of a particular utterance/expression. In addition, LFG posits two types of clausal organization in natural languages: the endocentric clausal organization with headed XPs, and the exocentric one with S. As in the structure in (29), we make use of the exocentric category S for languages that lack independent evidence for I. In Bantu languages, all verbs inflect uniformly like main verbs, and there is no particular class of inflectional verbs that behave otherwise. For this reason, it has been proposed that Bantu clauses consist of the exocentric category S rather than IP (e.g. Bresnan and Mchombo 1987; Morimoto 2000, 2001).

The f-structure is represented as attribute-value pairs. Unlike c-structure, f-structure is unordered, and it encodes predicate-argument relations and other morphosyntactic and semantic information in language-independent form. F-structure attributes may be grammatical functions (SUBJ, OBJ) or morphosyntactic feature categories (TENSE, MOOD, CASE, NUMBER, PERSON). F-structure values can be another f-structure, semantic content (e.g. 'boy'), or atomic symbols (PAST, ACC, SG). Given the type of information it encodes, the f-structure is largely invariant across languages. And it is at this level of representation that we see how parts of the discontinuous topic are related to the OM on the verb.

These parallel structures are related not through movement, but through correspondence principles. For illustration, let us take the minimal clause S in the

structure in (29), 'These bees bit them (the hunters)'. First we provide the se-
mantic and morphosyntactic information carried by each lexical item and the
functional schemata associated with it.

(30) a. Njúchií izi   zi-ná-wá-lúm-á.
          10.bees 10.PROX.DEM 10-PST-2-bite-FV
          'These bees bit them.'

    b. njúchií   N   ($\uparrow$ PRED) = 'bee'
                                     ($\uparrow$ AGR) = 10
               izi   D   ($\uparrow$ PRED) = 'these'
                                   ($\uparrow$ AGR) = 10
               zi-ná-wá-lúm-á V   ($\uparrow$ PRED) = 'bite ¡SUBJ, OBJ¿'
                                     ($\uparrow$ TENSE) = PAST
                                     ($\uparrow$ SUBJ) = $\downarrow$
                                        ($\downarrow$ AGR) = 10
                                     ($\uparrow$ OBJ)
                                        ($\downarrow$ PRED) = 'pro'
                                        ($\downarrow$ AGR) = 2

The $\uparrow$ arrows in the lexical entries in (30) are taken to refer to the f-structure of
the preterminal node (e.g. N in the first lexical entry 'bee'). The $\downarrow$ arrows then
refer to the f-structure of the terminal node. As shown, in addition to the verb
(stem) which selects for subject and object in its lexical entry, the SM on the verb
provides the equation '($\uparrow$ SUBJ) = $\downarrow$', stating that the verb's f-structure contains
SUBJ, and the f-structure of the subject contains the AGR attribute whose value
is class 2 ('($\downarrow$ AGR) = 2'). Similarly, the OM on the verb provides the equation
'($\uparrow$ OBJ) = $\downarrow$', stating that the verb's f-structure contains OBJ. The OM contains
a pronominal content and provides the PRED value 'pro', along with the AGR
information.

    The mapping from the c-structure to the corresponding f-structure is shown
in (31)–(32). Each syntactic node is arbitrarily numbered to show which node
maps to which f-structure. For example, the top-most node S_1 maps to the
outermost f-structure also numbered 1; the subject NP numbered NP_2 maps to
the f-structure numbered 2; and so forth. Formally this mapping from c- to f-
structure is mediated by functional annotations on the syntactic nodes. The $\uparrow$
arrow points not to the mother node, but to the f-structure the mother node maps
to. Likewise the $\downarrow$ arrow points to the f-structure the annotated node maps to,
not the annotated node itself. Thus $\uparrow = \downarrow$ on the VP means that the f-structure
of the mother node S is the same as the f-structure of VP_3. In LFG, S_1 and VP_3
are said to be 'co-heads'.[5] In (31), S_1, VP_3 and V_4 are co-heads, and they all

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[5]The notion of co-heads is similar to that of 'extended heads', as proposed by Grimshaw
(1991, 1997): heads and intermediate projections within a projection line with the same cat-

map to the outermost f-structure. The annotation on NP_1 '($\uparrow$ SUBJ) = $\downarrow$' states that the f-structure of node 1 (S) has a SUBJ attribute whose value is identified with the f-structure of node 2 (subject NP).[6] The OM on the terminal node of V provides the functional descriptions shown in the lexical entry of the verb in (30) above, and these provide the well-formed f-structure of OBJ with the PRED value, numbered 5.

(31)

$$S_1$$

($\uparrow$ SUBJ)=$\downarrow$ $\uparrow$=$\downarrow$
NP_2 VP_3

njúchií izi $\uparrow$=$\downarrow$
10.bee 10.these V_4

zi-ná-wá-lúm-á
10SM-PST-2OM$_5$-bite-fv

(32)

$$
1,3,4 \begin{bmatrix} \text{PRED} & \text{'bite} <\text{SUBJ, OBJ}>\text{'} \\ \text{SUBJ} & 2 \begin{bmatrix} \text{PRED} & \text{'bee'} \\ \text{AGR} & 10 \\ \text{PROX} & + \end{bmatrix} \\ \text{OBJ} & 5 \begin{bmatrix} \text{PRED} & \text{'pro'} \\ \text{AGR} & 2 \end{bmatrix} \\ \text{TENSE} & \text{PAST} \end{bmatrix}
$$

These standard functional application expressions are thus given the following interpretation:

(33)   *(fa) = v* holds if and only if *f* is an f-structure, *a* is an attribute and the pair *<a v>* $\in f$.

In other words, a simple equation like ($\uparrow$ SUBJ) = $\downarrow$ annotated on an NP is satisfied if and only if the f-structure corresponding to the mother node of that NP has an SUBJ attribute whose value is the f-structure corresponding to the annotated NP.

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egorial features. For example, I is the head of IP, and V, V', VP, and I' are extended heads of IP.

[6]The f-structure of the SUBJ (numbered 2) is somewhat simplified.

4.2 Completeness, Coherence, and Inside-Out Function Application

Now we consider the whole structure with the split NP in (29), and see how the topic function of the DC can be formally identified in the current system. We annotate the earlier tree in (29) as in (34). The corresponding f-structure is shown in (35).

(34)
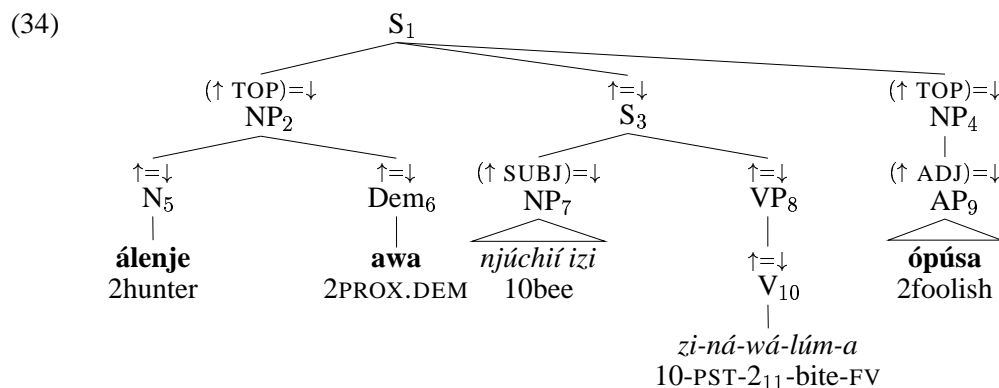
The annotation on the fronted DC (NP$_2$) and the remnant part of the DC (NP$_4$) '($\uparrow$ TOP) = $\downarrow$' states that the f-structure of the mother node (S$_1$) contains TOP, whose value is identified with the f-structure of the respective NP. The annotation on AP builds an inner f-structure of the ADJ(unct) function inside the f-structure of TOPIC. As we see, an f-structure can be constructed by information coming from multiple syntactic nodes.

(35)
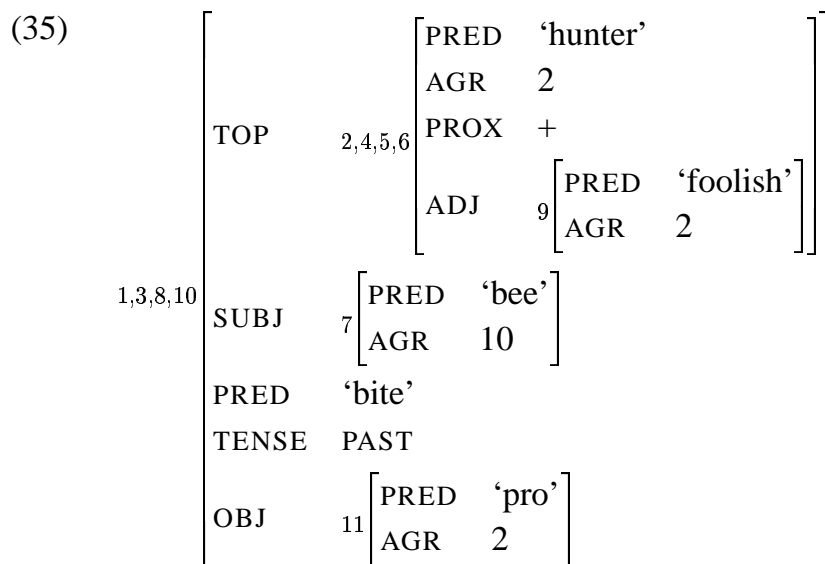
Completeness and Coherence: The functional identification of TOPIC with the argument function OBJ is ensured by the principles of COMPLETENESS and CO-HERENCE, or more precisely, EXTENDED COHERENCE. Completeness requires that every function designated by a predicate be present in the f-structure of that

predicate (Bresnan 2001:63). Thus, completeness rules out examples like that in (36), where all the arguments selected by the predicate *give* are not present.

(36)   *John gave a book.

Note that completeness is a requirement that applies at the level of f-structure, and does not require that all the arguments be present at c-structure. Null argument languages like Japanese and Korean, for example, allow an utterance like that in (36), but at the level of f-structure, all the arguments selected by the predicate are represented and provide their morphosyntactic information and semantic content.

Now in examples like that in (34), part of the DC is the ADJUNCT function (AP) inside the object NP. Completeness is not sufficient to license such elements because it only requires that the selected arguments be properly represented in the f-structure. These adjuncts, not properly selected by the predicate, nonetheless must be properly integrated into the semantics of the predicate and its arguments. COHERENCE, or the EXTENDED COHERENCE CONDITION, on the other hand, ensures just this type of well-formedness. Coherence requires that every argument function in an f-structure be designated by a PRED. The principle rules out ill-formed examples like that in (37) (Bresnan 2001:63).

(37)   *We talked *the man* about that problem for days.

$$
\begin{bmatrix}
\text{PRED} & \text{'talk ¡SUBJ, OBL¿'} \\
\text{SUBJ} & \begin{bmatrix} \text{"we"} \end{bmatrix} \\
\text{*OBJ} & \begin{bmatrix} \text{"the man"} \end{bmatrix} \\
\text{OBL} & \begin{bmatrix} \text{"about that problem"} \end{bmatrix} \\
\text{ADJ} & \begin{bmatrix} \text{"for days"} \end{bmatrix} \\
\text{TENSE} & \text{past}
\end{bmatrix}
$$

The intransitive verb *talk* takes an optional oblique argument, and PRED has the OBL designator in (37). It has no OBJ designator, however; having the extra argument violates the coherence condition and results in an ill-formed f-structure.

While the coherence condition applies only to argument functions (SUBJ, OBJ1, OBJ2, OBL), the extended coherence condition applies to all syntactic functions, requiring them to be appropriately integrated into an f-structure (Bresnan and Mchombo 1987; Fassi Fehri 1984; Zaenen 1985). As stated above, argument functions are integrated when they are designated by the PRED. Adjuncts are integrated if their immediate f-structure contains a PRED. The grammaticized discourse functions TOP and FOC are integrated if they are functionally identified, or anaphorically linked to, an integrated function.

Inside-Out Function Application: Returning to our example in (34), the

TOPIC function in the left- and right-periphery is properly integrated into the f-structure in (35) by the extended coherence condition, but completeness and extended coherence must be satisfied by one of the arguments identifying TOPIC as being associated with it. As we have seen, in a sentence with an object DC, the DC is cross-referenced by the obligatory presence of the object marker on the verb. In other words, the OM provides the information about a larger domain than that which contains the OM (VP) – namely that the object NP is dislocated outside the minimal clause containing the OM and has a topic-anaphoric function. This view of the OM is analogous to Nordlinger's (1998) constructive case, in which case markers are said to carry clause-level information. The central idea of constructive case is the use of inside-out function application, as stated in (38).

(38) **Inside-Out Function Application**: for any f-structure f' and attribute a, (af') designates the f-structure f such that $(fa) = f'$.

For an illustration, let a be OBJ. In the regular designator $(f\ \text{OBJ})$, f denotes the f-structure from which we can follow a path inwards through OBJ to another f-structure (f'), as in (39). This is the standard 'outside-in' function application defined earlier in (33). In the 'inside-out' function application, we have the designator $(\text{OBJ}\ f')$. f' denotes the f-structure from which we can follow a path outwards through OBJ to a higher f-structure (f).

(39) $f: \begin{bmatrix} \text{OBJ} & f' \begin{bmatrix} \ \end{bmatrix} \end{bmatrix}$

We can now add the appropriate annotations to the OM using inside-out function application, which will formally associate the TOP function with OBJ at the level of f-structure. The verb form in (34) is repeated below in (40).

(40)　a.　　　　V

zi-ná-wá-lúm-a
10-PST-z-bite-FV

$((\text{OBJ}\ \uparrow)\ \text{TOP}) = \uparrow$
$(\uparrow \text{PRED}) = \text{'pro'}$
$(\uparrow \text{AGR}) = 2$

b. $\begin{bmatrix} \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{"pro"} \\ \text{AGR} & 2 \end{bmatrix} \end{bmatrix}$

c. $\begin{bmatrix} \text{TOP} & [\dots]_i & \\ \text{OBJ} & \begin{bmatrix} \text{PRED} & \text{"pro"} \\ \text{AGR} & 2 \end{bmatrix}_i \end{bmatrix}$

The $\uparrow$ arrow in the designator $(\text{OBJ}\ \uparrow)$ below the OM points to the f-structure of the OM. Starting from that f-structure, $(\text{OBJ}\ \uparrow)$ states that the f-structure of

the OM is contained in the OBJ function, which is inside some larger f-structure. This will instantiate the f-structure shown in (40b). (OBJ ↑) TOP) states that this larger (outer) f-structure containing OBJ also contains the TOP attribute. The whole annotation ((OBJ ↑) TOP) = ↑ then means that the value of the TOP attribute, another f-structure, is identical to the f-structure of OM (= the OBJ function). The final f-structure instantiated by the annotation is shown in (40c). In other words, inside-out function application allows for the straightforward functional identification of TOPIC with OBJ at the level of f-structure and eliminates movement of various elements on c-structure, which may be difficult to motivate outside this particular construction.

4.3   From Information Structure to C-structure

In this section we consider the second analytic problem identified earlier for the configurational identification of the f-structure function TOPIC with particular types of discourse topics – namely the external, contrastive topic in the left-periphery and the afterthought topic in the right-periphery.[7]

Crosslinguistically, these types of discourse topic seem to be associated with the respective syntactic positions just noted. For example regarding the left-peripheral topic, in verb-initial languages, D. Payne (1990, 1992) identifies the preverbal position to be what she refers to as the 'pragmatically marked' (PM) position. The PM information is non-presupposed asserted new information, contrastive information (i.e. focus) as well as given, discourse-prominent information (topic). Payne shows that in strongly verb-initial languages, these pragmatically marked constituents, either focus or topic, appear sentence-initially. Cooreman (1992:244) essentially makes the same observation: the non-verb initial order in the canonically verb-initial language Chamorro is commonly found when 'the thematic unity of the [narrative] is disrupted', such as change of events, or when the paragraph theme is temporarily suspended. Cooreman's description of these sentence-initial elements in Chamorro is comparable to Aissen's (1992) description of the external topic – the new or contrastive topic. Subsequent work on verb-initial languages makes similar observations about the discourse function of the sentence-initial position (e.g. Harold 1995:50 for Biblical Hebrew; Tsimpli 1995 for Modern Greek).

In SVO languages, new or contrastive topics also appear at the left-periphery in a dislocated position. Birner and Ward (1998:256–257) show that among the various syntactic constructions that encode different types of discourse referents in English (e.g. inversion, *by*-phrase passive, topicalization, existential, left-dislocation, right-dislocation), new or contrastive topic (hearer-new or discourse-new in Birner and Ward's taxonomy) is expressed in the left-

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[7]The discussion in this subsection is based on the fuller review of the cited literature given in Morimoto 2000, chapter 2.

dislocated position. As regards another SVO language, Tok Pisin, a creole language in Papua New Guinea, Sankoff (1993) provides an example showing that (what we would call) a new/contrastive topic appears in a left-dislocated position followed by an anaphoric pronoun.[8]

In SOV languages, where scrambling and case marking are common typological features, contrastive topics may not always appear in a left-dislocated position. They are nonetheless morphologically and prosodically clearly marked, according to C. Lee (1999a,b). In Korean, for example, even though topics with the topic marker *-(n)un* can scramble, the canonical position of these topics seems to be clause-initial (Choi 1999). In German, contrastive elements (topic or focus) occur in left-peripheral (SpecCP) position (see Berman 2000; Choi 1999 and earlier references cited in these works).

As for the right-dislocated topic, it is observed for a number of languages that the right-dislocated position is reserved for afterthought or discourse-old information – e.g. Takami 1995 for Japanese and English, Birner and Ward 1998 for English, Sells 1998 for Japanese, Kimenyi 1980 for Kinyarwanda; see also Morimoto 2000, chapters 4–5, which discusses the afterthought function of right-dislocated elements in Bantu languages.

These crosslinguistic studies of left- and right-topics collectively tell us that there is a robust tendency that these types of topics are structurally defined. As briefly discussed earlier, our preliminary findings on phonological phrasing of these left- and right-topics (Féry, Mchombo & Morimoto in preparation) indicate that they each form their own phonological phrase. These observations about the structural correlates at the syntactic and phonological level together suggest a grammatical architecture in which there is a flow of information, or mapping, (at least) between discourse or information structure ('i-structure') and c-structure, on the one hand, and i-structure and prosodic structure, on the other. Within the current model, we believe that it is the mapping between i-structure and c-structure that gives the f-structure notion of TOPIC particular discourse interpretations, where the left-peripheral external topic (c-structure notion) is interpreted as contrastive topic (discourse notion), and the right-peripheral topic as afterthought. Exactly how the mapping between these levels of structure should be represented will have to be left open for future research, but this line of research has been pursued by King (1995) and Choi (1999) for

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[8]An example of a new/contrastive topic from Sankoff (1993) is given below (p.121). The dislocated topic is in small caps, and the anaphoric pronoun is underlined.

(i)   kakaruk na pik wonem samting   i-stap. Na OLGETA MAN   IA   <u>ol</u> i-poret long
       chicken and pig what   something stay   and all   people DET 3pl afraid of
       guria   na ol i-go pinis.
       earthquake and 3pl go   complete
       '(Only) chickens and pigs and whatever were there. But ALL THE PEOPLE, <u>they</u> were
       afraid of the earthquake and they had all left.'

other types of discourse referents (e.g. given information, contrastive and completive foci).

4.4   Further Consequences of the Right-Dislocation Analysis of the 'Remnant'

Having presented the structural analysis of the parts of Chicheŵa split NPs, let us return to the restriction on the splitting of complex possessive NPs mentioned earlier in section 2, and see how the facts can be explained in our analysis. The relevant examples from (17) are repeated here in (41). The observation was that of the various splitting possibilities for a complex possessive NP, the only grammatical instance is where the head noun remains and the rest is fronted, as in (41d).

(41)   a.   Anyaní   a-na-chi-mphwanya **chipanda chá   alenje**
            2baboons 2-PAST-7-smash   7calabash 7ASSOC 2hunter
            a   mfumu.
            2ASSOC 1chief
            'The baboons smashed the calabash of the hunters of the chief.'

       b.   ***Chipanda**$_i$ anyaní   a-na-chi-mphwanya __$_i$ **chá   alenje**
            7calabash   2baboons 2-PAST-7-smash   7ASSOC 2hunter
            a   mfumu.
            2ASSOC 1chief
            'The calabash, the baboons smashed of the hunters of the chief.'

       c.   ***A   mfumu**$_i$ anyaní   a-na-chi-mphwanya **chipanda**
            2ASSOC 1chief   2baboons 2-PAST-7-smash   7calabash
            chá   alenje __$_i$.
            7ASSOC 2hunter
            'Of the chief, the baboons smashed the calabash of the hunters.'

       d.   **Chá   alenje a   mfumu**$_i$ anyaní   a-na-chi-mphwanya
            7ASSOC 2hunter 2ASSOC 1chief   2baboons 2-PAST-7-smash
            chipanda __$_i$.
            7calabash
            'Of the hunters of the chief, the baboons smashed the calabash.'

Our speculation about this pattern is that it is not due to some syntactic constraint, but is constrained (at least partly) by phonological weight – namely that only one prosodic word is allowed in the right-dislocated position, where the constituent forms its own phonological phrase. A similar observation is made for non-discontinuous right-dislocation in other Bantu languages. For

example, in Kinyarwanda, Kimenyi (1980:203) observes that whereas multiple left-dislocated topics are possible (see example (21) from the closely related language Kirundi), right-dislocated topics are restricted to only one, as shown in (42). The right-dislocated topics are in boldface.

(42)   *Umgabo y-a-ya-mu-haa-ye,   **amafaraanga**, **umugóre**..
        man   1SM-PAST-it-give-PERF money   woman
        'The man gave it to her, the money (to) the woman.'

Furthermore, we noted earlier in note 3 that (41b) would be grammatical if the fronted head noun *Chipanda* 'calabash' had an appositive interpretation. Crucially, in that case the verb cannot have the OM. This suggests that what appears to be fronting with the appositive interpretation in fact involves neither fronting of any element nor right-dislocation of the 'remnant' element(s), and that the clause-initial appositive element is simply added on to a canonical SVO sentence. Therefore, assuming that our right-dislocation analysis of the remnant is correct, we conjecture that this right-dislocated position imposes a constraint on phonological weight, and DCs involving 'heavy' remnants are dispreferred.

5   Conclusion

In this paper, we have offered a discourse-configurational analysis of Chicheŵa split NPs, where the fronted element, the contrastive topic, occupies an external topic position, and the remnant part of the split NP, the afterthought, appears in right-dislocated position. The analysis is consistent with the fact that every instance of object DCs requires the corresponding object marker on the verb, whose function is topic-anaphoric (Bresnan and Mchombo 1987). The structural analysis is also supported by preliminary findings on phonological phrasing of DCs (Féry, Mchombo, and Morimoto, in preparation). Given the right-dislocated analysis of the remnant part of a split NP, we speculated that the constraint on splitting of complex possessive NP has to do with phonological weight – that heavy elements are dispreferred in right-dislocated position.

Examining DCs beyond the Bantu family would naturally require looking at various discourse functions that DCs serve in the languages in question and determining the structural correlates of such discourse elements. Nonetheless we hope that, in future research, our analysis of Chicheŵa split NP will be a step in the right direction towards taking into account multiple levels of representations (discourse, syntax, phonology) in order to provide a comprehensive analysis of split constructions.

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Sentential Particles and Clausal Typing in the Veneto Dialects

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Abstract

In this work we examine several sentential particles, occurring in imperatives, main exclamative and interrogative sentences, which display a uniform syntactic behaviour. We analyse them as heads of high CP projections which require their specifier to be filled either by the *wh*-item (in sentences where there is one) or by the whole clause, yielding the sentence final position of the particle. The hypothesis that they are C°-heads accounts for their sensitivity to sentence type and for their occurrence only in matrix contexts. We also provide a first sketch of their semantic contribution, showing that they select 'non standard' contexts and interact with tense and modality of the verb when the whole CP has moved to their specifier.

1   Introduction

In this work we describe and analyse both the syntactic and the semantic properties of a number of sentential particles (henceforth *SPs*), which can appear in some Veneto dialects in main non declarative clauses.[1]

The presence of these particles induces interesting interpretive effects; more generally, an investigation of their properties is relevant for the analysis of the left periphery of the clause; in addition, a detailed study of these particles turns out to have theoretical relevance for a cross-linguistic theory of clausal typing on the one hand and for a deeper understanding of the syntax-semantics interface on the other. The distribution of *SPs* also involves a number of interpretive and pragmatic distinctions that contribute to highlight the way sentence type is encoded in the syntactic structure and to provide

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[1] The content of this article has been presented at the *XXIX IGG* meeting in Urbino (13-15 February 2003); we thank that audience as well as Paola Benincà, Guglielmo Cinque, Alessandra Giorgi, Hans Obenauer for helpful comments and suggestions; special thanks go to Paul Portner and Raffaella Zanuttini for patiently discussing some of the semantic aspects of the issue addressed in section 5; needless to say, the responsibility for any mistakes rests entirely on us. This paper develops and elaborates some aspects of Munaro & Poletto 2002, (forthcoming; although the paper is the product of a constant collaboration of the two authors, for the concerns of the Italian academy Nicola Munaro takes responsibility for sections 1-3 and Cecilia Poletto for sections 4-6.

some insights into more fine-grained distinctions internal to each sentence type.

We will systematically analyse data from two varieties, a Northern Veneto variety and an Eastern Veneto variety (*Pagotto* and *Venetian*, glossed as *Pg* and *Ve* respectively); however, the particles described here occur, with a partially different distribution, in several other dialects of the North-Eastern Italian area, which we will occasionally refer to as well.

While *SPs* can appear in main interrogatives, exclamatives or imperatives, none of them can occur in declarative clauses or in embedded contexts; furthermore, they always occur in 'special' contexts, in the sense that they induce a presupposition in the clause determined either by the linguistic context or by the universe of the discourse.

The particles we consider also share the following distributional property: they can occur in sentence final position, a fact that — we claim — can be derived by movement of the whole CP to the specifier position of the head occupied by the particle, as illustrated in (1):

(1) $[_{Spec,prt}\ CP_i\ [\ prt][\ t_i\ ]]$

Beside the sentence final occurrence, some particles can also occur either immediately after the *wh*-element or with a *wh*-item in isolation.

This is the outline of the article: in section 2, we address the issue of the categorial status of the particles, providing some arguments in favour of the hypothesis that *SPs* are heads; in section 3, we provide a description of the syntactic properties shared by all *SPs*; in section 4, we analyse in detail the syntactic derivation exploiting clause preposing; in section 5, we examine more closely the interpretive properties and attempt a description of the semantic contribution of each particle; and in section 6, we provide a summary of the article.

2   Sentential Particles as X° Categories

A priori, *SPs* can be analysed either as heads or as specifiers. The head status of the *SPs* is suggested by the fact that they cannot be modified or focalized:

(2)   a. *Cossa gali   fato, proprio ti?!   Ve
          what   have-they done, just   ti

      b. *Zeli   partii, proprio po?   Ve
          have-they left,   just   po

      c. *Quando riveli,   proprio mo?!   Pg
          when   arrive-they, just   mo

d. *L'é fret incoi, proprio lu!   Pg
   it-is cold today, just   lu

(3)   a. *Cossa gali   fato, TI?!   Ve
     what   have-they done TI

    b. *Quando riveli,   MO?!   Pg
     when   arrive-they   MO

    c. *Eli   partidi, PO?   Pg
     have-they left   PO

    d. *L'é fret incoi, LU!   Pg
     it-is cold today LU

The ungrammaticality of (2) and (3) and the fact that *SPs* cannot be used in isolation would be completely unexpected if *SPs* were located in some specifier position.[2]

Evidence for the head status of *SPs* is also provided by their diachronic evolution: two of these particles, namely *ti* and *lu*, were originally tonic pronouns, the second singular and third singular masculine forms, respectively; however, they have a different distribution with respect to subject pronouns.

The particle *ti* is compatible with third person subjects and can cooccur with the homophonous tonic pronominal subject *ti*:

(4)   a. Dove zelo   ndà, ti?   Ve
     where has-he gone, ti

    b. Ti, dove   ti   ze   'ndà, ti?   Ve
     you, where you-have gone, ti

The particle *lu* is compatible with singular or plural third person subjects (though not with first and second person subjects):[3]

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[2] Another possible analysis is that *SPs* are merged in a low specifier position of the IP field and are subsequently raised to some specifier of the CP layer. Notice, however, that this option should be discarded in view of the impossibility for the *SPs* to undergo any kind of modification.

[3] Notice however that a preverbal subject is compatible with *lu* only if it is 3rd person singular:

(i)   a. Al to amigo l'é rivà,   lu
     your friend   he-has arrived, lu

    b. I to amighi   i é rivadi,   lori/*lu
     your friends   they-have arrived, they/lu

Furthermore, *lu* is generally compatible with postverbal subjects and induces a contrastive focalization of the subject with any verb class:

(5) a. L'é rivà   al to amigo, lu   Pg
         it-has arrived your friend, lu

     b. L'é riva   i to amighi, lu   Pg
         it-has arrived your friends, lu

(6) a. *Son vegnest anca mi, lu   Pg
         have come   also I,   lu

     b. *Te sé   rivà   anca ti, lu   Pg
         you-have arrived also you, lu

     c. *Sion partidi anca noi, lu   Pg
         have left   also we, lu

Moreover, while the particle *lu* is restricted to third person subject clauses in Pagotto, this restriction does not hold in Paduan, where, as discussed in Benincà 1996) *lu* may appear in exclamatives and is compatible with first, second and third person subjects:[4]

(7) a. A ghe go   dito tuto   a me sorèla, mi,lu!   Paduan
         A cl-dat-have told everything to my sister, I,   lu

     b. A te ghe fato   ben, ti, lu!
         A you-have done   well, you, lu

     c. A le gera vignù   trovarte, le toze,   lu!
         A they-had come   see you, your daughters,   lu

On the basis of these data, *ti* and *lu* cannot be analysed as personal pronouns, although the diachronic connection is clearly witnessed by the homophony of the two forms.

   As for the other two particles, *mo* and *po*, they were most probably temporal adverbs in origin, *po* being connected to Latin *post* ('afterwards', see Pellegrini 1972) and *mo* to Latin *quomodo* ('now', see, among others Rohlfs

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(ii) a. L'à   magnà tut   al tozatel, lu.
          he-has eaten   everything the child,   lu

      b. L'à   laorà   to fradel, lu, incoi.
          he-has worked your brother, lu, today

(iii) L'é   rivà   (anca/proprio) to fradel, lu.
       he-has arrived (also/just)   your brother, lu

The non-contrastive interpretation is possible only with right-dislocation of the subject:
(iv) L'é   rivà,   lu, to fradel (atu   vist?)
      he-has arrived, lu, your brother (have-you seen ?)

[4] Moreover, *lu* is compatible with adjectival predicates with a feminine ending:
(i)   L'é vera, (lu), che i é tornadi,   (lu)
      it-is true (lu) that they-have come back (lu)

1969); *mo* does in fact still retain the original temporal meaning in the Central and Southern Italian dialects).

Based on this evidence, we propose that *SPs* are the result of a grammaticalization process which includes a phonological as well as a semantic impoverishment along with the development of special syntactic properties; such a process is generally attested in the case of elements becoming the overt realization of (marked values of) functional heads, and not with specifiers. Hence, we propose to analyse the *SPs* considered here as filling functional heads located in a layered CP field (see Rizzi 1997).

3   Common Syntactic Properties

It should be pointed out first that the *SPs* considered here behave differently from other particles attested in the Veneto dialects as well as in other Northern Italian dialects, which are characterized by two properties not shared by the particles we have examined: they occur in initial position and have no presuppositional import. This is the case of the particle *e* in the Southern Veneto dialect of Taglio di Po, which marks the exclamative illocutionary force of the utterance in which it occurs; as shown by (8) and (9), in this variety an exclamative clause is fully grammatical only if the particle *e* appears in sentence initial position:

(8)   a.   *E* c bel libro c l'à scrito!   Taglio di Po

   b. **C(he) bel libro* c l'à scrito *e*!*
      [E] what a nice book that he-has written [e]

(9)   a. **Che bel libro* c l'à scrito!*   Taglio di Po
      What a nice book that he-has written

   b. **Co beo!*[5]
      How nice

We suggest that particles like *e* have a purely typing function and consequently are obligatory in the clause type they mark. This is not the case for our *SPs*, which seem at first sight optional, although, as we claim, they convey a special meaning.

As mentioned above, the *SPs* attested in the two dialects examined here share the following distributional properties:

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[5] The element *co* is used only in exclamative clauses and can exclusively modify adjectives.

(10) a. *SPs* can occur in sentence final position;

b. those *SPs* which can occur immediately after the *wh*-element, can also cooccur with the *wh*-item in isolation;

c. *SPs* are sensitive to the clause type: they cannot occur in declarative clauses;

d. *SPs* never occur in embedded contexts;

e. *SPs* can/must be followed by right dislocated arguments.

With respect to the first property, the sentence final position is always available for the particle, independently of the clause type it is associated with.

As shown by the following examples, the particle *ti* occurs exclusively in main *wh*-questions, and the only possible position is the sentence final one:

(11) a. Dove valo, ti?   Ve

b. *Ti, dove valo?
     [Ti] where goes-he [ti]

(12) a. Dove zelo ndà, ti?   Ve

b. *Dove zelo, ti, ndà?
     where has-he [ti] gone [ti]

The particle *mo*, which can appear both in imperative and in interrogative clauses, can always appear in sentence final position but never in sentence-initial position, as witnessed by the following contrasts:

(13) a. Parècia sta minestra, mo!   Pg

b. *Mo   parècia sta minestra!
     [Mo] prepare this soup   [mo]

(14) a. Vien qua, mo!   Ve

b. *Mo, vien qua!
     [Mo] come here [mo]

(15) a. Ali magnà, mo?   Pg

b. *Mo, ali   magnà?
     [Mo] have-they eaten   [mo]

(16) a. Quando rivelo, mo?   Pg

b. *Mo, quando rivelo?
     [Mo] when   arrives-he [mo]

The sentence-final occurrence is also attested with the particles *po* and *lu*, appearing in interrogative and exclamative contexts, respectively:

(17) a. Quando eli rivadi,   po?   Pg
when   have-they arrived po

b. Eli partidi,   po?   Pg
have-they left   po

(18) a. Dove   zei ndai   po?   Ve
where   have-they gone po

b. Zei ndai   via,   po?   Ve
have-they gone away po

(19) a. L'à piovest, lu!   Pg

b. (*Lu) l'à   (*lu)   piovest!
[Lu]   it has [lu]   rained   [lu]

Secondly, among those *SPs* that occur in *wh*-contexts, some can also occur immediately after the *wh*-item and with a *wh*-item in isolation. This is the case for the particles *mo* and *po* in Pagotto, as exemplified in (20)-(23), but not for *ti*, for example, as illustrated in (24):[6]

(20) a. Quando rivaràli, mo?   Pg

b. Quando, mo, rivaràli?
when   [mo] arrive-fut-they [mo]

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[6] As discussed in Munaro 1997, Pagotto belongs to the group of Northern Italian dialects in which some classes of *wh*-items can appear either sentence-initially or sentence-internally in main *wh*-questions; however, the position of the *wh*-item does not interact in a relevant way with the presence of the particle.

With respect to the particle *po*, the *wh*-element *parché* displays a special behaviour, as in Pagotto the position after the *wh*-item is preferred to the sentence-final one:

(i)   a.   Parché po éli 'ndadi via?

b.   ?Parché éli 'ndadi via, po?

c.   ?Po, parché   eli 'ndadi   via?
[Po] why [po] have-they gone away [po]

As shown by (ic), the sentence initial position of *po* is not excluded in Pagotto; we leave a more detailed investigation of this fact for future research.

In Venetian *parché* is the only *wh*-item that can be immediately followed by *po* and be used in isolation with the particle, as shown by the data in (ii):

(ii)   a.   *Dove, po, zei ndai?
where po have-they gone

b.   Parché, po, i ze/zeli ndai via?

c.   Parché po?
why [po] (they-have/have-they gone away)

(21) a.   Che mo?   Pg
          what mo

     b.   Andé mo?
          where mo

(22) a.   Quando eli rivadi, po?   Pg

     b.   Quando, po, eli rivadi?
          when   [po] have-they arrived   [po]

(23) a.   Andé po?   Pg
          where po

     b.   Quando po?   Pg
          when   po

(24) a.   *Dove, ti, zelo ndà?   Ve

     b.   *Dove ti
          where [ti] has-he gone

Thirdly, all *SPs* are sensitive to clause type: the examples reported above show that *SPs* always occur in interrogative, exclamative or imperative clauses and are never found in declarative clauses. In addition, they always convey a presuppositional entailment which we try to describe in greater detail below.

Finally, the occurrence of *SPs* is restricted to main contexts. As shown by the following data, particles are banned from embedded clauses, independently of the clause type they are associated with:

(25) a.   El me ga domandà dove (*ti) che i ze ndai   (*ti)   Ve
          he-me-has asked   where [ti] that they-have gone [ti]

     b.   No so dirte   quando(*ti) che i é partidi   (*ti)   Pg
          I can't tell you   when [ti] that they-have left [ti]

(26) a.   I me a   domandà cossa (*mo) che avon   fat   (*mo)   Pg
          they-have asked me   what [mo] that we have done [mo]

     b.   No so   andé (*mo) che i é   ndadi (*mo)   Pg
          I don't know where [mo] that they-have gone   [mo]

(27) a.   I me à   domandà parché (*po) che l'à   parlà (*po) Pg
          they-me-have asked   why   [po] that he-has spoken [po]

     b.   No so   dove (*po) che el ze   ndà (*po)   Ve
          I don't know where [po] that he-has gone [po]

(28) L'à   dit   (*lu) che l'à   piovest (*lu),ieri   sera (*lu)[7] Pg
      he-has said [*lu*] *that it-has rained*   [*lu*] *yesterday evening* [*lu*]

The distributional constraint on main clauses suggests that the presence of the particle entails the activation of (some portion of) the CP-layer, where the main versus embedded distinction is encoded (see Rizzi 1997, among others); we address this issue more thoroughly in the next section.[8]

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[7] Notice that *lu* is compatible with a subjective clause, that can be either preceded or followed by the particle:

(i)   a.   L'é meio, lu, che te vegne ale nove

      b.   L'é meio   che te vegne ale nove, lu
           it is better [lu] that you-come at nine   [lu]

(ii) a.   L'é bel, lu, sveiarse tardi ala matina

      b.   L'é bel sveiarse tardi ala matina, lu
           it is nice [lu] to wake up late in the morning [lu]

Incidentally, these data provide evidence that *lu* is not a tonic pronoun in these contexts.

[8] A further common distributional feature concerns the fact that all *SPs* are incompatible with sentential negation, as shown by the Venetian imperative in (i) and the Pagotto interrogatives and exclamatives in (ii) and (iii):

(i)   *No sta farlo, mo!
      don't do it, mo

(ii) a.   *Andé no i é/éli ndadi, ti?
           where not they-have/have-they gone, ti

      b.   *No i a/ali fat che, mo?
           not they-have/have-they done what, mo

(iii) a.   *No l'à piovest, lu
           not it-has rained, lu

      b.   *No l'é rivà (lu) nisuni, (lu)
           not it-has arrived (lu) anybody (lu)

The Pagotto examples in (iv) might suggest that the particle *mo* is indeed compatible with negation in yes/no questions:

(iv) a.   No i gnen, mo?
           not they-come, mo

      b.   No te dis gnent, mo?
           not you-say anything, mo

However, as discussed by several authors (see, among others, Portner & Zanuttini 1998) negation in yes/no questions is an instance of so-called *expletive negation*, which has only a presuppositional value, and does not perform the function of a real negative marker; as a consequence, the generalization that all the *SPs* we consider are incompatible with real sentential negation holds; for the time being, we do not have an explanation for this fact and leave a deeper investigation of this issue for future research.

Notice furthermore that arguments are generally right-dislocated (as witnessed by the presence of resumptive clitics) in interrogative clauses containing a particle:

(29) a. Dove le gavarò messe, ti, le ciave?!   Ve
         where cl-acc have-fut-I put where, ti, the keys

     b. Quando lo àla magnà, mo, al polastro?!   Pg
         when cl-acc has-she eaten, mo, the chicken

However, this effect is not due to the presence of the particle, but is a general property of main *wh*-questions (see Antinucci & Cinque 1977 and Munaro, Poletto & Pollock 2001 for further discussion of this issue).

This effect, in fact, is not attested in imperative clauses, where an object DP or an embedded clause can either occur in its canonical position or be right dislocated after the particle:

(30) a. Magna sta minestra, mo!   Ve/Pg

     b. Magna, mo, sta minestra!   Ve

     c. Magnela, mo, sta minestra!   Pg
         eat (cl) [mo] this soup [mo]

(31) a. Gnen qua che finison sto laoro, mo!   Pg

     b. Gnen qua, mo, che finison sto laoro!
         come here [mo] that we finish this work [mo]

(32) a. Vien che fazemo sta roba, mo!   Ve

     b. Vien mo, che fazemo sta roba!
         come [mo] that we do this thing [mo]

In the case of the particle *lu*, which occurs in yes/no exclamatives, adverbials are also preferably right-dislocated:

(33) a. L'à piovest, lu, ieri sera   Pg

     b.??L'à piovest ieri sera, lu
         it has rained [lu] last night [lu]

(34) a. L'é fret, lu, qua dentro   Pg

     b. ?L'é   fret, qua dentro, lu
         it is   cold [lu] inside here [lu]

In the next section, we will analyse all the syntactic properties listed here, trying to provide a plausible unified account for all of them.

4   Clause Fronting to [*Spec,Prt*]

We propose to account for the fact that all *SPs* can occur in sentence-final position under the assumption that *SPs* are located in a head position of the CP layer and that their sentence final position is derived via movement of their clausal complement, the whole CP, to their specifier, as illustrated in (35):

(35) $[_{FP}$ CP$_i$ $[_{F°}$ *particle*$][_{CP}$ t$_i$$]]$

The hypothesis that *SPs* are located very high in the structure and that the whole CP must raise across them might seem at first sight a rather *ad hoc* proposal. We will therefore compare this analysis with the null hypothesis, namely with the view that *SPs* are located in the low position inside the IP field, showing that the null hypothesis encounters a number of problems; in addition, there are empirical arguments suggesting that these particles belong to the CP-layer.

Firstly, we have to exclude the possibility that *SPs* are merged inside the VP, as they have no argument status. The assumption that *SPs* are located very low in the IP field would force us to the problematic conclusion that, given their sentence final positioning, all arguments must have vacated the VP; if this analysis might in principle be conceivable for object DPs (which move out of the VP in order to get case in some agreement projection), it looks much less plausible for PPs, which, not being in need of structural case, have no trigger for scrambling out of the VP.[9]

Secondly, given that low functional projections have in general aspectual value, we would expect that these particles also do. As we will see below, this is not the case; on the contrary, the interpretation triggered by the presence of *SPs* concerns semantic and pragmatic aspects such as presupposition, point of view, and presentation of the event, which are usually encoded in the left periphery of the clause.

Thirdly, the syntactic behaviour of *SPs* suggests that they belong to the highest functional domain: as shown above, they are not found in embedded contexts: this asymmetry is a typical property of phenomena involving the CP field (like for example *V2*, *do*-support, subject clitic inversion, etc.); to the best of our knowledge, no elements of the low inflectional field are sensitive to the main *versus* embedded status of the clause in which they occur.

After claiming that *SPs* are located in a head position of the CP layer and that their sentence final occurrence is derived via movement of their clausal complement, the whole CP, to their specifier, we intend to show now that the relation between *SPs* and the preceding CP does indeed display the properties of the structural spec-head relation.

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[9] Moreover, the structural position of the particle should be in that case the lowest specifier position above the VP projection: if it were a head, it would block verb movement and if it were not the lowest functional specifier, we would expect it to be followed by low adverbs.

As is well known, parentheticals cannot intervene between a head and its specifier, while they can intervene between two maximal projections.[10] Therefore, we can use parentheticals as a diagnostic test for spec-head relations; the following examples show that it is not possible to insert a parenthetical expression between the CP and any *SP*:

(36) a. *L'à piovest, son sicur, lu, ieri sera   Pg
          it-has rained, I'm sure, lu, last night

    b. *Cossa falo, diseme, ti?   Ve
          what does-he, tell me, ti

    c. *Vien, sa, mo!   Ve
          come, you know, mo

Under the proposed analysis, the natural question arises as to whether all the particles are located in the same head or whether each particle occupies a different C° position. As we will discuss in the next section, there are reasons to believe that each particle marks a different semantic value.[11] There is, however, a more straightforward syntactic argument for the hypothesis that *SPs* occupy different head positions inside the CP layer; interestingly, the particles *ti* and *po* can cooccur, in a rigid order in which *po* precedes *ti*:

(37) Quando eli rivadi, po, ti?   Pg

If the two particles cooccur, it is obvious that they cannot be located in the same head. According to our account there are two possible analyses of the sequence in (37), which can be derived either as in (38) or as in (39):

(38) a. [[ti] [po] [$_{CP}$ quando eli rivadi]]

    b. [[ti] [[$_{CP}$ quando eli rivadi]$_x$ [po]] t$_x$]

    c. [[[[[$_{CP}$ quando eli rivadi]$_x$ [po]] t$_x$]$_y$ [ti]] t$_y$]

(39) a. [[po] [ti] [$_{CP}$ quando eli rivadi]]

    b. [[po] [[$_{CP}$ quando eli rivadi]$_x$ [ti]] t$_x$]

    c. [[[$_{CP}$ quando eli rivadi]$_x$ [po]] [t$_x$ [ti]] t$_x$]

As illustrated, we can hypothesize two different initial sequences, depending on the relative linear order of the two particles. If *ti* is higher than *po*, as in (38a), we have movement of the interrogative clause into the specifier of *po*,

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[10] The general constraint blocking the insertion of parenthetical elements, and of lexical material in general, between a head and its specifier, follows straightforwardly from the antisymmetric approach of Kayne 1994.

[11] Adopting Cinque's (1999) view that each functional projection can only encode one semantic feature, we are led to the conclusion that each particle occupies a different head position.

as in (38b), and the final word order in (38c) is obtained by raising the whole constituent formed by the CP and the particle *po* into the specifier of *ti*. In the second derivation, with *po* higher than *ti*, as in (39a), the interrogative CP raises, through the specifier of *ti*, up to the specifier of *po*. Beside the different initial order, the difference between the two alternatives lies in the second step of the derivation: only in the former case does the moved constituent include the lower particle.[12]

We have seen that some *SPs* can either be preceded by the whole interrogative clause, as in (40), or intervene between the sentence initial *wh-*item and the rest of the clause, as in (41):

(40) a. Parché gnenlo, mo?   Pg
         why comes-he, mo

     b. Quando eli rivadi, po?   Pg
         when have-they arrived, po

(41) a. Parché, mo, gnenlo?   Pg
         why, mo, comes-he

     b. Quando, po, eli rivadi?   Pg
         when, po, have-they arrived

The examples in (40) show that the particle can be located in the left periphery, as it precedes the inflected verb which has undergone subject clitic inversion (we take subject clitic inversion to show that (some type of) verb movement to the CP layer has applied).[13]

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[12] On either analysis it is possible to account for the ungrammaticality of the following sequences:

(i)   a. *Quando eli rivadi, ti, po?

      b. ??Po, quando eli rivadi, ti?

      c. ??Quando po éli rivadi ti?
         [Po] when [po] have-they arrived [po/ti] [ti/po]

On the first analysis, the ungrammaticality of (ia) may be traced back to the fact that *ti* requires its specifier position to be filled by the whole complement (including the particle *po*); on the other hand, the deviance of (ib, ic) suggests that the raising of the whole clause to the specifier of *ti* requires previous movement of the clause (and not only of the *wh-*item) to the specifier of *po*, a condition which is virtually identical to the well known general restriction on successive cyclic movement according to which intermediate positions of the same type cannot be crossed over. On the other hand, the second analysis correctly predicts the ungrammaticality of (ia), where the particles are in the reverse order, as well as the deviance of (ib), where the specifier of *po* remains empty, and of (ic), where the *wh-*item has been extracted from a left branch.

[13] If we took (40) as the basic sequence, in view of (41) we would have to posit that the particle can either be merged in two different positions, belonging to very different sentence domains, or be merged very low in the structure and subsequently moved to the CP area for

On our account, the particle occupies one and the same position, the difference between (40) and (41) depending on whether it attracts to its specifier the whole clause or only the *wh*-item, stranding the clause. Hence, cases like (41) are expected if we assume the analysis in (35) and have a structure like the following, where the element checking the strong feature in the specifier of the *SP* is not the entire CP but the *wh*-item:

(42) $[_{FP}$ *wh$_i$* $[_{F°}$ *particle*$]$ $[_{CP}$ t$_i$ $[_{IP} ... t_i ...]]]$

We propose that the difference between particles that admit for this possibility and the ones that do not should be linked to the semantic feature the particle marks, as discussed below in detail.[14]

As for the obligatoriness of right dislocation in interrogative clauses, we assume that these cases should be treated along the lines of Kayne & Pollock 2001 and Munaro, Poletto & Pollock 2001, where it is proposed that these cases are to be analysed as left dislocation of the prosodically emarginated constituent to the specifier of a Topic projection, followed by remnant movement of the whole clause; according to our analysis, the XPs occurring after the particle are left dislocated to a CP position lower than the one occupied by the particle itself.

Empirical support for the idea that in the cases under examination what looks like right dislocation is left dislocation followed by clausal movement is provided by the contrasts in (43) and (44). As noted by Benincà (1988), right dislocation can be preceded by a focalized XP, which is prosodically tied to the verbal complex; interestingly, this does not hold for the kind of constructions we are examining here:

(43) a. *Vèrzila mo SUBITO, sta finestra   Ve

      b. Vèrzila mo, subito, sta finestra
          open-it [mo] soon [mo] this window

(44) a. *L'àtu vist mo IERI, to papà?   Pg

      b. L'àtu vist mo, ieri, to papà?
          him-have-you seen [mo] yesterday [mo] your father

In the examples (43b) and (44b) the adverb cannot be focalized, which shows that the object must have undergone left dislocation at some stage in the derivation.

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some reason to be determined. This hypothesis is not plausible, given that *SPs* do not encode any aspectual feature.

[14] A further argument in favour of our analysis is provided by the empirical generalization formulated above: those particles that can intervene between the *wh*-item and the rest of the clause may also occur with the *wh*-item in isolation. This fact follows straightforwardly from the analysis proposed here, while it would remain unaccounted for if we admitted that *SPs* are located in the low IP area.

5   On the Interpretive Contribution of the Particles

In this section we attempt a more thorough description of the contexts in which *SPs* are attested, thereby sketching an account of the semantic contribution of each particle to the interpretation of the clause.

5.1   *Ti*

As already mentioned, *ti* only appears in *wh*-questions and is not compatible with *yes/no* questions:

(45) a.   Quando sarali rivadi, ti?   Pg

     b.   Sarali rivadi quando, ti?
         [when] be-fut-they arrived [when], ti

(46) a.   *Saràli rivadi, ti?   Pg
         be-fut-they arrived, ti

     b.   *I ze partii, ti?   Ve
         they-have left, ti

Ti questions can have two different interpretive shades and both correspond to non-canonical interpretations of the question. On the first interpretation, which can be identified with Obenauer's (1994) 'can't find the value' (henceforth *Cfv*) reading, the speaker has already unsuccessfully tried to identify an appropriate value for the variable.[15] The second interpretation is a surprise/reproach (henceforth *Sr*) interpretation: in this case the speaker already knows the value of the variable, so his question does not really bear on the value of the variable bound by the *wh*-operator, but rather conveys a feeling of surprise or reproach towards the event referred to.[16]

    We propose that the function of *ti* is in both cases to signal that the value of the variable is outside the set of canonical answers. Suppose that the canonical way of interpreting a question is to present a class of possible answers and

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[15] This type of question can only be a self-addressed question; interestingly, both in Venetian and in Pagotto (as exemplified in (ia) and (ib)), *ti* cannot appear in epistemic questions, which display an overtly realized complementizer *che* and are generally in the subjunctive mood:

(i)   a.   Cossa che el gabia fato, (??ti)?
         what that he-have-subj done (ti)

     b.   Che'l sia 'ndat andé, (??ti)?
         that he-be-subj gone where (ti)

Questions of the type exemplified in (i) are also self-addressed questions, which might be taken to show that self-addressing in questions cuts across question types.

[16] For a more detailed analysis of questions with this particular type of pragmatic salience, the reader is referred to Poletto 2000: 67ff. and Munaro & Obenauer 2002.

invite the addressee to select one: *ti* signals a non-canonical interpretation of the question, that is, the fact that the addressee is not allowed to choose a value for the variable from inside the set. So, the common feature shared by both the interpretations associated with the presence of *ti* is the fact that the answer drawn from the set specified by the *wh*-item is not sufficient and/or relevant.

Let us analyse more in detail what semantic property these two interpretations share: in the *Cfv* interpretation all the possible values of the variable have already been tried and excluded by the speaker, while in the *Sr* interpretation the value of the variable is already identified but it is outside the set of plausible values defined by the context (see Obenauer 1994). Interestingly, the choice between the two interpretations seems to be connected to the verbal features, as present and past trigger the *Sr* interpretation more easily, while future favours the *Cfv* interpretation:[17]

(47) a. Dove le gavarò messe, ti?   Ve
          where cl have-fut-I put, ti

      b. Cossa avarali magnà, ti?   Pg
          what have-fut-they eaten, ti

(48) a. Andé eli ndadi, ti?   Pg
          where have-they gone, ti

      b. Cossa sì drio magnar, ti?   Ve
          what are-you eating, ti

The choice is performed via different mood marking: both in *Cfv* questions and in *Sr* questions the activation of a modal feature may be involved, most likely an epistemic modality in the former case and an evaluative modality in the latter (see Munaro & Obenauer 2002 for a specific proposal on the second type of questions).[18]

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[17] Notice that *Cfv* questions with *ti* are incompatible with second person subjects, which is probably due to the fact that the speaker excludes the possibility of receiving an answer from the addressee:

(i)   a. *Andé sareo ndadi, ti?

       b. *Dove sarì ndai, ti?
           where be-fut-you gone, ti

[18] That future tense can have modal properties is shown by examples like the following:

(i)   Bussano alla porta. Sarà Gianni.
       (they) are knocking at the door. (It) will-be John
       'Somebody is knocking at the door. Probably it's John.'

As illustrated by the English translation, the use of the future in this case triggers an epistemic interpretation.

The fact that modality is relevant to the interpretation of the question could provide an explanation for why *ti*, unlike other particles, always requires the whole CP, and not simply the *wh*-item, in its specifier. If the modal feature must be in a local structural relation with the particle, there are a priori two possible ways to satisfy this requirement: since *ti* has no affixal properties, left-adjunction of the finite verb to the particle via head movement is excluded, so we are left with the option of pied-piping the whole CP up to the specifier of the particle.[19]

In the *Sr* interpretation not only does the speaker know that the value of the variable is outside the set; the set is defined either on the basis of acceptable values (producing the reproach reading) or on the basis of the expected values (producing the surprise interpretation). In other words the rough interpretation of (49a) is (49b):

(49) a. Cossa$_C$ magnelo ti ?

    b. {magna cossa, x : x ϵ C Δ x is a thing}
        C = acceptable
        C = expected

The two basic meanings of the *Sr* question type are thus derived from the typing of the set of possible values, which can be either expected or acceptable.

5.2 *Mo*

As anticipated above, the particle *mo* has a different distribution in Venetian and Pagotto, as only in the latter dialect can it occur both in interrogatives as well as in imperatives.

We propose that *mo* can have the following values in the structures examined: it introduces a *presupposition* and/or it expresses what has been described in the literature as a *point of view*. From these two properties we can derive its interpretive import in the two dialects under investigation. In Pagotto *mo* introduces 'point of view' because it expresses a reference to the person for whose benefit the action has to be performed (either the speaker or the hearer). Imperatives with *mo* are uttered to benefit a class of persons which includes the hearer (similar information is conveyed by the particles *mo/ma* in the Rhaetoromance variety of Badiotto, as discussed in Poletto & Zanuttini 2003):

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[19] As for the fact that *ti* occurs only in *wh*-interrogatives and not in *yes/no* questions, this may depend on the fact that in the latter the variable can have either a positive or a negative value; since these two values exhaust the set, there is no third value to be placed outside the set.

(50) a. Magna, mo   (che te deventa grant)!   Pg
       eat,   mo, (so that you grow up)

    b. Ledelo, mo (che te capisarà tut)!   Pg
       read it, mo, (so that you'll understand everything)

(51) a. Nèteme le scarpe, mo (che sion in ritardo)!   Pg
       clean my shoes,   mo, (that we are late)

    b. Parèceme da magnar, mo (che dopo avon da 'ndar via)!   Pg
       cook for me,   mo, (that later we have to go)

Sentences like the ones illustrated in (50) are clearly uttered to the advantage of the hearer, while those in (51) are felicitous only if they are uttered in a context in which both the speaker and the hearer benefit from the action performed.[20]

   As for the role of *mo* in imperatives in Venetian, it can be informally characterized as expressing the confirmation of an order already given, requiring that the action be performed immediately; as such it is not compatible with adverbs expressing future tense:

(52) a. Ciamime (*tra un'ora), mo!   Ve
       call me   (in an hour), mo

    b. Lezilo (*doman), mo!
       read it (tomorrow), mo

In Venetian imperatives *mo* is sensitive to the tense of the utterance, as it signals that the utterance time and the performance time must coincide. In addition to this, *mo* signals the presence of a presupposition, that is, that the speaker already knows that the hearer does not intend to obey the order. The combination of these two factors, that is, the presupposition and the coincidence between utterance and performance time, yields a semantic effect characterized by Venetian informants as 'reinforcement of the order'.

   In imperatives *mo* expresses two distinct values in the two dialects under investigation, but the reading conveyed by *mo* in Pagotto interrogatives is partially similar to the one expressed in Venetian imperatives because in both cases a presupposition concerning the addressee's intentions is entailed (as noted above, *mo* does not appear in Venetian interrogatives). We surmise that

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[20] The distinction concerning *point of view* attested in Pagotto is not relevant in Venetian, as *mo* can appear in the following imperative clauses, expressing an order whose performance is exclusively to the advantage either of the hearer or of the speaker:

(i)   a. Vien mo, che te iuto!
       come mo, that I help you

    b. Vien mo, che ti me porti   casa!
       come mo, that you take me home

in *mo* interrogatives both a presupposition and a point of view are involved, the interpretation depending on the position of the *SP*:

(53) a. Quando rivaràli, mo?   Pg

   b. Quando, mo, rivaràli?
       when   [*mo*] *arrive-fut-they* [*mo*]

If the whole clause raises, as in (53a), the speaker expresses the fact that the present situation does not conform to his expectations, a fact which, due to the presence of the point of view, might have negative consequences; if *point of view* is encoded by a modal projection in the higher portion of IP (see Poletto & Zanuttini 2003), then IP raising is necessary for the intended interpretation to obtain (as is the case with *ti*). When the particle occurs immediately after the *wh*-item, as in (53b) (or with the *wh*-item used in isolation), *mo* introduces the speaker's opinion that the addressee does not intend to answer, so that he is forced to repeat his question. Hence, what is expressed in this case is not a point of view, but just a presupposition; given the absence of point of view, the clause need not raise as a whole and the *wh*-item can, and must, raise alone.[21]

   We can conclude that both in Venetian imperatives and in Pagotto interrogatives (with the particle following the *wh*-item), the effect of reinforcement perceived by the informants is due to some presupposition concerning the addressee's attitude. How this presupposition is syntactically expressed, however, remains to be determined.

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[21] A similar distinction between two different dialects is found the Rhaetoromance varieties spoken in the Badia valley; in the dialect spoken in S.Leonardo *mo* exclusively expresses the speaker's point of view:

(i)   a. Arzignem   mo   le bagn
           prepare-me mo   the bath

       b. *Töt mo n'de   d vacanza
           take mo a day of holiday

The ungrammaticality of (ib), which is uttered to the benefit of the addressee, shows that in this dialect the particle *mo* expresses an order to be performed to the benefit of the speaker. In the minimally different dialect of S.Vigilio di Marebbe *mo* encodes an order to be performed immediately and as such it is incompatible with adverbial forms of duration or referring to a point in the future:

(ii)   a. Dayrela mo (*te siis mensc)
           *open-it   mo (*in six months)*

       b. Comportete mo (*entrees) bun
           *behave-refl mo (*always) well*

5.3 *Po*

Also in the case of *po* the interpretation of the sentence depends on the position of the particle, which, as anticipated above, can appear either sentence-finally or immediately after the *wh*-item:

(54) a. Quando eli rivadi, po?   Pg

     b. Quando, po, eli rivadi?
         when   [*po*] *have-they arrived* [*po*]

We claim that the contribution of *po* to the interpretation of the clause consists of two components: the fact that the set of the answers specified by the *wh*-item is ordered according to a probability scale (along the lines of Portner & Zanuttini's (1998) analysis of exclamative clauses) and that the most probable values have already been tried and excluded.

    When *po* immediately follows the *wh*-item, as in (54b), the speaker knows that the event was supposed to take place and is asking for a confirmation; as discussed above for *mo*, this interpretation seems to convey a presupposition concerning the whole event, so that the question does not really bear on the *wh*-item. This position triggers an interpretation in which the possible values for the variable have been ordered according to a probability scale derived through the context, and the most probable ones have been excluded.

    Sentence-final *po*, in (54a), in addition to the ordering of the possible values and the exclusion of the most probable ones, also entails the speaker's reference to a preceding communicative situation that has been left suspended and is taken up again at present. We suggest that the speaker's reference to a previous situation might be connected to the activation of the *Tense* projection, which, being relevant for this interpretation, must move to the specifier of the particle, pied-piping the whole clause (as in the cases of *ti* and *mo*).[22]

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[22] Indeed, this additional interpretation is excluded in Venetian with a future tense:

(i) %Quando sarali   rivai,   po
     when   *be-fut-they arrived po*

As mentioned above, in Pagotto *po* is also attested in sentence initial position, both in yes/no and in *wh*-questions:

(ii) a. Po, éli rivadi?

     b. Po, quando éli rivadi?
        po [*when*] *are-they arrived*

In both cases the presence of *po* conveys the speaker's mild surprise about the fact that the event has taken place, rather than focalizing the question on whether they have arrived or not or on the actual time of their arrival; hence the event is presented as unexpected given the context, and the value of the variable does not seem to be relevant.

5.4 *Lu*

The occurrence of the particle *lu* is limited to non-constituent exclamatives presenting the whole propositional content as unexpected:

(55) a. L'é   frét,   lu   Pg
         it-is cold [lu]

     b. L'é   rivà   al to amigo, lu   Pg
         it-has arrived your friend, lu

So, in the two examples in (55) the speaker becomes aware of an unexpected matter of fact: in (55a) he realizes that the temperature is lower than he expected, while in (55b) he is surprised about the fact that the addressee's friend is not going to arrive.

   Lu is not compatible with constituent exclamatives in which a *wh*-phrase has been fronted to the sentence-initial position, as shown by the following examples:

(56) a. Che fret (*lu) che l'é   incoi (*lu)   Pg
         how cold [lu] that it-is today [lu]

     b. Quant   (*lu) che l'à   piovest ieri sera (*lu)
         how much [lu] that it-has rained last night [lu]

We will limit ourselves to suggesting that the semantic function of *lu* consists in introducing a presupposition. In this case, the event described by the clause corresponds to either of the two possible truth values (positive and negative); the propositional content expressed is contrary to the speaker's expectations, so the interpretive feature associated with *lu* may be reduced to the choice of the contextually less probable value (between the two a priori conceivable ones).

   In this respect the interpretive contribution of *lu* in reversing the presupposition resembles the semantic function performed by *mica* in standard Italian (see Cinque 1976):

(57) Non fa   mica freddo oggi
     not   makes mica cold   today

In (57) the speaker expresses the fact that, contrary to common expectations, it is not cold; in this sense, *lu* could be viewed as the positive counterpart of *mica*.

6 Summary

In this article we have analysed the syntactic and semantic behaviour of some sentential particles attested in the Veneto dialects. The particles we have

considered share some interesting properties: they are associated with specific clause types; they can only appear in matrix clauses; and they can all occur in sentence-final position and display the typical properties of X°-elements. Our hypothesis that each particle occupies a different head position within the CP layer is crucially supported by the possibility of combining two particles; however, their precise ordering and a precise characterization of the single projections they mark remains to be determined.

We have proposed a syntactic analysis exploiting movement of the *wh*-item or of the whole clausal complement to the specifier of the projection whose head is occupied by the particle. The interpretation triggered by the presence of the particle changes depending on whether the constituent which targets the specifier of the *SP* is the *wh*-item or the whole clause. We have suggested that the raising of the whole CP-complement is induced by the necessity for some projection of the inflectional field (typically Tense or Mood) to enter a local structural relation with the particle; when this obtains Tense or Mood also contribute to the interpretation of the clause, which becomes a function of the semantic import of the particle combined with the interpretive contribution of the relevant projection. Each particle is sensitive to tense and modality features in a different way, an issue which deserves further investigation.

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On Split-CPs, Uninterpretable Features, and the 'Perfectness' of Language

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Abstract

This paper discusses critically a number of developments at the heart of current syntactic theory. These include the postulation of a rich sequence of projections at the left periphery of the sentence; the idea that movement is tied to the need to eliminate uninterpretable features; and the conception put forward by Chomsky and others that advances in the past decade have made it reasonable to raise the question about whether language might be in some sense 'perfect'. However, I will argue that there is little motivation for a highly-articulated left-periphery, that there is no connection between movement and uninterpretable features, and that there is no support for the idea that language might be perfect.

1 Introduction

The scope of this paper is quite wide-ranging, but hopefully not excessively so. Its goal is to discuss and relate a number of proposals whose relation might not be immediately obvious. These include the postulation of a sequence of projections at the left periphery of the sentence, each encoding some aspect of the sentence's information structure; the linking movement to the elimination of uninterpretable features; and the idea that advances in the past decade have made it reasonable to raise the question about whether language might be in some sense 'perfect'. Here is a typical passage from Chomsky to that effect:

> [Is] it possible that the system of language itself has a kind of optimal design, so, is language perfect? Back in the early 1980s that was the way I started every course — 'Let's ask: could language be perfect?' — and then I went on the rest of the semester trying to address the question, but it never worked, the system always became very complicated. What happened in the early 1990s is that somehow it began to work; enough was understood, something had happened, it was possible to ask the question in the first session of a course: could language be perfect? and then get some results which indicated it doesn't sound as crazy as you might think. (Chomsky 2002: 96-97)

For each trend, I am going to take what one might call a 'cautious', perhaps even a 'conservative', position. I will conclude that there are no strong arguments for a highly-articulated left periphery, that there is no connection

whatsoever between movement and uninterpretable features, and that the idea that language might be perfect is at best incoherent.

The paper is organized as follows. Section 2 outlines the split-CP hypothesis and section 3 shows how the Nested Dependency Constraint is able to account for much of the data that has been appealed to in order to motivate the hypothesis. Section 4 argues against the covert movement of focus and topic and section 5 against attracting focus projections. Section 6, by pointing to the disparity between information structure and structural positions, reinforces the conclusions of the previous two sections. The claim that language might be 'perfect' is put under the microscope in section 7, followed by a brief conclusion in section 8.

2   The Split-CP Hypothesis

By the mid 1980s, a near consensus had arisen on one aspect of clause structure. In the then-dominant view, CP and IP occupied root position and were regarded as full participants in X-bar system, as in (1):

(1) $_{CP}$[SPEC,CP $_{C'}$[C $_{IP}$[SPEC,IP $_{I'}$[I VP …

The dominant trend within Principles-and-Parameters syntax today is to split CP into an indefinite number of separate projections, as in (2):

(2) $_{\alpha P}$[SPEC, αP $_{\alpha'}$[α $_{\beta P}$[SPEC, βP $_{\beta'}$[β $_{\gamma P}$[SPEC, γP $_{\gamma'}$[γ … IP …

Three widely accepted theoretical proposals of the 1990s made the split-CP hypothesis almost inevitable:

(3)   a. There is no optionality in grammar; hence elements move only when they are 'required to' (Chomsky 1995).

b. Movement must be triggered by a feature on a functional head (Chomsky 2000).

c. Features of the 'peripheral system' (force, topic, focus, etc.) trigger A' movement (Chomsky 2000).

(3a), in effect, requires that seemingly optional variants have different underlying structures. Since few if any structural variants have the same information structure properties, it seemed reasonable to locate their structural differences in projections representing properties of information structure. Such an idea was reinforced by the adoption of (3b) and (3c).

Luigi Rizzi has been the prime mover in implementing the idea that the elements above IP (the 'left periphery') encode semantic and pragmatic properties of the sentence:

Syntactic movement … must be triggered by the satisfaction of certain quasi-morphological requirements of heads. … [S]uch features have an interpretive import (Wh, Neg, Top, Foc, …): they determine the interpretation of the category bearing them and of its immediate constituents …, function as scope markers for phrases with the relevant quantificational force in a local configuration, etc.… (Rizzi 1997: 282)

The tree in (4) illustrates his concrete proposal:

(4) ForceP   Rel pronouns are in Spec of ForceP

$\qquad$ Force^0 TopP*   Interrog pronouns are in Spec of FocP

$\qquad\qquad$ Top^0 FocP

$\qquad\qquad\qquad$ Foc^0 TopP*

$\qquad\qquad\qquad\qquad$ Top^0 FinP

$\qquad\qquad\qquad\qquad\qquad$ Fin^0 IP
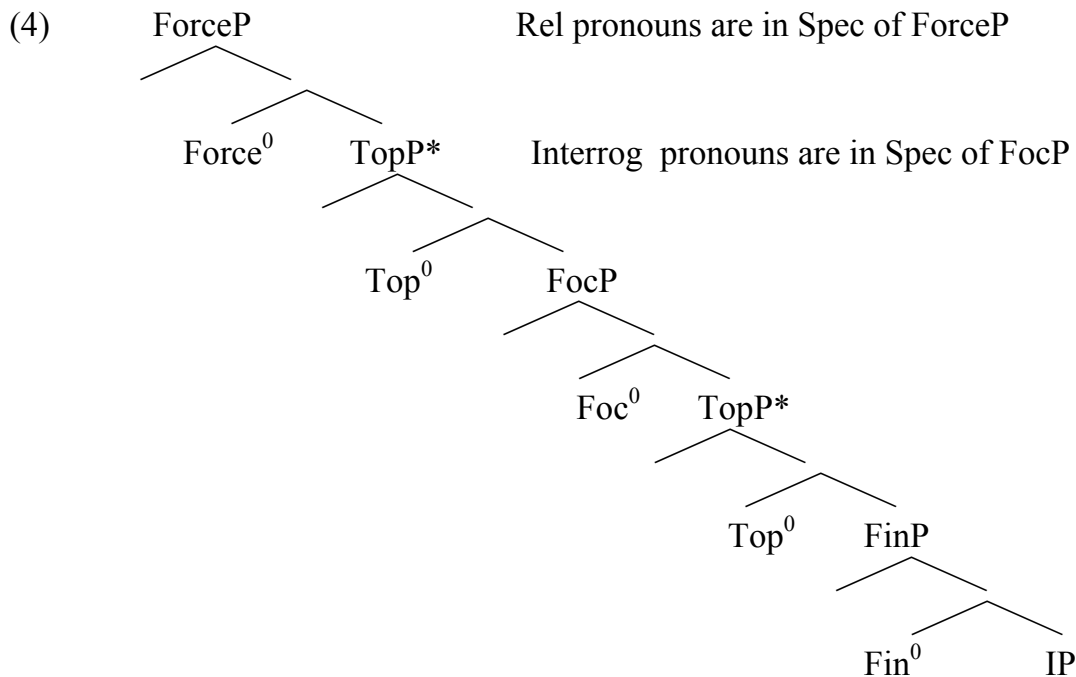
(Rizzi 1997; see also Hatakeyama 1997 for a similar proposal)

In this view, then, CP is split into a number of semantically-relevant projections. The highest projection, Force Phrase, encodes the illocutionary force of the sentence (whether it is declarative, interrogative, exclamatory, and so on). Below are Topic Phrases and a Focus Phrase. The lowest CP-type projection is 'FinP', which specifies whether the IP below it is finite or non-finite. Notice that Topic Phrases can iterate both above and below the Focus Phrase, at least in Italian:

(5) Credo che a Gianni, QUESTO, domani, glidovremmo dire
$\qquad$ *C   Top   Foc   Top   IP*
$\qquad$ 'I believe that to Gianni, THIS, tomorrow we should say'

In Rizzi's account, information structure is directly encoded in the LF representation, as in (6a, b). What follows the Topic is claimed to be the Comment; what follows the Focus the Presupposition:

(6) a. Top^0 [Comment]

    b. Foc^0 [Presupposition]

Since 1997, the 'cartography of the C domain' (as it is often referred to) has become a topic of much discussion. It seems fair to say that most work in the general envelope of the MP has accepted the idea of multiple projections on the left-periphery. Indeed, the trend seems to be to propose *more* projections than those posited by Rizzi. The next few sections argue against the idea of splitting CP into a multitude of distinct projections.

3   Ordering on the Left Periphery and the NDC

The primary support for the articulated structure of (4) comes from what appear to be strict ordering restrictions on the left periphery. For example, Rizzi points out that preposed topics follow *wh*-relative pronouns, but precede *wh*-interrogative pronouns, as in (7) and (8):

(7)   a. the man to whom liberty, we could never grant (Baltin 1982)

      b. *the man, liberty, to whom we could never grant

(8)   a. On the table, which dishes are you going to put?

      b. *Which dishes are, on the table, you going to put? (Culicover 1991a)

Such facts would seem to support the idea of a *wh*-relative projection above a topic projection, in turn above a *wh*-interrogative projection.

    These facts, however, follow from an independently-needed principle. Consider the structures of (7a, b) and (8a, b), namely (9a, b) and (10a, b), respectively:

(9)   a.

b.

```
                        NP
                  ┌─────┴─────┐
                 NP           CP
                  │      ┌─────┴─────┐
              the man   NP          CP
                         │     ┌─────┴─────┐
                      liberty_i Spec,CP    IP
                                   │    ┌───┴────┐
                                to whom_j NP     VP
                                           │    ╱────────╲
                                      we could never grant t_i   t_j
```

(10) a.

```
                            CP
                  ┌─────────┴─────────┐
                 PP                   CP
                  │            ┌───────┴───────┐
            on the table_i  Spec, CP          IP
                               │          ╱────────╲
                         which dishes_j  are you going to put t_j   t_i
```

b.

```
                                 CP
                       ┌──────────┴──────────┐
                    Spec, CP                 CP
                       │              ┌───────┴───────┐
                 which dishes_j      PP              IP
                                      │          ╱───────╲
                                on the table_i  are you going to put t_j   t_i
```
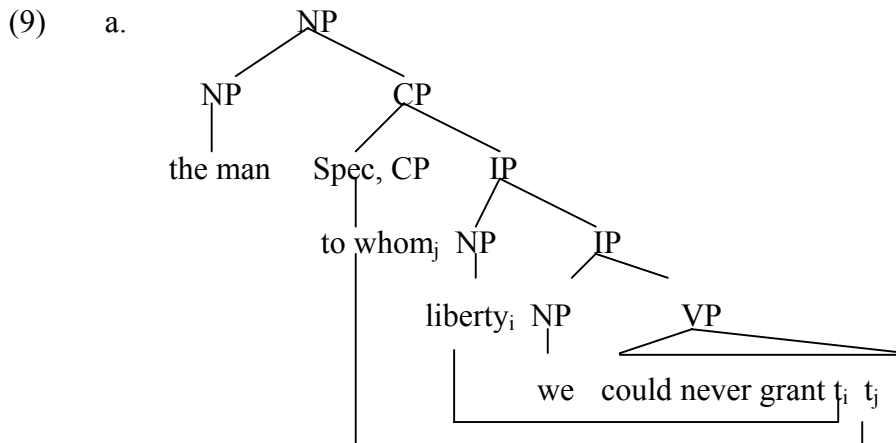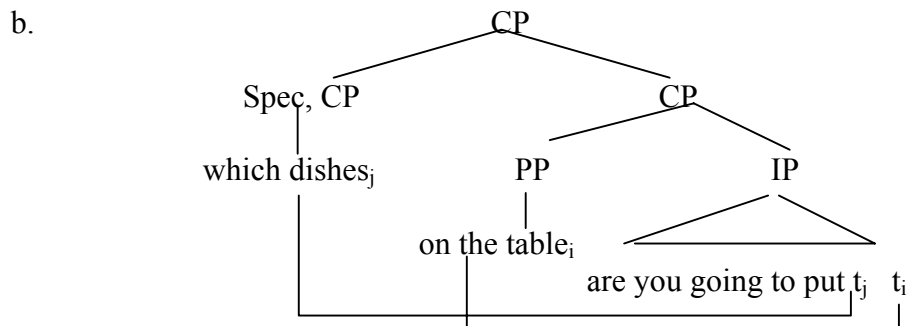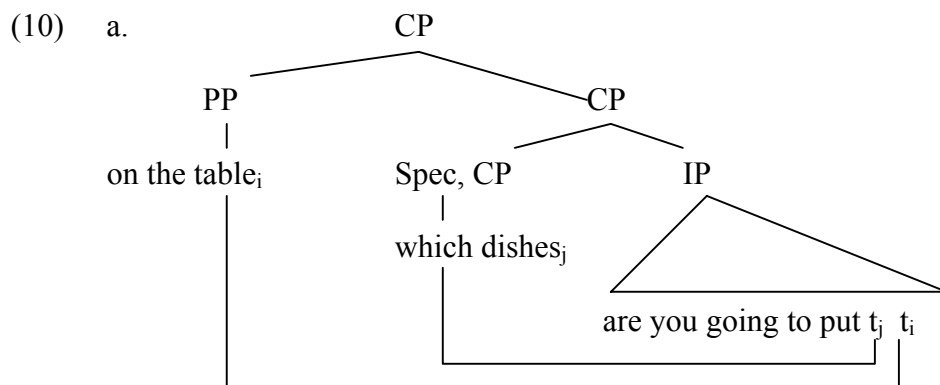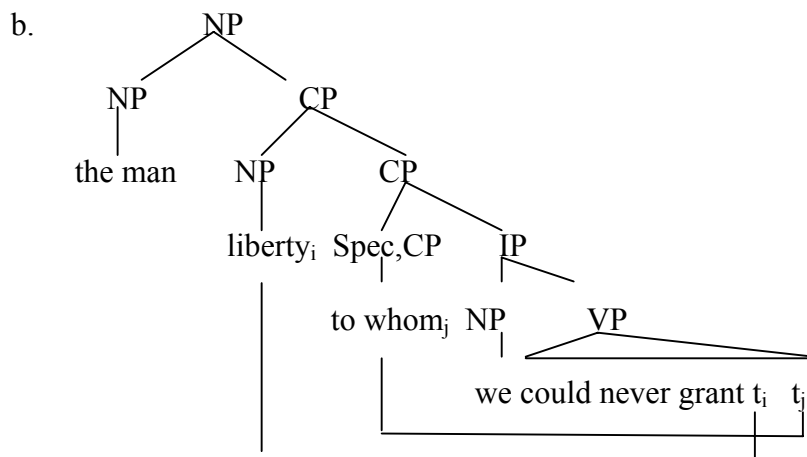
As the trees clearly indicate, the grammatical expressions comply with the Nested Dependency Constraint (11), while the deviant ones violate it.

(11) NESTED DEPENDENCY CONSTRAINT (Fodor 1978, 1984; Pesetsky 1987): Multiple filler-gap dependencies may be disjoint or nested, but not intersecting.

Hence there is no need to posit separate projections for interrogative and relative pronouns. The bulk of the ordering restrictions among overt elements on the left periphery fall out in an analogous way.

I should point out that there is a wide range of acceptability regarding sentences like (8a). (8a) itself I find to be of only of marginal acceptability. Other sentences like it are clearly bad, for example (12a, b) and others much better, for example (12c, d):

(12) a. *The book to whom did you give?   (Baltin 1982)

   b. *Robin who will talk to?   (Culicover 1991a)

   c. ?On that subject, who should I consult with
                                   (Haegeman & Guéron 1999)

   d. During the holidays, which book will you read?
                                   (Haegeman & Guéron 1999)

I will return to these sentences in §6.

4   Against Covert Movement of Focus and Topic

The grammatical element acting as topic and focus in English and other languages is very frequently not on the left-periphery on the surface. Hence, given a Rizzian approach, non-overtly fronted topics and focuses raise in LF to the Spec of their relevant projections, attracted by the features of the heads of these projections. The idea of LF focus movement goes back to work by Chomsky in the 1970s (Chomsky 1976, 1981). There is no difficulty, of course, in positing the LF movement of an element from some clause-internal position X to some left-peripheral position Y. The only question is how motivated the movement is. I will argue now that the motivation for LF movement of focus and topic is very weak.

Rizzi gives a number of arguments for LF focus movement, the most important of which is the fact that focus, unlike topic, sets up an operator-variable relation. For example, focuses, but not topics, give rise to weak cross-over effects (Culicover 1991b; Lasnik & Stowell 1991; Rizzi 1997):

(13) a. John$_i$, his$_i$ mother loves t$_i$ (*John* a topic)

   b. *JOHN$_i$ his$_i$ mother loves t$_i$ (not Paul) (*John* a focus)

Even in situ focus can generate weak cross-over effects, as pointed out by Lappin (1982) and Lasnik & Stowell (1991):

(14) ??His$_i$ mother shot JOHN$_i$

At first thought, the quantificational nature of focus would seem ideal for an LF movement analysis. But the problem with a movement approach to focus is

that basically *anything* can be in focus. That means that focus movement obeys or violates island constraints willy-nilly. So as noted by Reinhart (1991), the stressed NPs in (15) are contained in strong (ungoverned) islands:

(15) a. [IP [CP That Linda argued with THE CHAIRMAN] is surprising].

b. [IP [NP Even the paper that LUCIE submitted to our journal] was weak].

Extraction of the focused elements should therefore be impossible. Horvath (1999) made a similar point with the examples in (16) and (17) and Jackendoff (1997) with the ones in (18) and (19):

(16) Q. Do people wonder where Mary was last night?

A. No, people wonder where [Mary's BOYFRIEND] was last night.

(17) Q. Have you shown Bill the book that I gave you for your birthday?

A. No, I have (only) shown him the book that you gave me for CHRISTMAS.

(18) a. Is John certain to WIN the election?, which could not have LF:

b. *[win$_i$ [is John certain to t$_i$ the election]]

(19) a. Does Bill eat PORK and shellfish?
which could not have LF:

b. *[pork$_i$ [does Bill eat t$_i$ and shellfish]]

Notice that pied-piping is not an option for deriving the sentences of (16)-(17), given the reasonable prohibition against LF pied-piping. And even if covert pied-piping were permitted, it should not apply in sentences (16) and (17), since if a *wh*-word is substituted for the focus, pied-piping is impossible:

(20) a. *Whose boyfriend do people wonder where was last night?

b. *For what (holiday) did you show him the book that you gave me?

But what then about the weak-crossover effects observed with in situ focus? Erteschik-Shir (1997) has explained how the cases we have been looking at can be explained without focus movement. In sentences like (14), coreference licensing is violated since stress on the antecedent blocks its interpretation as a topic.

The idea of LF movement to Spec,FocP would be supported if the configuration resulting from this movement were sufficient to guarantee an operator-variable relation between filler and gap. It would indeed be impressive if the hypothesized LF-movement correlated with facts about quantification. But Rizzi postulates parallel movements where there *is no* operator-variable relation. That is, he has LF-topicalization as well. As Rizzi himself points out and discusses in detail, topicalization is not quantificational

(as the contrast between (13a) and (13b) illustrates). Unfortunately, the non-quantificational nature of topics does not follow from anything in Rizzi's analysis per se. He is forced to stipulate that a focus-moved element binds a variable and that a topic-moved element does not. In other words, these fundamental semantic differences between topics and focuses give no support to the split-CP hypothesis.

It is also worth pointing out with respect to topicalization that topics do not obey Rizzi's own Relativized Minimality principle. That is, they do not interfere with each other. Rizzi's paper is full of examples of multiple topicalization where one topic has clearly moved over another. Such seems to provide another reason to abandon topic projections.

A related problem has been pointed to by (Shaer 2003a,b). Shaer argues that the fronted adverbials in (21) bear no syntactic relation to the sentence they are associated with. In the terminology of Haegeman (1991), they are 'orphans':

(21) a. *With perfect technique*, John executed the triple somersault.

b. *As passionately as he could*, Kim kissed Sandy.

c. *With nothing but a crowbar and a ballpeen hammer*, I very much doubt that Terry will be able to repair the Vax in our office.

To summarize Shaer's arguments, the sentence-initial adverbs in (21) are set off intonationally from the rest of the sentence; do not give rise to Principle C violations when they contain R-expressions coindexed with a subject NP; show no evidence of being subject to movement constraints; never trigger subject-auxiliary inversion; resemble parentheticals in their behavior with respect to VP ellipsis; can be interpreted as applying to both conjuncts when they occur with conjoined sentences; and are unable to license negative polarity items, where the licensor needs to be in a c-command relation to the NPI. The problem for the Split-CP hypothesis is that these initial adverbials have the same sort of information structure properties that other fronted elements have. One would assume that if CP were split, then they would occupy the Spec of TopP or FocP, as the case may be. The conclusion that *some* fronted elements do not participate in an articulated CP cartography suggests that such an approach *in general* is on the wrong track.

Complicating matters still further is the fact that Rizzi implies that not all topics and focuses that are in situ on the surface should be fronted in LF. For example, he makes a statement that I find quite cryptic:

> [I]t is reasonable to assume that the topic-focus system is present in a structure only 'if needed', i.e. when a constituent bears topic or focus features to be specified by a Spec-head criterion'. (1997: 288)

But what determines which such features need to be specified and which do not? Rizzi has given a possible answer in class lectures. He postulates what he calls 'Subj-Pred Articulation' and suggests that in situ subject-topics are interpreted as in (22c), parallel to (22a) and (22b):

(22) a. [XP [Top Comment]]

b. [XP [Foc Presupposition]]

c. [XP [Subj Predicate]]

I have no idea what the discourse interpretation of 'Subj Predicate' might be that would distinguish it from Top Comment. In fact, I doubt very strongly that 'subject' and 'predicate' are information-structure concepts at all. Rizzi does suggest a criterion to distinguish elements in a (22a) configuration from those in a (22c) configuration. He suggests that the fronted topics of (22a) need to be D-linked, while the subjects of (22c) need not be. But in fact, not all fronted topics are D-linked. So, I can observe some workers moving heavy furniture into an office and felicitously remark to my friend (23):

(23) A filing cabinet that heavy you would never get me to lift.

A filing cabinet can be a discourse topic without being D–linked. In fact, sentence (23) could be uttered without any discourse antecedence at all.

Feature-driven topic and focus movement leads to other curious problems. It has been a staple of discourse studies since the early work of the Prague School that non-contrastive focus in English is a function of the information contour and is therefore final in its domain. Indeed, Chomsky endorsed that idea over 30 years ago:

> … an apparent alternative would be to determine focus and presupposition in terms of surface structure: the focus is the phrase containing the intonation center, and the presupposition is determined by the replacement of the focus by a variable … (Chomsky 1971: 200).

So consider Chomsky's sentence (24):

(24) Was he warned to look out for [an ex-convict with a red shirt]?

<div align="center">

SHIRT

RED SHIRT

A RED SHIRT

WITH A RED SHIRT

EX-CONVICT WITH A RED SHIRT

AN EX-CONVICT WITH A RED SHIRT

</div>

All of the capitalized constituents are possible focuses. Nevertheless, they are not all are phrasal constituents. For example, the noun *shirt*, head of the NP *a red shirt*, is not phrasal. Unless one were to take the position that all constituents on right branches are maximal projections, the movement of *shirt* to SPEC, FocP violates constraints on movement going back to Emonds' Structure Preserving Constraint (Emonds 1976).

Focus movement becomes even more problematic, given that Rizzi and others assume that *contrastive* focus fits into the schema. But not only do contrastive focuses not have to be maximal projections, they do not have to be on right branches either. Examples from Ladd 1978 and Lambrecht 1994 illustrate:

(25) Q. Has John read *Slaughterhouse-Five*?

   A. No, John doesn't READ books.

(26) Mary is THE boss.

Also, note contrastive focus can be formally discontinuous (Jacobs 1984, 1988,1992; Krifka 1991; Rooth 1985; von Stechow 1989):

(27) Q: Did Mary wash the car?

   A: No, TOM washed the WINDOWS.

Chomsky (1971) has even given an example of where the focused element is a prefix:

(28) John is more concerned with AFfirmation than with CONfirmation.

It is not clear how a prefix could occupy [Spec, FocP].

In other words, the idea of moving focus to the left periphery creates more problems than it solves.

5   Against Attracting Focus Projections

Let me turn to another problem with the idea that A′-movement is driven by features housed in functional projections with semantic or pragmatic relevance. For some such movements, there is no plausible semantically appropriate functional projection to act as a landing site. So consider Heavy-NP Shift:

(29) I gave [to Mary] [all my books on the phonetic foundations of conventional implicature].

The classical analysis of this construction involves adjunction to the right. However, there have been several attempts to derive heavy NPs through leftward movement (Kayne 1994; Larson 1988, 1990; Rochemont 1998;

Rochemont & Culicover 2000). For Rochemont, the movement involves attraction to a feature of a head. The question is the nature of the attracting projection. The usual assumption that it is a Focus Phrase and so movement is to Spec of a FocP. The problem is that heavy NPs are not necessarily in focus. As Arnold, et al. (2000) have shown, postposing is a complex function of information structure and processing requirements. These requirements sometimes work together, but not always. So, for example, in (30b), the phrase *to Mary* is the focus, not the postposed heavy NP:

(30) a. To whom did you give all your books on the phonetic foundations of conventional implicature?

b. I gave [TO MARY][all of those unbelievably ridiculous publications].

But if Heavy-NP Shift is movement to the left to check off a feature, and it is not necessarily a focus feature, then what semantic or information-structure motivation could the projection have? And if none, then what is the empirical motivation for the leftward movement in the first place?

Another argument that has been made for the direct syntactic encoding of a focus projection is that in some languages the movement appears to be instantiated overtly to some designated structural focus position. Hungarian is the best-studied instance. So — the reasoning goes — one should find parallel covert movement in other languages. And if such movement exists, then why not regard it too as attraction by a focus feature?

The problem is that in a lot of languages the overt movement of focus would have to be supplemented by a subsequent covert movement to get the scope facts right. Take the Bantu language Aghem, as discussed by Watters (1979) and Horvath (1995):

(31) a. fɨl   á   mɔ̀   zɨ́   GHɛ́   bɛ́-ˈkɔ́
       friends   SM   P₂   eat   WHERE   fufu
       'Where did the friends eat fufu?'

b. fɨl   á   mɔ̀   zɨ́   ÁN   'SÓM   bɛ́-ˈkɔ
   friends   SM   P₂   eat   IN   FARM   fufu
   'The friends ate fufu IN THE FARM.'

Aghem is an SVO language with a syntactic focus position immediately following V — the position in which *wh*-elements and other focused phrases occur. So one would posit a FocP in that position triggering movement into that position. But as Horvath points out, the focused phrase has scope over the entire sentence. So assuming that scope is determined on the basis of c-command relations, one would still need a covert focus movement in Aghem.

In other words, overt scope-position languages provide no support for an analogous covert movement in languages like English. Some overt movement languages would have to have covert movement as well.

The same point can be made for Chinese (Niina Zhang, personal communication). In Chinese, referential DO's can move to a position between the subject and the verb, creating SOV order:

(32) Háizi bǎ   shū   mǎi   le
    child   OBJ   book   buy   ASP
    'What the child did to the book was buy it.'

But the object in this position is either a focus (if it is stressed) or a topic. So again, covert movement would be needed to get the scope facts right.

Wh-movement manifests the same problem. In Malayalam and a number of other OV languages, question words move immediately to left of V, but have scope over the entire sentence:

(33) a. niṅ-ṅe   aarə   talli   (Jayaseelan 2002)
      you-ACC   who   beat (PAST)
      'Who beat you?'

    b. *aarə   niṅ-ṅe   talli
      who   you-ACC   beat(PAST)

So, again, to get the scope facts, one would need to posit a second covert movement. The fact that both overt and covert *Wh*-movement have apply in the same language makes the idea that *Wh*-movement is attraction to [Spec,FocusP] lose a lot of its appeal.

6   The Disparity between Information Structure and Structural Positions

Confounding the split-CP hypothesis still further is that fact that preposed *wh*-elements themselves have information structure properties. For example, in the unmarked case, *wh*-relative pronouns are topics and *wh*-interrogative pronouns are focuses. These facts create still other conflicts. Let us reexamine tree (4). Rizzi posits relative pronouns in Spec, ForceP and interrogative pronouns in Spec of FocP. This hypothesis gets the ordering facts right, as well as the generalization that *wh*-interrogative pronouns are focuses. But it gets other facts wrong. If relative pronouns occupy [Spec, ForceP], then we lose the generalization that they are topics and it mistakenly implies that they type the illocutionary force of the S. Likewise, if interrogative pronouns are in [Spec, FocP], as suggested by Rizzi, then one loses the generalization that it is the nature of ForceP that types a sentence as declarative, interrogative, and so

on. It is the *wh*-phrase in questions that conveys the illocutionary force of questioning. Thus, the interrogative head feature of ForceP would seem to need an interrogative phrase in its Specifier to meet the *Wh*-Criterion, (34):

(34) *Wh*-CRITERION (Rizzi 1996: 64, revising May 1985):

    A. A *wh*-operator must be in a Spec-head configuration with X^0 [+wh].

    B. An X^0 [+wh] must be in a Spec-head configuration with a *wh*-operator.

In other words, to get the syntactic facts, the *wh*-operator has to be in a low projection. But to get the illocutionary force facts, the *wh*-operator has to be in a high projection. The obvious way to avoid this contradiction is to *unsplit* CP, that is, to posit one CP with one head, which can be + or - *wh*.

Sobin (2002) has called attention to an analogous problem. Rizzi posits that the complementizer *that* is in Force, because it types a sentence as declarative and occurs before embedded topics:

(35) I think that, tomorrow, John will leave.

But in languages like Middle English, where fronted *wh*-phrases and the *that* complementizer cooccur, the *wh*-phrase *precedes* the complementizer:

(36) What that I mene, O swete herte deere?
     'What do I mean, oh dear sweetheart?'

Other considerations, however, lead Rizzi to put fronted *wh*-phrases in Spec, FocP, a position below (i.e. following) the Force Phrase and therefore after the *that*-complementizer. In other words, given the split-CP, we have to posit two incompatible landing sites for *wh*-movement. Again, the classical analysis, where the *wh*-phrase is in Spec, CP and the *that* complementizer is C, gets the facts right. In any event, the idea that the illocutionary force of a sentence might be representable as something as simple as a feature of a syntactic projection flies in the face of research on the syntax, semantics, and pragmatics of speech acts going back to Searle's work in the early 1970s.

Just to make a historical point, one of the major advances in syntactic theory was the proposal, first articulated in Bresnan 1970, that what we would later call the specifier of CP was the unique landing site for *Wh*-Movement. Bresnan's hypothesis paved the way for the hypothesis of a single movement rule Move-α and the constraints to which it was subject. Before 1970, as in Ross 1967, relative clause movement and *wh*-question movement were regarded as separate rules. The split-CP hypothesis takes us back to the construction-based theory of early transformational grammar and away from the constraint-based theory developed in the 1970s and 1980s.

Cascades of higher functional projections might not seem unreasonable for languages like Italian and Catalan, where each semantically-relevant

projection seems to have its place. But cross-linguistically it is hard to find good support for the kind of architecture represented in trees like (4). So, some languages allow a single position on the left periphery, which can house either a focus or a topic, but not both (Lopez 2002; Vilkuna 1995). In other languages, like Zapotec, displaced *wh*-elements and displaced focus-elements can cooccur, despite that fact that in Rizzi's model they are supposed to target the same projection (Lee 2001). My point is not to call attention to the existence of language variation. Of course, there is going to be variation. The point is that oceans of functional projections on the left-periphery represent a singularly *unminimalist* framework for capturing this variation. Given that few languages manifest the proposed cartography in its fullness — and that languages differ markedly in the relative hierarchy of those projections that do occur overtly — there is no benefit to proposing that UG provides the set of projections and their ordering. Such a proposal forces recourse to both a fixed architecture and language-particular statements to fit the facts into the mold.

Surely there are more minimalist analyses possible than the CP-hypothesis in all its full articulated glory. For example, one might be to posit, along with Breul (2003), a single target for both fronted interrogatives and other fronted XPs, thereby accounting for the marginal acceptability or outright ungrammaticality of many sentences like (8a, b) and (12a-d). But the fact that *some* sentences of this form are possible suggests that the best option might be to posit however many adjunction rules are necessary for the particular language along with a characterization of the information-structure properties of the results of the movement. The desirability of an adjunction analysis over a TopP analysis for topicalization was argued for persuasively by Lasnik & Saito (1992). To the best of my knowledge, their arguments have never been successfully rebutted.

For a time, Chomsky seemed to be leaning back to the idea of topicalization by adjunction. In 'Derivation by Phase' (Chomsky 2001), he suggested that Topicalization might be a free option, conditioned by interpretive principles and he opened the possibility that a wide variety of syntactic operations that were once deemed triggered by features of functional categories might apply in the phonology. We will see how the MP develops in this regard.

Even within the general envelope of the MP, there are approaches where triggered movement is not posited. For example, in Erteschik-Shir 1997, topic and focus constituents are marked at 'F-structure', an annotated S-structure. The rule of predication takes F-structures as input and produces well-formed discourse representations. And in Fox 1995 and Reinhart 1997 (the latter based on Cinque's (1993) theory of phrasal stress), focus is not encoded in the syntactic derivation, but arises exclusively at the PF interface. 'Interface economy' explains why elements not in canonical position can be stressed focuses. (See also a parallel optimality-theoretic account in Szendrői 2001.)

I believe it to be the case that most generative syntacticians who work on information structure have excluded topic and focus-related rules from narrow syntax (see also Zubizarreta 1998). They all both point out that focus cannot be defined until the derivation is a single P-marker. There is a loss of generalization and a violation of the inclusiveness condition if some movement in the narrow syntax is triggered by focus features. Note also that focus assignment depends on information contours having been assigned.

7   On the Perfectness of Language

What does the Split-CP hypothesis have to do with Chomsky's idea that language might be in some sense 'perfect'? As we will see in this section, the idea is directly related to the triggering of and landing sites for movement and, in particular, the kinds of A′-movements that we have been looking at.

When Chomsky talks about perfection and optimality, he means it in a fairly narrowly conceived way. Language might be perfect from the point of view of its internal structure, that is, for interaction with systems that are internal to the mind, not in terms of its use as a vehicle for communication. In Chomsky 2002, he gives an interesting analogy, not for the first time comparing language to the liver. The liver in Chomsky's opinion is not particularly well designed from the point of view of its external function. After all, it does not take too much drinking or exposure to toxic chemicals to wreck it completely. But the liver is, Chomsky speculates, beautifully designed from the point of view of its internal function, that is, for interaction with the circulatory system, the kidneys, and so on.

Given the preceding, there are two ways that Chomsky seems to view language as possibly 'perfect'. In some places he flirts with an extremely strong criterion for perfection, along the lines of (37):

(37)   STRONG PERFECTION: Language is perfect/optimal because all that is needed in grammar are the elementary constructs of the Minimalist Program (Select, Merge, Move, etc.).

As Chomsky notes, distinct principles of UG challenge (37). Consider his remarks on two of the most celebrated such principles ever proposed:

> For example, take the LCA [Linear Correspondence Axiom (Kayne 1994)]. If that theory is true, then the phrase structure is just more complicated. … If the ECP [Empty Category Principle (Chomsky 1981)] really works, well, too bad; language is more like the spine [i.e., poorly designed — FJN] than like a snowflake [i.e., optimally designed]. (Chomsky 2002: 136)

In other words, Chomsky regards these restrictive principles as inherently undesirable.

If something like Strong Perfection were correct, then one sign of the optimality of language would be that, with the passage of time and the increase of understanding, fewer and fewer principles like LCA and ECP would be proposed. But that is certainly not the case. As many distinct UG principles are being proposed today as were proposed 20 years ago. I would go so far as to claim that no paper has ever been published within the general rubric of the MP that does not propose some new UG principle or make some new stipulation (however well motivated empirically) about grammatical operations that does not follow from the bare structure of the MP. In fact, just in order to describe the facts in question, virtually every minimalist-oriented paper posits an ancillary set of hypotheses, either directly borrowed from the GB-era or posited ad hoc for the analysis in question. And for those UG principles that are proposed, it is difficult to see how they make language any more perfect or less perfect. So consider the discussion in Belletti & Rizzi 2002. They also take the position that language might be perfect and endorse principles such as movement-as-last-resort, the idea that derivations take place in 'phases' corresponding to VP and CP; the principle of Relativized Minimality; and the copy theory of movement. These principles might be right or they might be wrong, but language would be no more or no less 'perfect' if movement were utterly forbidden, if DP and AP were also phases, if minimality were not relativized, and if when an element moves, it moves, *tout court*. So it seems pretty far-fetched that language might be perfect in this strong sense.

In most of his discussions of perfection, Chomsky gives a somewhat weaker characterization of perfection in language:

(38)   WEAK PERFECTION: 'In a perfectly designed language, each feature would be semantic or phonetic, not merely a device to create a position or to facilitate computation.' (Chomsky 2000: 109)

I am not sure why (38) would be a marker of perfection, if it were right, but it is certainly not right. Chomsky himself gives a number of counterexamples to perfection in the sense of (38). The most serious is the fact that languages contain features that make no contribution to interpretation. Take, for example, features such as structurally-defined Case and agreement. Chomsky does, however, speculate that these uninterpretable features exist for a reason:

[Uninterpretable features such as structurally-defined Case and agreement] are there as perhaps an optimal method of implementing something else that must be there, namely dislocation.' (Chomsky 2002: 113)

So here is where we find the link between dislocation and supposed perfection that unites the two parts of this paper. In fact, I feel that there are serious problems tying movement to the need to eliminate uninterpretable features and will return to these problems at the end. But a logically prior question is why

movement itself should exist. In other words, why don't grammars simply manifest a one-to-one relation between surface position and meaning (however broadly one might want to define meaning), with no movement at all? Chomsky gives a functional explanation for movement, though not a particularly convincing one. He distinguishes between 'deep semantics' (thematic relations among elements) and 'surface semantics' (information structure properties such as 'topic' and 'focus') and writes that:

> … if surface semantics were signaled by inflection [like deep semantics is; FJN], the underlying morphological system would be complicated. For elements with Inherent Case, there would be double inflection if they have distinct surface-semantic properties; for elements lacking Inherent Case, they would have inflection only in this case. In contrast, if surface properties are signaled configurationally, at the edge, the morphological system is uniform throughout: a single Case inflection always (whether manifested phonologically or not). (Chomsky 2002: 122)

That speculation of Chomsky's is called into question in about half a dozen different ways. (I-VI) enumerate a number of difficulties with trying to explain movement in terms of the need to signal surface semantics differently from deep semantics:

(I) Many languages signal surface semantics inflectionally (i.e. without movement), as is evidenced by the widespread use of topic and focus inflections in the languages of the world:

(39) John-wa   Mary-oaisi-te   i-ru (Japanese)
John-THEME Mary-OBJ   lov-ing is
'John loves Mary.'

(II) Other languages signal surface semantics by means of a (non-inflectional) marker, again without movement:

(40) Cali baa sheegay in Muuse yimid (Somali)
Cali FOC said   that Muuse came
'CALI said that Muuse has come.'

(III) Others signal surface semantics by intonational means (without accompanying movement), say, by placing heavy stress on a focused element:

(41) MARY left (not Sue).

(IV) Still others use canonical (i.e. non-dislocated) positions to indicate topic and focus. So for example, in English subject position is conventionalized as topical.

(V) Not even the focusing implicit in direct questioning requires movement. Only about half of the world's language have *wh*-movement (Dryer 1991):

(42) ni   kanjian-le shei   (Chinese)
     you see-ASP   who
     'Who did you see?'

(VI) 'Double inflection' could easily be avoided by means of a single inflection that coded, say, both topichood and agency, just as in many Indo-European languages a single inflection codes gender, number, and case.

I therefore fail to understand why the distinction between the two types of semantic properties would explain why movement exists. Why does movement exist then? I am quite sure that there is not one sole answer. Movement certainly can function to highlight information structure differences, as in (43a, b), even if there are other ways of signaling the same thing:

(43) a.   Mary contacted John about the party.   (*Mary* is 'thematic')

     b.   John was contacted by Mary about the party. (*John* is 'thematic')

But movement also serves the needs of language processing, where semantics is not involved at all. Consider the postposing of 'heavy' elements in English:

(44) a.   ?I consider [everybody who agrees with me and my disciples about the nature of the cosmos] smart.

     b.   I consider smart [everybody who agrees with me and my disciples about the nature of the cosmos].

(44a, b) mean the same thing, but (44b) is easier to process. Moving the heavy phrase in brackets allows a shorter recognition time for the constituents of the sentence. It seems pretty clear to me that Chomsky would not want to integrate the idea of movement to serve processing ease into his ideas about the perfection of language, given that he has ruled out the desirability of grammatical operations whose only role is to facilitate computation.

Let us now look more closely at Chomsky's idea that uninterpretable features like structural case and agreement exist to trigger movement. To a certain extent this idea is a minimalist implementation of a mechanism that was present in GB, namely the Case Filter. Movement in GB was optional, but if it failed to apply to *Mary* and *John* in structures like (45a, b), a violation of the filter resulted:

(45) a.   *e* was seen Mary

     b.   *e* seems John to have left

In the Minimalist Program, movement is obligatory, triggered by the need to eliminate the uninterpretable (structural) nominative Case feature of the subject. Given the VP-internal subject hypothesis, which requires even seemingly in situ subjects to move, the MP derives the same results as GB, as

far as subjects are concerned. For objects, however, things are less clear. In GB, the apparent rarity of movement into direct object position was attributed to the idea that verbs assign thematic roles to the elements that they subcategorize. So movement into object position would violate the Theta Criterion. Given the unclear status of the Theta Criterion in the MP, I am not sure a parallel explanation of the relative rarity of such movement is still available. If not, we would predict (incorrectly) widespread examples of movement into object position, which would take place in order to eliminate the uninterpretable feature of structural object Case. Going along with that, there is no non-stipulative mechanism for deriving non-dislocated objects via movement. That is, there is nothing with parallel motivation to the VP-internal subject hypothesis that would require objects to move.

Consider now grammatical gender. This feature is as 'uninterpretable' as structural Case and agreement. One would assume that Chomsky sees no semantic basis for distinctions such as that between *la lune* and **der Mond**. Since eliminating the uninterpretable gender feature cannot be tied to movement, we are left with one such feature that requires some other mechanism for its 'elimination'.

Problems continue when we look at A′-movements such as *wh*-movement and topic and focus movements. As far as the former is concerned, surely the *wh*-feature is *interpretable*, being the locus for whatever semantic features distinguish *wh*-expressions from their 'un-*wh*'ed' counterparts. Rizzi seems to be of the same opinion, as is evidenced by the quotation in §2 of the present paper. So in order to attribute *wh*-movement to the need to eliminate uninterpretable features, one would need to posit additional, uninterpretable and for the most part unnecessary, *wh*-features. In my view, so doing reduces the hypothesized linkage between uninterpretable features and dislocation to vacuity.

What is totally frustrating for a dyed-in-the-wool generative grammarian like myself is that Chomsky's appeal to the seeming 'simplicity' of a theory as grounds for adopting it was something that he always used to oppose. Let's go back in time 30 years back to the heyday of generative semantics. Generative semanticists also believed that their theory provided the optimal (maximally elegant) mapping between sound and meaning and for that reason should be accepted as the null hypothesis regarding grammatical architecture. Recall that in its early days the generative semantic model contained nothing but a semantic level and surface level and a transformational mapping between them. As Paul Postal remarked:

> What I wish to suggest briefly is that because of its a priori logical and conceptual properties, [Generative Semantics] is the basic one which generative linguists should operate from as an investigatory framework, and that it should be

abandoned, if at all, only under the strongest pressures of empirical disconfirmation. (Postal 1972: 135)

Chomsky at the time dismissed claims such as Postal's as misguided. What he stressed was not a conceptually simple organization for a theory, but rather a rich internal structure, capable of narrowing down the class of possible grammars:

> Notice that it is often a step forward, then, when linguistic theory becomes complex, more articulated and refined — a point that has been noted repeatedly. … Thus it is misleading to say that a better theory is one with a more limited conceptual structure, and that we prefer the minimal conceptual elaboration, the least theoretical apparatus. Insofar as this notion is comprehensible, it is not in general correct. (Chomsky 1972: 67-68)

Ironically, the Chomsky of the 21st century reads like a reincarnation of the Postal of the 20th. There is next to nothing on the question of restrictiveness in Chomsky's recent writings, but page after page extolling the 'a priori logical and conceptual properties' of the MP.

8   Conclusion

For many decades, displaced elements have been the testing ground for linguistic theories. In the 1950s and 1960s, their distinctive properties provided the strongest arguments for discarding earlier structuralist accounts and adopting generative grammar. The battles between mainstream transformational approaches and lexicalist approaches again have focused on displaced elements as providing the best evidence for one or the other. And I hope to have shown that their importance continues today. In particular, when one looks at displaced elements closely, one sees that they provide no evidence for the more elaborate views of phrase structure and licensing that have become part and parcel of the minimalist program, and no evidence for the exaggerated claims about the perfection of language that have tended to accompany these views.

Acknowledgement

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Topics Detached to the Left:
On 'Left Dislocation', 'Hanging Topic', and Related Constructions in German[*]

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Abstract

In this paper I argue that there are three distinct constructions in Modern German in which a 'topic constituent' is detached to the left: *(left-)dislocated topic* ('left dislocation'), *(left-)attached topic* ('mixed left dislocation'), and *(left-)hanging topic* ('hanging topic'). Presupposing the framework of Integrational Linguistics, I provide syntactic and semantic analyses for them. In particular, I propose that these constructions involve the syntactic function *(syntactic) topic*, which relates the topic constituent to the remaining part of the sentence. Dislocated and attached topic constituents function in addition as a *strong* or *weak (syntactic) antecedent* of some resumptive '*d*-pronoun' form.

Dislocated topic, attached topic, and hanging topic are in turn contrasted with 'free topics'. Being sentential units of their own, the latter are syntactically unconnected to the following sentence. In particular, they are not topic constituents.

1   Introducing the Constructions

According to common assumptions about Modern German,[1] *den Hans* in (1) and *der Hans* in (2) are 'topic constituents', located in a detached, though sentence-internal, position:[2]

(1)   Den   Hans,   den   kenne ich
      the ACC SG MASC Hans MASC this/that ACC SG MASC know I

      seit langem.
      for a long time

      'Hans I've known for a long time.'   (Cardinaletti 1988: 9)

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[1] See, *inter alia*, Cinque 1997; Cardinaletti 1988; Grohmann 1997; and Zifonun *et al.* 1997: 518–520.
[2] The interlinear glosses and the paraphrases of the examples cited from the literature are my own.

(2)   Der   Hans – ich kenne diesen Kerl seit langem.
      the NOM Hans   I   know   this   guy for a long time

      'Hans — I've known this guy for a long time.'

(The punctuation symbols ',' and '–' hint at the prosodic organization of the verbal correspondences to (1) and (2). In particular, *den Hans* and *der Hans* can constitute separate intonational phrases, but they do not have a sentence intonation of their own.) Despite their common position, the 'topic constituents' in (1) and (2) differ in terms of their 'connection' to the following part of the sentence.[3] For instance, *den Hans* in (1) agrees in case with the resumptive '*d*-pronoun' form *den*. *Der Hans* in (2), however, does not match the case of the demonstrative noun phrase *diesen Kerl*, which normally is coreferential with it in an utterance of the sentence. Correspondingly, (1) and (2) are commonly analysed as instances of two different constructions, called 'left dislocation'[4] and 'hanging topic'.[5]

Many authors assume this or a similar[6] dichotomous classification of German left-detached constructions. Accordingly, a sentence like (3) is considered to be an instance of either 'left dislocation' (see, e.g., Zifonun *et al.* 1997: 518) or of 'hanging topic' (this seems to be the position of Altmann 1981: 122–124, who introduced the German translation '*freies Thema*' — 'free topic' — for 'hanging topic'):[7]

(3)   Der   Hans,   den   kenne ich
      the NOM SG MASC Hans MASC this/that ACC SG MASC know   I

      seit langem.
      for a long time

      'As for Hans, I've known him for a long time.'

(Vat (1981: 101f.), Cinque (1997: 112f.), and Cardinaletti (1988: 19–23), however, regard sentences of this type as a construction in its own right, called 'mixed left dislocation'.) In addition, Altmann (1981: 49) also assigns examples of the following sort to the class of 'hanging topic' (or 'free topic', for that matter):

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[3] Cf. the notion of 'connectedness', applied by Vat (1981) and Cinque (1997) to the phenomena at hand.

[4] Ross (1986: 253, n. 18) attributes the term 'left dislocation' to Maurice Gross. German 'left dislocation' is sometimes called 'contrastive (left) dislocation', a term introduced by Thráinsson (1979: 61f., 66) for the corresponding construction in Icelandic.

[5] The term 'hanging topic (left dislocation)' is attributed to Alexander Grosu by Cinque (1977: 406). The traditional term is '*nominativus pendens*'.

[6] The German literature usually contrasts *Linksversetzung* ('left dislocation') with *freies Thema* ('free topic').

[7] (3) is an example adapted from Cardinaletti 1988: 19.

(4)   Der   Hans? Ich kenne diesen Kerl seit langem.
      the NOM Hans I   know this   guy for a long time

      'Hans? I've known this guy for a long time.'

(5)   Dem   Hans? Ich kenne diesen Kerl seit langem.
      the DAT Hans I   know this   guy for a long time

      '(To) Hans? I've known this guy for a long time.'

(In contrast to (1) and (2), *der Hans* in (4) and *dem Hans* in (5) do have a sentence intonation of their own.)

In this paper I shall argue that (1), (2), and (3) exemplify three different detachment constructions, to be called '(left-)dislocated topic', '(left-)attached topic', and '(left-)hanging topic', respectively. Presupposing the non-transformational framework of Integrational Linguistics (Lieb 1983c; for an introduction, see Lieb 1992, 1993), I shall propose that all of those constructions involve the syntactic function *(syntactic) topic*, relating the dislocated, attached, or hanging *topic constituent* to the remaining part of the sentence. Syntactic and semantic differences between these constructions are related to the existence or absence of an additional link between the topic constituent and some anaphoric constituent included in the remainder. It will be assumed that *den Hans* in (1) and *der Hans* in (3) are linked as *(syntactic) antecedents* to the pronoun form *den*, which agrees with them in number and gender. Two subtypes of antecedent will be distinguished: *strong antecedent*, linking only formally similar constituents such as the two accusative ones in (1); and *weak antecedent*, relating the nominative topic constituent in (3) to the accusative pronoun form. In (2) there is no occurrence of syntactic antecedent at all: the utterance meaning according to which *diesen Kerl* is coreferential with *der Hans* is not required by the syntax.

In contrast to (1), (2), and (3), no syntactic topic function occurs in (4) or (5). *Der Hans* in (4) and *dem Hans* in (5) constitute (possibly elliptical) sentential units of their own, which are syntactically unconnected to the following sentence. I shall continue to call them 'free topics' despite their not being topic constituents in the sense introduced above.[8]

This paper is organized as follows. Section 2 justifies the taxonomy of left-detachment constructions in German in terms of left-dislocated topic, left-attached topic, and left-hanging topic as well as their distinction from free topics. In section 3 I shall make my syntactic and semantic analyses of left-dislocated topic, left-attached topic, and left-hanging topic explicit and contrast them with the analyses of elliptical and non-elliptical free topics. Section 4 provides a summary of the results and suggests some generalizations

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[8] In contrast to Altmann (1981: 82–92), I do not count expressions like *was Hans betrifft* ('as for Hans') as free topics.

of the analyses to further constructions such as 'right dislocation', 'vocatives', and 'split topicalization'.

Where no ambiguity is likely to arise, I shall use the terms 'dislocated topic', 'attached topic', and 'hanging topic' as synonyms for 'left-dislocated topic', 'left-attached topic', and 'left-hanging topic', respectively. The term 'coreference' will be used in a weak sense: the relation it denotes obtains in utterance meanings, whether syntactically and/or semantically required or not.

2   Justifying the Taxonomy

In this section I shall justify the assumption that dislocated topic, attached topic, and hanging topic are three different detachment constructions in German — that is, that they are to be analysed in three distinct, though related, ways. In addition, I shall defend the view that free topics are to be distinguished from these detachment constructions altogether.

For lack of space, mostly nominal topic constituents will be considered below. Moreover, I shall discuss only those properties which are relevant for establishing the taxonomy. (For a much more extensive empirical account, see the seminal 1981 work of Altmann.)

I shall begin by contrasting free topics with the three detachment constructions. Next hanging topic will be singled out. The final subsection compares attached topics with dislocated topics.

2.1   Free Topic

The main distinctive feature of free topics that sets them apart from detachment constructions is their own sentence intonation (in orthographic notation represented by an appropriate punctuation mark; for phonological details, see section 3 below). Let us assume that verbal sentences and other sentential units are 'maximal' units with a sentence intonation of their own. Thus, the free topic *der Hans* in (4) may be analysed as such a nominal non-elliptical sentential unit — provided that there are indeed such sentential units in German.[9] In addition, *der Hans* in (4) as well as *dem Hans* in (5) can be elliptical sentences.

On the other hand, neither the hanging topic constituent *der Hans* in (2) nor the remainder *ich kenne diesen Kerl seit langem* are sentential units. For one thing, *der Hans* does not have a sentence intonation. For another, *ich kenne diesen Kerl seit langem*, which may indeed have such an intonation, is 'non-maximal' in the following sense: it is a proper part of a larger unit (namely (2)

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[9] Other candidates for nominal sentential units in German include 'vocatives' such as *Hans!* and exclamations like *Achtung!* (literally, 'attention').

as a whole) with a single sentence intonation. (Analogous considerations apply to the dislocated or attached topic constituents in (1) and (3).)[10]

Another characteristic of free topics concerns their case. Non-elliptical nominal free topics — just like hanging and attached topic constituents — always appear in the nominative. Elliptical free topics, however, can appear in other cases, too (see Altmann 1981: 124f. and Cardinaletti 1988: 8); their case is determined by some 'omitted' constituent. Accordingly, elliptical free topics can differ in case from a coreferential expression in the following sentence (see (5), where *dem Hans* is dative and *diesen Kerl* is accusative). (Note that both free topics and hanging topic constituents need not be taken up by a coreferential expression; for an example, see section 2.2 below.) In this respect, elliptical free topics differ from nominal hanging and attached topic constituents, which appear in the nominative only, as well as from nominal dislocated topic constituents, which always agree in case with the resumptive element.

I conclude that free topics must be distinguished from dislocated, attached, and hanging topic constituents because the former are sentential units of their own while the latter are not.[11] In addition, as reflected by their case, free topics come in two flavours: elliptical ones and non-elliptical ones.

2.2 Hanging Topic

Having established the distinction between free topics and detachment constructions, I shall now contrast hanging topic to dislocated topic and attached topic.

Nominal left-dislocated and left-attached topic constituents are linked to a form of one of the '*d*-pronouns' 'der', singular 'die', 'das', and plural 'die' in the remaining part of the sentence. Usually, these pronouns are regarded as substantival 'weak' demonstratives (see, for instance, Altmann 1981: 112). Lambrecht (2001: 1074), though, classifies them as an additional set of personal pronouns, supplementing — at least in colloquial German — the 'standard' third person personal pronouns 'er', singular 'sie', 'es', and plural 'sie'. This question will be taken up in section 3.1. In unmarked order, a '*d*-

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[10] It goes without saying that, for instance, *der Hans* in the attached topic example (3) can be transformed into a free topic constituent by changing the intonation appropriately:

  (i)   a.   Der Hans. Den kenne ich seit langem.

        b.   Der Hans? Den kenne ich seit langem.

        c.   Der Hans! Den kenne ich seit langem.

[11] The term 'free topic' can be motivated as follows. For one thing, free topics are independent sentential units. For another, they have a 'thematizing' discourse function.

pronoun' form resuming a dislocated or attached topic is located in the 'pre-field' (*Vorfeld*) of the sentence or clause. When the pronoun form functions as a subject, or as an object, as *den* does in (1) and (3), and the topic constituent is a nominal one, the former agrees with the latter in number and gender.[12] Regarding hanging topic, there are no such constraints as to the position or the form of a potentially coreferential constituent. For instance, *diesen Kerl* in (2), which normally is coreferential with *Hans* in an utterance of the sentence, is a full noun phrase located in the 'middle field' (*Mittelfeld*) and containing a form of a 'weak' demonstrative pronoun. What is more, *diesen Kerl* in (2) may be replaced by a neuter noun phrase like *dieses alte Haus* ('this old chap'), not agreeing with *der Hans* in gender. (The same applies to free topics.)

The coreference of the '*d*-pronoun' forms in (1) and (3) with the dislocated or the attached topic constituent is syntactically required. The coreference of *diesen Kerl* with *der Hans* in (2), however, seems to be pragmatically determined. In fact, there is no reason to assume that the coreferential reading of *diesen Kerl* in (2) — whether it is obligatory or not — is determined differently from coreferential readings of this phrase in other sentences:

(6)   Ich lade   Hans nicht ein,   obwohl   ich diesen Kerl
       I   invite Hans not   VERB-PRT although I   this   guy

       seit langem   kenne.
       for a long time know

       'I won't invite Hans, although I've known this guy for a long time.'

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[12] The only '*d*-pronoun' form functioning as a subject complement is the neuter *das*. In this case there is no (obligatory) agreement in number and gender; note the gender mismatch in the following example:

(i)   Aber die   Stimme   der   Deutschen Demokratischen Republik,
       but   the FEM voice FEM the GEN German Democratic Republic GEN

       das   war   Erich Honecker.
       this/that NEUT was   Erich Honecker

       'It was Erich Honecker who was the voice of the German Democratic Republic.'
       (*Frankfurter Allgemeine Zeitung* 2, 2004, 36)

Pronominal topic constituents in the first or second person are resumed by forms of personal pronouns:

(ii)   Ihr   beide, ihr   kriegt doch   nie   genug!
       you PL both   you PL get   MODAL-PRT never enough

       'You two, you can't get enough!'   (Altmann 1981: 112)

For resumptive elements linking non-nominal dislocated topic constituents, see Altmann 1981: chap. 5 and 12.

What is more, there are instances of hanging topic without any coreferential constituent. Accordingly, the semantic relation between the meaning of the topic constituent and that of the remaining part of the sentence is rather vague:[13]

(7) Und Gesang – habt   ihr   denn   hier irgendwie so   einen Lehrer,
     and singing   have   you   MODAL-PRT here somehow   such a   teacher

     oder   wie läuft das?
     or   how does it work

     'And singing — do you have a teacher or somebody like that, or how does it work?'   (Selting 1993: 309)

(Again, free topics can have similar properties.)

Like non-elliptical free topics and attached topic constituents, nominal hanging topic constituents seem to appear in the nominative only. For instance, replacing *der Hans* in (2) by its accusative or dative counterparts results in unacceptable or at least marginal sentences:

(8) a. ? Den   Hans – ich kenne diesen Kerl seit langem.
           the ACC Hans   I   know this   guy for a long time

        'Hans — I've known this guy for a long time.'

     b. * Dem   Hans – ich kenne diesen Kerl seit langem.
           the DAT Hans   I   know this   guy for a long time

        'Hans — I've known this guy for a long time.'

This restriction can be explained as follows. Since the case of these topic constituents is not governed by any constituent, they appear in the nominative, which is the 'default' case in German.

In sum, unlike dislocated and attached topic constituents, hanging topic constituents are not syntactically linked to some anaphoric constituent in the remaining part of the sentence. Therefore hanging topic constitutes a detachment construction of its own.

2.3 Attached Topic and Dislocated Topic

What remains to be shown is that attached topic and dislocated topic are different — though related — detachment constructions.

As mentioned above, dislocated topic constituents agree in case or in other formal features with the anaphoric constituent they are linked to. In (1), for instance, both the dislocated topic constituent *den Hans* and the 'd-pronoun'

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[13] The orthography and the punctuation of (7) have been normalized. According to Selting's prosodic annotation, *Gesang* does not appear to have a sentence intonation of its own — though it could have one.

form *den* appear in the accusative. In (9) the topic constituent is likewise introduced by the same preposition as the prepositional phrase containing the coreferential pronoun form:[14]

(9)   Mit dem   Hans, mit dem   spreche ich nicht mehr.
       with the DAT Hans with this/that DAT talk   I   not any longer

       'To Hans I don't talk any longer.'

Nominal attached topic constituents, however, appear in the nominative regardless of the linking constituent's formal features. There is a case mismatch, for example, between the nominative topic constituent *der Hans* in (3) and the accusative '*d*-pronoun' form it is linked to. Similarly, the topic constituent in (10) — the attached topic variant of (9) — is neither introduced by *mit* nor does it match the case of the resumptive pronoun form:

(10)   Der   Hans, mit dem   spreche ich nicht mehr.
       the NOM Hans with this/that DAT talk   I   not any longer

       'As for Hans, I don't talk to him any longer.'   (Vat 1981: 101)

Dislocated topic and attached topic differ also in their semantic properties. In particular, a pronoun form contained in a dislocated topic constituent may be 'bound' by some element in the remaining part of the sentence, whereas this is excluded for attached topic constituents (see Vat 1981: 92–94, Grohmann 1997: 18f., Grewendorf 2002: 83, and Frey 2004). Let us consider two pairs of examples. (11) is ambiguous according to whether or not the possessive pronoun form *seinen* is interpreted as being 'bound' by *niemand*:

(11)   Seinen Mantel, den   hat niemand vergessen.
       his ACC coat   this/that NOM AUX nobody   forgotten

       'Nobody forgot his (own) coat.'
       'Nobody forgot his (somebody's) coat.'   (Grewendorf 2002: 83)

In the attached topic variant, however, the 'bound' reading of *sein* is not available:

(12)   Sein   Mantel, den   hat niemand vergessen.
       his NOM coat   this/that ACC AUX nobody   forgotten

       'Nobody forgot his (somebody's) coat.'

In (13) the subject constituent *er* 'binds' the reflexive *sich*, contained in the dislocated topic constituent:

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[14] Prepositional dislocated topic constituents in which the preposition's complement does not denote a person are resumed by a matching 'adpositional adverb' (*Pronominaladverb*) such as *damit* (literally, 'there with') or by the adverb *da* ('there'/'then'). For details, see Altmann 1981: chap. 5 and 12.

(13)   Den   Wagen von sich,   den   hat er verkauft.
       the ACC car   of   himself this/that ACC AUX he sold

       'He sold his (own) car.'   (Grohmann 1997: 19)

Again, the 'bound' interpretation of *sich* is excluded in the case of an attached topic, resulting in an unacceptable sentence:

(14) * Der   Wagen von sich,   den   hat er verkauft.
       the NOM car   of   himself this/that ACC AUX he sold

       (Grohmann 1997: 19)

Thus, dislocated topic constituents are both syntactically and semantically 'more tightly integrated' into the remaining part of the sentence than attached topic constituents.[15] I therefore assume that dislocated topic and attached topic are two different constructions.

3   Analysing the Constructions

Having justified the distinction between dislocated topic, attached topic, and hanging topic, as well as the special status of free topics, I shall now explicate the syntactic and semantic analyses I propose for them. In the first subsection I shall discuss my analysis of dislocated topic. The analyses of attached topic and hanging topic will be contrasted to it in section 3.2. The final subsection will present the analysis of elliptical and non-elliptical free topics.

The analyses presented below presuppose the framework of Integrational Linguistics, in particular Integrational Syntax and Semantics (for introductory references, see section 1). Integrational Syntax is a non-derivational, modular approach. The analyses formulated in it aim to be surface-oriented as well as semantically plausible. Integrational Semantics, in turn, combines a psychologically oriented lexical semantics with a compositional syntactic semantics in the meaning-as-use tradition. Although Integrational Linguistics is a formal, axiomatically constructed framework, I shall present the objects of my analyses — syntactic structures, sentence meaning components, and the like — in a semi-formal way only and confine myself to informal comments on them.

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[15] The term 'dislocated topic' can be justified by the following consideration: since a dislocated topic constituent could be substituted for the 'place-holder' it is linked to, the former can be regarded *as if* it were 'dislocated' from the latter's position.

3.1 Dislocated Topic

The syntactic and semantic analysis of dislocated topic will be illustrated by the analysis of (1). I shall start with its syntax.

(15) depicts the *syntactic structure*, *relational structure*, and *lexical interpretation* I assume for (1) as a diagram:[16]

(15)

Let us consider the components of (15) in turn.

The central part of (15) is the syntactic unit *den$_1$ Hans$_2$ den$_3$ kenne$_4$ ich$_5$ seit$_6$ langem$_7$*, a sequence of phonological words. In a syntactic unit like this, several other syntactic units *occur* — for example, the word form *kenne$_1$*.

The *intonation structure* assigns sequences of auditory prosodic values to the syntactic unit (or, rather, to its numbers). In (15) the symbols 'L', 'L$_d$', 'H', and 'H$_r$' stand for the auditory pitch values *low*, *low-descending*, *high*, and *high-rising*, respectively.[17] The pitch value H$_r$ corresponding to the first syllable of *langem$_7$* is the manifestation of a downward-contrastive syntactic accent. The pitch value H$_r$ corresponding to *Hans$_2$* marks the end of an intonational phrase; the same holds for the pitch value L$_d$ corresponding to the second syllable of *langem$_7$*. Note that the intonational phrase corresponding to the L H$_r$-part of the intonation structure is not a sentence intonation.

The *constituent structure* relates parts of (the numbers of) the syntactic unit to *constituent categories*. The symbols 'N', 'V', and 'Prt' denote the *basic* constituent categories *noun form* (including forms of adjectives, articles, and pronouns), *verb form*, and *particle form* (including all non-nominal and non-

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[16] For the sake of readability, syntactic categories are not relativized to idiolect systems. Reflexive occurrences of the nucleus function are disregarded. The intonation structure component is reduced to the pitch sequence.

[17] The intonation structure of (15) and the examples discussed below were suggested by Hans-Heinrich Lieb (personal communication).

verbal forms). 'NGr' and 'VGr' stand for the *derived* constituent categories *noun group* and *verb group*.

The lower part of (15) provides the *marking structure* of the syntactic unit relative to its constituent structure. The marking structure annotates the N-, V-, and Prt-constituents in (15) by sets of *word form categories* (such as *Sing[ular] N[oun form]* or *Pres[ent tense]*) and sets of *(lexical) word categories* (like *SUBST[antival] DEM[onstrative pronoun]* or *[verb governing a] NOM[inative expression] + [an] ACC[usative expression]*). Lexical words such as *kennen*[W] are pairs consisting of a paradigm and a lexical meaning.

The constituent structure, the marking structure, and the intonation structure make up the *syntactic structure* of (15). The *lexical interpretation* assigns lexical meanings to (the numbers of) the syntactic unit relative to the syntactic structure. Lexical meanings such as ·know· are conceived as potential psychological concepts. The intension of such a concept contains a property or intensional relation; its extension is the corresponding set or extensional relation.

The final component of (15) is the relational structure, which is represented by the arrows. It is determined relative to the *syntactic triple* consisting of the syntactic unit, its syntactic structure, and its lexical interpretation. The labels 'nuc', 'comp^2', 'mod', and 'top' name *basic grammatical functions*: *(one-place) nucleus*, *two-place complement*, *modifier*, and *(syntactic) topic*. The constituent *kenne$_4$* is a *nucleus constituent* and the pair ⟨*kenne$_4$, den$_3$ kenne$_4$ ich$_5$ seit$_6$ langem$_7$*⟩ is a *nucleus occurrence*. We also say that *kenne$_4$* is the nucleus of *den$_3$ kenne$_4$ ich$_5$ seit$_6$ langem$_7$*. From these functions, traditional grammatical functions such as *predicate*, *subject*, and *object* are derived. For instance, the just mentioned nucleus occurrence is also an occurrence of predicate. The label 'ant' denotes *(syntactic) antecedent*, which is a *phoric function*. In contrast to Lieb (1993: 437, 460f.), I assume at least two derived antecedent functions, namely *str[ong] ant[ecedent]* and *w[eak] ant[ecedent]* (see below).

The constituent *seit$_6$ langem$_7$* is assigned to the basic constituent category Prt instead of to the derived constituent category PrtGr because of its idiomatic status. Various suggestions have been made for the analysis of article–noun syntagms like *den$_1$ Hans$_2$* in Integrational Syntax. Clearly, this question is orthogonal to the analysis of dislocated topic. For the sake of exposition, I presuppose the analysis proposed by Lieb (forthcoming), according to which *den$_1$ Hans$_2$* is an analytical noun form, marked by the unit category *Def[inite noun form]*.[18]

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[18] See Eroms 1985: 316f. for a related proposal in the framework of Dependency Grammar. Other Integrational analyses assume that *den$_1$ Hans$_2$* is a noun group with the nucleus constituent *Hans$_2$*; the article form occurrence *den$_1$* either functions as a *determiner* of *Hans$_2$*

In (15) den_1 $Hans_2$ is related to two constituents. It is the topic of den_3 $kenne_4$ ich_5 $seit_6$ $langem_7$ as well as the antecedent of den_3. (This is the standard analysis of dislocated topic in Integrational Syntax; see the presentation in Budde 2000b: chap. 8 *passim*.)[19] The agreement of den_3 in number and gender with den_1 $Hans_2$ is related to the occurrence of antecedent. If the antecedent occurrence is in addition an occurrence of strong antecedent, then the linked constituents have to match certain additional features: nominal constituents must match each other's case, prepositional constituents the preposition, and the like. As far as I can see, strong antecedent occurs only in combination with topic.

Two alternatives to this analysis may be considered. First, den_1 $Hans_2$ could be analysed as a 'loose apposition' (*lockere Apposition*) to den_3, or *vice versa*.[20] However, this analysis runs into difficulties in cases where the left-dislocated topic constituent cannot appear together with the appropriate '*d-*pronoun' form as an appositional group in the 'middle field':

(16)   Traurig, das   bin ich schon.
       sad   this/that am I   indeed

       'Sad – I do indeed feel like that.'

(17)   a. * Ich bin das, traurig, schon.

       b. * Ich bin traurig, das, schon.

Second, den_3 could be regarded as an occurrence of a relative pronoun form, introducing the relative clause den_3 $kenne_4$ ich_5 $seit_6$ $langem_7$. Despite certain similarities between dislocated (as well as attached) topic and relative clause constructions,[21] there are two major problems related to this analysis. For one thing, German relative clauses have 'verb-final' order.[22] For another, non-nominal dislocated topic constituents such as *traurig* in (16) are excluded from being the antecedent of a relative '*d-*pronoun' form:[23]

(Lieb 1983c: 102, 134–136) or as the *head* of the whole noun group (Eisenberg 1999: 52–55).

[19] Cf. the related Generative analyses of Cinque (1997: 104–110) and Cardinaletti (1988: 8–12), where the base-generated 'topic constituent' forms a chain with the resumptive '*d-*pronoun' form.

[20] Cf. the Minimalist analysis of Grewendorf (2002: 84–87), who assumes that the 'topic constituent' is base-generated as the specifier of the resumptive '*d-*pronoun'.

[21] Both constructions involve '*d-*pronouns', demonstrative or relative, which generally agree with their syntactic antecedent in number and gender.

[22] For the problem of apparent 'verb-second relative clauses' in German, see Gärtner 2001.

[23] If a relative '*w-*pronoun' form is substituted for *den* in (i), then the resulting sentence is acceptable:

(i)   Hans ist traurig, was   ich auch bin.
        Hans is sad   REL-PRON I   also am

(18) * Hans ist traurig, das   ich auch bin.
      Hans is sad   REL-PRON I   also am

As mentioned in section 2.2, the '*d*-pronoun' occurring in (15) is usually regarded as a substantival 'weak' demonstrative pronoun. Adopting a proposal of Hans-Heinrich Lieb, Budde (2000a: 383f.) assumes that the corresponding adjectival '*d*-pronoun' *der/die/das*$_{\text{DEM}}$$^{\text{W}}$ has a *deictic* lexical meaning,[24] paraphrased as 'in neutral distance to the speaker'.[25] The content of the intension of this concept, which I shall call '·this/that·', can be identified with the following intensional relation:[26]

(19)   The relation between x_1, x_2, and x_3 such that

      1. x_2 produces x_3 by linguistic means and

      2. x_1 is an entity which is 'at a neutral distance' to x_2 at the time of the production of x_3.

The attribute 'at a neutral distance' characterizes a spatial, temporal, or discourse-related distance which is unspecific compared to the distances appropriate for the use of the 'strong' demonstratives *dieser/-e/-es*$^{\text{W}}$ ('this') and *jener/-e/-es*$^{\text{W}}$ ('that'). Pointing out that adjectival and substantival '*d*-pronouns' differ in part of their dative and genitive forms, Budde proposes several substantival '*d*-pronouns' in addition to *der/die/das*$_{\text{DEM}}$$^{\text{W}}$. Each substantival pronoun contains forms of one gender only (plus plural forms, which are unmarked for gender).[27] Their lexical meanings are appropriate 'expansions' of ·this/that·. In the case at hand the content of the intension of ·this/that$_{\text{MASC}}$ (*S*)· — which is the lexical meaning of the substantival '*d*-pronoun' *der*$_{\text{DEM,MASC}}$$^{\text{W}}$ occurring in (15) — is derived from ·this/that· in the following way:[28]

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[24] A deictic lexical meaning is a concept the intension of which involves deictic entities: utterances, speakers, hearers (see Richter 1988).

[25] The '*d*-pronoun' *der/die/das*$_{\text{DEM}}$$^{\text{W}}$ differs from the definite article *der/die/das*$_{\text{ART}}$$^{\text{W}}$ in terms of prosody and lexical meaning: the latter may not occur with a non-contrastive syntactic accent and has an empty lexical meaning (its definiteness effect is introduced by syntactic semantics).

[26] Cf. the definition of the lexical meaning of the demonstrative pronoun *dieser/-e/-es*$^{\text{W}}$ ('this') of Richter (1988: 244 f.).

[27] In addition, there is at least one substantival '*d*-pronoun' containing plural forms only.

[28] Since ·this/that$_{\text{MASC}}$ (*S*)· makes reference to an idiolect system *S*, ·this/that$_{\text{MASC}}$ (*S*)· is a *system-relative* lexical meaning. System-relative lexical meanings were first considered for nominalizations by Lieb (1983b: 28–30).

(20)   The relation between x_1, x_2, and x_3 such that

  1. $\langle x_1, x_2, x_3 \rangle$ is an element of the extension of ·this/that· and

  2. x_1 is an element of the extension of the lexical meaning of some masculine noun of [the idiolect system] S.

By the second condition in (20), the semantic contribution of the gender of $der_{\text{DEM,MASC}}{}^{\text{W}}$ is taken into account: by using its forms, one can only refer to entities in the denotation of some masculine German noun.

There is little evidence for assuming relative 'd-pronouns' which are formally identical to, but conceptually distinct from, substantival demonstrative ones. On the contrary, Integrational Syntax allows for classifying 'der$_{\text{MASC}}$' simultaneously as a demonstrative and a relative pronoun (see Budde 2000a: 384). Given that this classification can be confirmed by further empirical research, it contributes to an explanation of the similarities between left-dislocated topic and relative clause constructions.

As for personal 'd-pronouns' such as the one occurring in (21), they exist in colloquial German idiolect systems only:

(21)   Wenn der Hans traurig ist, geht der tagelang nicht aus dem Haus.
    when   the Hans sad   is   go   he for days not   out

    'When Hans is sad, he doesn't go out for days.'

It is for this very reason that I do not assume den_3 in (15) to be an occurrence of a form of a personal 'd-pronoun': although dislocated topic is used most frequently in colloquial varieties of German, it is not excluded in non-colloquial ones.

Let us now turn to the sentence meaning of (15). In Integrational Semantics, sentence meanings are conceived as intensional relations between utterances V and speakers V_1, providing semantic conditions on *normal utterances* of the sentence in question. A sentence meaning includes a *propositional part*, a *referential part*, and a *background part*. Although all of these components are constructed compositionally, I shall not go into the details of the composition process.

The propositional part of the sentence meaning of (15) has two components. Its first component is the propositional attitude *communicating*, indicating the type of speech act performed by uttering (15). The second component is the *proposition* given in (22):

(22)   The relation between V and V_1 such that, for all x_0, x_1, and x_2,

if V_1 refers by *den*$_1$ *Hans*$_2$ in V to x_0,
then,

if

1. V_1 refers by *ich*$_5$ in V to x_1 and

2. V_1 refers by *den*$_3$ in V to x_2,

then

3. x_2 is identical to x_0 and

4. there is a [state] x such that

    a. $\langle x, x_1, x_2 \rangle$ is 'contextually relevant' for V_1 at the time of the *kenne*$_4$-part of V relative to ·know·,

    b. $\langle x, x_1, x_2 \rangle$ is an element of the extension of ·know·,

    c. [interpretation of the modifier occurrence], and

    d. [interpretation of Pres].

The logical structure of the proposition mirrors the constituent structure and the relational structure of (15). The inner implication in (22) 'applies' the 'predicate part', corresponding to the predicate constituent *kenne*$_4$ and the modifier constituent *seit*$_6$ *langem*$_7$, to the variables specified in the 'argument part', which corresponds to the complement constituents *ich*$_5$ and *den*$_3$. The outer implication, in turn, 'applies' the 'comment part', corresponding to the outer nucleus constituent *den*$_3$ *kenne*$_4$ *ich*$_5$ *seit*$_6$ *langem*$_7$, to the variables specified in the 'topic part', which corresponds to the topic constituent *den*$_1$ *Hans*$_2$ (the 'topic part'). Both the 'predicate part' and the 'comment part' are open propositions. However, whereas the 'predicate part' directly involves the lexical interpretation of the predicate constituent, the 'comment part' is 'non-lexical' (Monika Budde, personal communication).

Note that the quantifiers binding 'x_1' and 'x_2' have scope over the outer implication as a whole. Due to this partial prenex normal form of the proposition, the 'topic part' may make reference not only to the variable it introduces itself ('x_0' in the case of (22)), but also to the variables introduced by the 'argument part' (in (22): 'x_1' and 'x_2'). This logical structure is required for 'bound' interpretations of pronoun form occurrences in dislocated topic constituents (recall the discussion of (11) and (13) from section 2.3 above). Without the occurrence of *strong* antecedent in (15), those quantifiers would be applied directly to the 'comment part' (as, for instance, in the proposition (25) of the attached topic example analysed in section 3.2 below).

The occurrence of antecedent in (15) has another semantic consequence, namely the identity clause in (22). According to this clause, every referent of

the den_3 must be coreferential with every referent of den_1 $Hans_2$. I assume that in a normal utterance of (15), the speaker intends to refer to exactly one entity by both constituents.

This restriction is expressed by the referential part of the sentence meaning of (15). It contains the following anaphoric *specific-doxastic* referential meaning for den_3:[29]

(23)   The relation between V and V_1 such that

      1. there is exactly one x such that
         V_1 refers by den_3 in V to x,

      2. for all x,
         if V_1 refers by den_3 in V to x,
         then there is an x_1 and an x_2 such that

            a. x_1 corresponds to V_1 for V_1,

            b. x_2 corresponds to the den_3-part of V for V_1, and

            c. $\langle x, x_1, x_2 \rangle$ is 'contextually relevant' for V_1 at the time of
               the den_3-part of V relative to ·this/that$_{\text{MASC}}$ (S)·,

      3. for all x,
         if V_1 refers by den_3 in V to x,
         then V believes that every addressee of V 'knows of' x,

         and

      4. V_1 presupposes that, for all x,
         if V_1 refers by den_3 in V to x,
         then there is an x_1 and an x_2 such that

            a. x_1 corresponds to V_1 for V_1,

            b. x_2 corresponds to the den_3-part of V for V_1, and

            c. $\langle x, x_1, x_2 \rangle$ is an element of the extension of
               this/that$_{\text{MASC}}$ (S)·.

The topic constituent in (22), in turn, has either a specific-doxastic referential meaning, too, or an *attributive* one (for details, see Lieb 1979: 371–376).[30]

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[29] The correspondence relation used in (23) (conditions 2 and 4) was introduced by Richter (1988: 313–316) for syntactic meanings involving deictic lexical meanings. This relation is required because variables of type 'x' and variables of type 'V' stand for entities from two different ontologies. The former are used for entities from the speaker's point of view, whereas the latter denote (spatio-temporal) entities from the linguist's point of view.

[30] Topic constituents can have also generic referential meanings of different types. In (i), for instance, the non-definite topic constituent *einen Spion* refers distributively to every 'relevant' spy:

The background part of the sentence meaning of (15) specifies non-propositional meaning components, in particular, the semantic effects of the downward-contrastive syntactic accent occurring in (15). As these effects are not specific to dislocated topic (see Lieb 1983a: 10–13), I skip them here. It is an open question whether or not the background part should contain some additional non-propositional meaning related to the occurrence of topic. According to one position in the literature on 'left dislocation', the topic constituent denotes a 'sentence topic' (for this notion, see Reinhart 1981). Other authors assume that the topic constituent highlights some entity for the attention of the hearer (this is claimed, for instance, by Scheutz (1997: 44)). To make matters worse, it is unclear to which extent 'simple topicalization' can have these functions, too. Further research is required in order to settle this question.

3.2 Attached Topic and Hanging Topic

I shall now point out where the analyses of attached topic and hanging topic diverge from the analysis of dislocated topic.

(24) represents the syntactic structure, relational structure, and lexical interpretation of the hanging topic example (3):

(24)

There are exactly two differences between (24) and the dislocated topic version (15). First, the topic constituent *der₁ Hans₂* is a *weak* antecedent of

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(i) Einen Spion, den   erkennst du an seinem Hut.
a   spy   this/that recognize you by his   hat

'A spy you can recognize by his hat.'   (Altmann 1981: 108)

In this case the resumptive pronoun has a *dependent* specific-doxastic meaning which is relativized to single topic referents. (Dependent referential meanings were introduced by Moltmann (1992: 145–151).)

den_3 in (24).[31] Second, der_1 $Hans_2$ is marked by the word form category Nom[inative]: nominal topic constituents which are not strong antecedents always appear in that 'default' case. Since den_3 is an occurrence of an accusative form of $der_{DEM,MASC}{}^W$, there is no agreement in case between der_1 $Hans_2$ and den_3. (Note that der_1 $Hans_2$ and den_3 still agree in number and gender.)

The occurrence of (weak) antecedent in (24) is justified by the following considerations. For one thing, a nominal attached topic constituent must be resumed by an occurrence of a 'd-pronoun' form which in general agrees with it in number and gender.[32] For another, the coreference of *der Hans* and *den* in (24) is strictly obligatory.[33]

The proposition of (24) differs from the proposition of (15) in the scope of the quantifiers binding 'x_1' and 'x_2':

(25)   The relation between V and V_1 such that, for all x_0,

　　　　　if V_1 refers by der_1 $Hans_2$ in V to x_0,
　　　　　then, for all x_1, and x_2, [continued by the inner implication in (22)].

Those quantifiers are applied directly to the 'comment part' because there is no strong antecedent occurrence in (24). Thereby, 'bound' interpretations of pronoun form occurrences in nominal attached topic constituents are excluded (see examples (12) and (14) in 2.3 above).[34]

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[31] The term 'attached topic' is motivated by the weak antecedent occurrence: an attached topic constituent is syntactically 'attached' to some resumptive constituent. Being formally dissimilar, the former could not be regarded as if it were 'dislocated' from the latter's position, though (cf. n. 16 in section 2.3 above).

[32] In addition, the unmarked order of the 'd-pronoun' form occurrence in attached topic is the same as in dislocated topic (cf. section 2.2 above).

[33] Cardinaletti (1988: 19–23), who does not take the obligatory coreference into account, arrives at the opposite conclusion: *der Hans* and *den* in (3) do not form a chain.

[34] Note that in certain attached topic variants with non-nominal topic constituents, 'bound' interpretations are possible. Consider the following example:

(i)   Den   Wagen von sich   zu verkaufen, daran   hat Hans nie   gedacht.
　　　the ACC car   of   himself to sell   there at AUX Hans never thought

　　　'Hans never considered to sell his (own) car.'

I take (i) to be an instance of attached topic because the topic constituent does not match the adpositional part *an* of the resumptive 'adpositional adverb' *daran*. The fact that *sich* can be interpreted as being 'bound' by *Hans* is now explained as follows. In an utterance of *daran*, the speaker refers to a property. In the proposition of (i) this property is identified with the property 'to sell one's car' introduced by the 'topic part'. (*Den Wagen von sich zu verkaufen* is not a referential expression.) Finally, the property is applied to the referent of the subject constituent *Hans* in the 'predicate part' (cf. the analysis of infinitival complements in Lieb 1975: 208–210).

The hanging topic example (26) has the following syntactic structure, relational structure, and lexical interpretation:[35]

(26)

$$
\begin{array}{c}
\text{VGr} \\
\text{top} \qquad \text{nuc} \\
\text{VGr} \\
\text{N} \qquad \text{comp}^2 \qquad \text{nuc} \qquad \text{NGr} \qquad \text{mod} \qquad \text{Prt} \\
\text{N} \qquad \text{V}
\end{array}
$$

$der_1\ Hans_2$	ich_3	$kenne_4$	$diesen_5$	$Kerl_6$	$seit_7\ langem_8$
L H_r	L	H L	L L	H	H H_r L_d
·Hans·	·I·	·know·	·this·	·guy·	·for a long time·
{Nom,...}	{Nom,...}	{Pres,...}	{Acc,...}	{Acc,...}	{...}
{...}	{...}	{NOM + ACC,...}	{...}	{...}	{...}
⋮	⋮	⋮	⋮	⋮	⋮
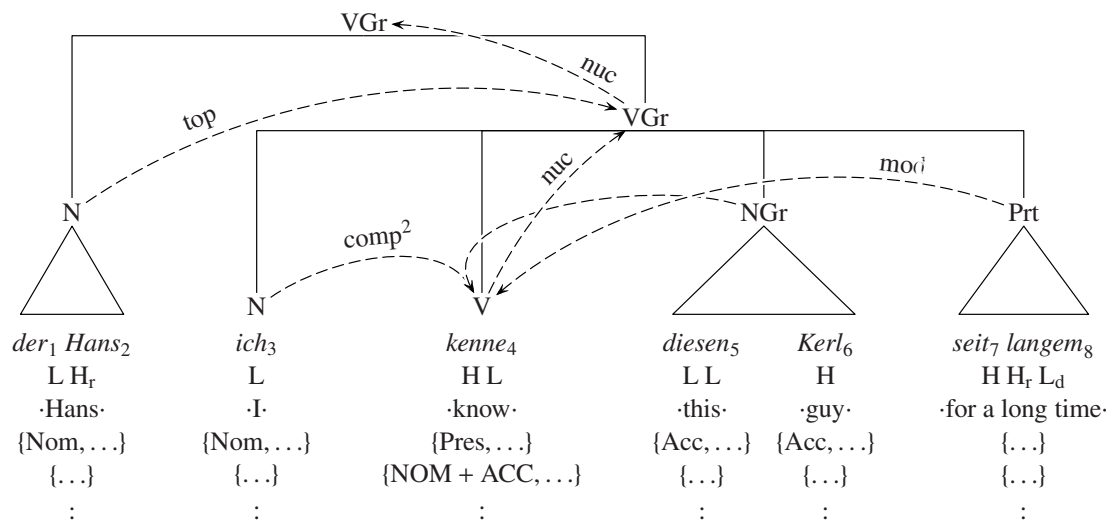
Since in hanging topic, there is neither obligatory agreement nor syntactically imposed coreference between the hanging topic constituent and some constituent in the remaining part of the sentence (see section 2.2 above), no antecedent occurrence in (26) is assumed at all.[36] Accordingly, the topic constituent in (26) is again marked by Nom.

Due to the missing antecedent occurrence, the referent of $der_1\ Hans_2$ is not related to the referent of $diesen_5\ Kerl_6$ by an identity clause in the proposition of (26). Instead, the proposition introduces an underspecified relation between the topic constituent's referent and the state-of-affairs denoted by the remaining part of the sentence:[37]

---

[35] The diagram in (26) illustrates the justification for the term 'hanging topic' visually: the topic constituent 'hangs' at the periphery of the constituent structure without being linked to some resumptive constituent by an antecedent occurrence.

[36] Cf. the related Generative analyses of hanging topic constructions offered by Cinque (1997: 98–100) and Cardinaletti (1988: 5f.), who assume that the 'hanging topic constituent' does not form a chain with the coreferential expression in the remaining part of the sentence.

[37] In Integrational Semantics underspecified relations have been assumed, *inter alia*, for the semantics of genitive noun modifiers.

(27)   The relation between V and V_1 such that there is a [binary relation] y[38] such that

     1.   [appropriateness conditions on y] and

     2.   for all x_0,

          if V_1 refers by *der*$_1$ *Hans*$_2$ in V to x_0,
          then y holds between x_0 and the state-of-affairs such that, for all x_1, and x_2,

            if

               a. V_1 refers by *ich*$_3$ in V to x_1 and

               b. V_1 refers by *diesen*$_5$ *Kerl*$_6$ in V to x_2,
            then there is an x such that [continued as in (22), 4.].

The appropriateness conditions on the relation y should at least exclude trivial relations such as 'being identical to or different from'. Stronger conditions could characterize y as being an 'aboutness relation'. Further research needs to be carried out in order to specify these conditions.

3.3   Free Topic

As established in section 2.1 above, two types of free topics are to be distinguished: elliptical free topics and non-elliptical ones. I shall discuss the latter first and then the former.

Recall that free topics are sentential units of their own, followed by another sentential unit. For the representation of multi-sentential, 'textual' units, Integrational Syntax provides the operation of *sentence concatenation* (see Lieb 1975: 169–171). (28) depicts the result of the sentence concatenation of the syntactic triples corresponding to *der Hans* and to *ich kenne diesen Kerl seit langem* in (4):

---

[38] I leave it open whether y is an extensional or intensional relation.

(28)

	VGr				

comp² · nuc · mod

	N	N	V	NGr	Prt
	der₁ Hans₂	*ich₃*	*kenne₄*	*diesen₅*	*Kerl₆*	*seit₇ langem₈*

der₁ Hans₂	*ich₃*	*kenne₄*	*diesen₅*	*Kerl₆*	*seit₇ langem₈*
L L-Hᵣ	L	H L	L L	H	H Hᵣ L_d
·Hans·	·I·	·know·	·this·	·guy·	·for a long time·
{Nom,…}	{Nom,…}	{Pres,…}	{Acc,…}	{Acc,…}	{…}
{…}	{…}	{NOM + ACC,…}	{…}	{…}	{…}
⋮	⋮	⋮	⋮	⋮	⋮
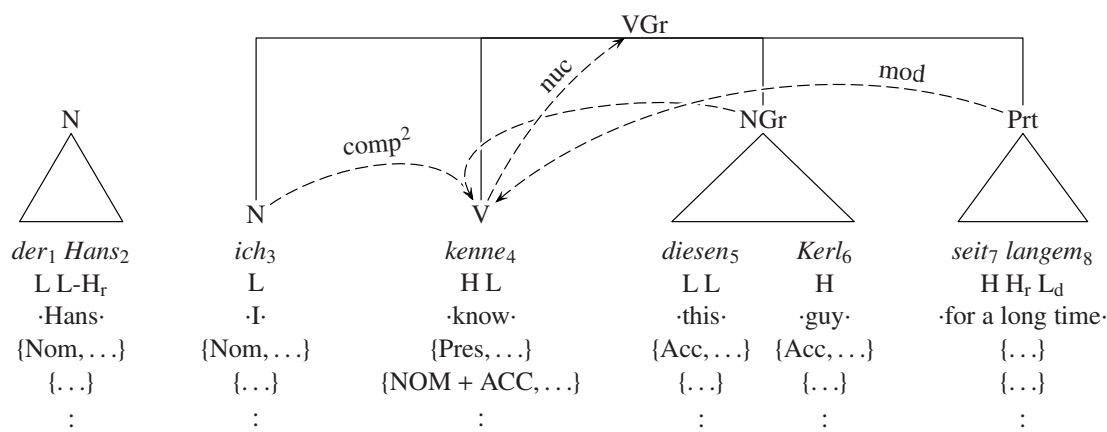
The intonation structure assigned to *der₁ Hans₂* is an interrogative sentence intonation ('L-Hᵣ' stands for the pitch value sequence *low-to-high-rising*). The marking structure marks this constituent by Nom. The constituent structure parts for *der₁ Hans₂* and *ich₃ kenne₄ diesen₅ Kerl₆ seit₇ langem₈* are unconnected: there is no common 'root node'. Likewise, no syntactic functions — in particular, neither topic nor antecedent — occur between them.

Elliptical units are conceived as phonologically reduced syntactic triples in Integrational Syntax (Lieb 1998/99; for the notion of 'phonological reduction', see Klein 1993: 789–797). (29) represents the sentence concatenation of one possible elliptical triple corresponding to *dem Hans* in (5) with the syntactic triple corresponding to *ich kenne diesen Kerl seit langem*:

(29)

VGr				VGr			

nuc · comp²   comp² · nuc · mod

N	V	N		N	V	NGr	Prt
e₁	e₂	*dem₃ Hans₄*		*ich₅*	*kenne₆*	*diesen₇*	*Kerl₈*	*seit₉ langem₁₀*

e₁	e₂	*dem₃ Hans₄*	*ich₅*	*kenne₆*	*diesen₇*	*Kerl₈*	*seit₉ langem₁₀*
L	L	L L-Hᵣ	L	H L	L L	H	H Hᵣ L_d
·you·	·trust·	·Hans·	·I·	·know·	·this·	·guy·	·for a long time·
{Nom,…}	{Pres,…}	{Dat,…}	{Nom,…}	{Pres,…}	{Acc,…}	{Acc,…}	{…}
{…}	{NOM + DAT,…}	{MASC,…}	{…}	{NOM + ACC,…}	{…}	{…}	{…}
⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮
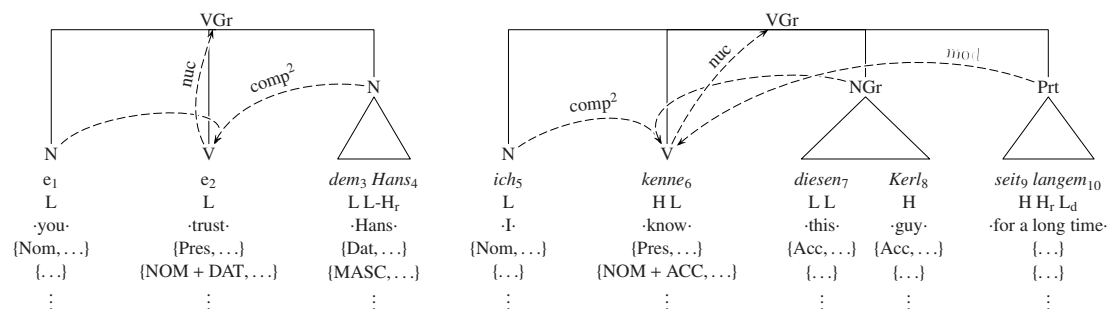
The letter 'e' denotes the *empty phonological word*. Its occurrences in (29) result from the phonological reduction of the phonological words *du* ('you') and *traust* ('trust'), occurring in the corresponding non-elliptical syntactic unit. The dative case of *dem₃ Hans₄* is determined internally in the elliptical triple: it is governed by the phonologically reduced nucleus constituent, which is marked by the word category *[verb governing a] NOM[inative expression] + [a] DAT[ive expression]*.

The semantic correlate of sentence concatenations still needs to be determined in Integrational Linguistics. I therefore have to leave the semantic analysis of (4) and (5) open.

4   Summarizing and Generalizing the Results

In this paper I argued that there are three distinct constructions involving a topic constituent detached to the left: left-dislocated topic, left-attached topic, and left-hanging topic. The constructions diverge from each other in terms of the existence and the type of antecedent occurrence between the topic constituent and some anaphoric constituent. In hanging topic there is no such antecedent occurrence. The nominal topic constituent in attached topic is a weak antecedent of the occurrence of a demonstrative '*d*-pronoun' form; in general, the latter agrees with the former in number and gender. In dislocated topic the antecedent occurrence is a strong one, involving agreement in case or other formal features. Nominal topic constituents which are not at the same time strong antecedent constituents appear in the nominative.

As for the semantics of detached topic constructions, the proposition is articulated into a 'topic part', corresponding to the topic constituent, and a 'comment part'. The proposition of sentences with a strong antecedent occurrence — that is, the proposition of dislocated topic instances — has a partial prenex normal form, allowing for 'bound' interpretations of pronoun forms occurring in the topic constituent. A strong or weak antecedent occurrence leads in addition to an identity clause in the proposition, requiring coreference between the topic constituent and the resumptive constituent. The proposition of hanging topic instances, on the other hand, establishes an underspecified relation between the referent of the topic constituent and the state-of-affairs expressed by the remaining part of the sentence.

In contrast to dislocated topic, attached topic, and hanging topic, no topic function occurs in free topics. Free topics are sentential units of their own, which are syntactically unconnected to the following sentence. Free topics come in two flavours: elliptical free topics and non-elliptical ones. While the latter appear in the nominative only, the case of the former is determined by some phonologically reduced constituent.

The analyses proposed for left-dislocated topic, left-attached topic, and left-hanging topic can be generalized to further constructions in German. 'Right dislocations' such as (30) are easily analysed as *right-dislocated topics*:

(30)   Ich kenne ihn   seit langem,   den   Hans.
       I   know   him ACC MASC for a long time the ACC MASC Hans

       'I've known Hans for a long time.'

In (30) *den Hans* is a right-dislocated topic constituent, which is linked by strong antecedent (or rather 'postcedent') to *ihn*.

Further candidates for dislocated topic constituents are 'vocatives'. In the imperative sentence (31), *Hans* is a left-dislocated topic constituent and a strong antecedent of *du*:[39]

(31)   Hans, schließ du auf!
       Hans unlock you VERB-PRT

       'Hans, unlock the door!'

There are also hanging topic 'vocatives':

(32)   Hans, es hat geklingelt!
       Hans it AUX rang

       'Hans, somebody just rang the doorbell!'

Accordingly, there is no antecedent function occurrence in (32). In order to capture the 'addressation' meaning of the 'vocative', the 'predicate part' of proposition for (32) must include a condition which correlates the referent of *Hans* with the hearer.

Finally, 'split topicalizations' such as (33) may be analysed as topic constructions, too:

(33)   Spanischen   Wein   trinkt er keinen.
       Spanish ACC SG MASC wine MASC drinks he none ACC SG MASC

       'As for Spanish wine, he drinks none.'

It can be shown that — despite their agreement in case, number, and gender — *spanischen Wein* and *keinen* in (33) do not form a discontinuous noun phrase (cf., for instance, Fanselow 1988 and Pafel 1998: 236–239). In Nolda, in preparation I analyse *spanischen Wein* rather as a non-detached *integrated topic* constituent, which is linked by strong antecedent to the anaphoric direct object constituent *keinen*.[40] In the proposition of (33) the 'topic part'

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[39] In (i) *Hans* may be analysed as a topic constituent which is the antecedent of an 'empty subject occurrence' (Hans Heinrich Lieb, personal communication):

(i)   Hans, schließ auf!
       Hans unlock VERB-PRT

       'Hans, unlock the door!'

[40] The occurrence of strong antecedent in (33) is confirmed by the 'bound' interpretation of *sich* in (i):

(i)   Bücher von sich   hat er keine   verkauft.
       books of   himself AUX he none PL sold

       'He didn't sell his (own) books.'

introduces the set of all referents of the generically interpreted topic constituent *spanischen Wein*. The interpretation of *keinen* is linked to that set by an element relation, which is the semantic consequence of the antecedent occurrence.

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Besides integrated topic constituents which are strong antecedents, there also seem to be integrated topic constructions with a weak antecedent occurrence:

(ii)   ? Buch von sich   hat er keins   verkauft.
      book of   himself AUX he none SG sold

      ‘He didn’t sell his (own) book.’

In case (ii) is indeed ungrammatical, the unavailability of a ‘bound’ interpretation of *sich* in (ii) can be attributed to the fact that the ‘bare singular’ count noun form *Buch* does not match *keinen*’s property of having the form of an independent nominal constituent.

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'These hands, they are apt enough to dislocate and tear thy flesh': On Left Dislocation in the Recent History of the English Language[*]

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Abstract

As part of a major project on the syntactic organisation of written discourse in the recent history of the English language, this paper tackles the distribution of sentences comprising left-dislocated constituents in a corpus of texts from late Middle English onwards. Once the phenomenon of left dislocation has been properly defined, this investigation will concentrate on the analysis of the corpus in the following directions: (i) statistical evolution of left dislocation in the recent history of the English language; (ii) the influence of orality and genre on left dislocation; (iii) information conveyed by the left-dislocated material, that is, the discourse-based referentiality potential of the left-dislocated constituents in terms of recoverability, and its association with end-focus; and (iv) grammatical complexity of the left-dislocated material and its association with end-weight.

1 Introduction

This paper deals with the linguistic phenomenon of 'left dislocation'[1] (henceforth, LD), exemplified in (1):

(1) This paper, I have not had the opportunity of reading it at the workshop.

In LD constructions, a sentence-initial constituent is suprasegmentally detached from the (rest of the) sentence and is prototypically resumed by a pronominal copy in the sentence.

An issue to which much attention has been devoted in the literature on LD has been whether the strategy of LD must be dealt with as either a discourse- or simply as a sentence-based phenomenon. In this respect, the syntactic

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[1] The label *left dislocation* was first suggested, to our knowledge, by Ross (1967: 232). English LD belongs to the subtype of 'hanging topic left dislocation', as reported by, for example, Van Riemsdijk (1997) and Vat (1997).

nature of LD has been called into question on many occasions (Keenan 1976: 253; Keenan & Schieffelin 1976: 241; Vat 1997: 95-100; Ziv 1994: 631f).[2] In this paper, on a par with Pérez-Guerra (1999: Chapter 6), we shall contend that LD is relevant to syntax since left-dislocated constituents must meet two (syntactic) conditions: first, they must not be insertable directly in the clause, and, second, they must be related to the material after the comma or pause semantically and, sometimes, syntactically. As far as the first condition is concerned, the integration of, for example, *this paper* in (1) above within the clause *I have not had the opportunity of reading it at the workshop* would lead to (syntactic) redundancy, since the object slot of the predicate *reading* would be filled by both the proform *it* and the left-dislocated constituent *this paper*. As regards the second condition, the connection between *this paper* and *it* in (1) is both semantic and syntactic (Geluykens' 1992 'average' LD), since, on the one hand, both constituents are coreferring (semantic link) and, on the other, *this paper* is capable of functioning as the object of *reading* in the absence of *it* (syntactic link). An example of non-syntactic semantic connection between the LD constituent and the sentence (Gundel's 1988: 244 'double-subject construction' or Lambrecht's 1994: 193 'unlinked topic construction') is (2), in which *this paper*, on the one hand, cannot be integrated into the sentence (**I'm going crazy this paper*) and, on the other, is not resumed by any constituent in the ensuing clause.

(2)   This paper, I'm going crazy.

This paper in (2) is, however, semantically related to the proposition *I'm going crazy* since it constitutes the 'aboutness' of the speaker's craziness. Such semantic connection between the left-dislocated expression and the sentence is defined in more detail in (3), which constitutes the definition of LD which we shall stick to in this paper:

(3)   LD REQUIREMENTS:

A sentence is said to contain a left-dislocated constituent if it satisfies (a) and either (b) or (c):

a) A non-vocative (see Van Oosten 1986: 32) constituent other than the unmarked theme is in sentence-initial position, and a pause (comma, in writing) is 'felt' to occur between that segment and the rest of the clause. This sentence-initial constituent cannot fulfil a function in the sentence which it introduces. In other words, it cannot be inserted directly in the syntactic structure of the ensuing clause.

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[2] The discourse nature of LD has been accepted even in 'syntactocentric' proposals couched in the generative framework, such as Emonds (2004: 106ff), who maintains that the maximal projection of which the left-dislocated material is an immediate constituent is a so-called 'Discourse Shell'.

b) A syntactic relation holds between the preposed segment and another element fulfilling a basic function in the sentence.[3] In other words, a copy (or a referent, in those cases showing backward pronominalisation) of the preposed segment occurs in the sentence.[4,5]

c) A semantic relation[6] holds between the preposed segment and another element fulfilling a basic function in the sentence, in such a way that both the preposed and its related elements share semantic features ('coreference' in Gundel's 1988:223 terminology). Alternatively, the element in the sentence may be, semantically speaking, 'part' of the preposed one, which thus functions, informatively speaking, as setting.[7]

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[3] By 'basic function' we understand a complement position. In actual fact, as pointed out by Rodman (1974), adjuncts, which are modifiers, cannot be left-dislocated:

(i)   *In Rutgers, they hold a wonderful stock of electronic references on Optimality Theory.

[4] The necessity for a relation of coreference to hold between the left-dislocated constituent and a copy or referent in the clause requires that the left-dislocated expression is capable of invoking an extralinguistic entity. In other words, adjectives, adverbs, prepositions, etc. are hard to use as left-dislocated constituents since they do not refer to an entity in the extralinguistic world. Nominal expressions, which by definition are referential, are thus the prototypical categories that will most likely occur in the slot reserved for left-dislocated segments. Clauses, as instantiations of facts, are also possible left-dislocated expressions. Just for the record, (i) and (ii) illustrate, respectively, a small clause (*all Nonsense*) and a *that*-clause (*the Man has something of a Notion at Dress*) in LD position, these both being resumed by the proform *it* in the clause.

(i)   All Nonsense, I know it   (H. Brooke, *The Fool of Quality*: 75)

(ii)   the Man has something of a Notion at Dress, I confess it –
                                                      (F. Coventry, *Pompey the Little, Book 1*: 26)

[5] Backward pronominalisation is possible in LD examples, as shown in (i), taken from Haaften *et al* 1983:

(i)   [The first of his$_i$ papers]$_j$, I think [every linguist]$_i$ would qualify it$_j$ as a failure.

The referential link marked by means of subscript 'i' illustrates backward pronominalisation between the proform *his* and the referent *every linguist*. Subscript 'j', in contrast, evinces forward pronominalisation between *the first of his papers* and the proform *it*.

[6] The referential relation between the left-dislocated segment and the constituent in the clause is ruled by general pragmatic principles such as the 'Parallel Function Strategy', as reported in, for example, Cowan 1995:34. In this respect, Gundel (1975:88) suggests that such semantic connection is governed by a maxim stating that '[i]n order for a comment, C, to be successfully predicated of a topic, T must be of a type or category such that it is logically possible for C to be true or false of T', where T stands for the preposed segment and C for the sentence. Dik (1998: 394) claims that '[f]or any pair of Theme T [JPG/DTC: LD] and clause C to make sense, it must be *relevant* to pronounce C with respect to T' [our italics].

[7] The so-called setting-subtype is here illustrated in (i), in which the left-dislocated constituent *the best, and most beloved of wives, of mothers, of mistresses* is resumed by *her*,

Examples such as (4) below are not accounted for by the definition in (3) and thus, *contra* Geluykens (1992: 20ff), among others, are not regarded as examples of LD:[8]

(4)   As for LD, the syntactic integration of the dislocated material in the matrix sentence is not possible.

We will not consider *as for LD* in (4) as a left-dislocated constituent since it fulfils a function in the sentence, namely, topical or aspectual modifier, which contradicts condition (a) in (3), that is, the impossibility for left-dislocated constituents to be inserted in the clause. (4) will be classified as an example of topicalisation, a syntactic strategy closely related to LD since both constructions share the feature of semantic affinity between the fronted constituent and the clause.[9] LD and topicalisation differ precisely in their compliance with condition (a): whereas left-dislocated constituents cannot be integrated in the syntactic structure of the clause, topicalised segments fulfil major syntactic functions in the sentence. The degree of the syntactic integration of a topicalised expression in the sentence depends on its syntactic function. To give an example, the connection between topicalised *as for LD* and the clause in (4) above is weaker than that holding between *LD* and the clause in, for example, (5) below:

(5)   LD material we cannot integrate in the matrix clause.

In example (5) *LD material* is a topicalised object, that is, 'moved' from its unmarked postverbal position as the object of *integrate*. Whereas *as for LD* in (4) is a modifier, *LD material* in (5) is an (internal) argument. The omission of *as for LD* in (4) has no consequences for the interpretation of the sentence, whilst *LD material* in (5) cannot be deleted. Be that as it may, neither (4) nor (5) can be taken as examples of LD since, to a larger or a lesser extent, *as for LD* and *LD material* realise syntactic functions in their sentences or, in other words, are syntactically integrated in the clauses.

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which functions as the genitive determiner of *domestick character*, and not by a proform fulfilling a major function.

(i)   The best, and most beloved of wives, of mothers, of mistresses, her domestick character is most lovely;
                    (F.M. Brooke, *The History of Lady Julia Mandeville, Vol. I*: 11)

[8] Most of the corpus examples initiated by topic adjuncts contain the introducers *as to* and *as for*, illustrated here in (i) and (ii), respectively:

(i)   As to its being the language in Paradise, this is not very probable,
                    (T. Amory, *John Buncle. Vol. I*: 38:40)

(ii)   As for you my beloved Son, you are now turn'd of fourteen,
                    (M. Davys, *The Accomplish'd Rake*: 3)

[9] See Pérez-Guerra 1999: 200-202 for syntactic differences between LD and topicalization.

The definition in (3) prevents vocatives and similar exclamative constructions from being regarded as examples of LD. We justify this constraint by assuming that vocatives constitute speech units by themselves and are not analysed as part of the clauses containing the so-called copies. To give an example, (6) is claimed to consist of two speech units, namely *unhappy woman!* and *I can only regard her as an object of pity!* and thus is not eligible as an illustration of LD:

(6)   Unhappy woman! I can only regard her as an object of pity!
      (F. Burney, *Evelina*: 5)

Vocatives must not be confused with appositive constructions even though they share structural similarities. In this vein, our corpus contains examples of appositions of the sort in (7), with the first term acting as a premodifier of the head term, which resemble the instances of vocatives already discussed.

(7)   Your most humble Servant, cry'd Sir John, I find then you are going to
      compleat your happy Circumstances in that mighty Blessing call'd a
      Wife, (M. Davys, *The Accomplish'd Rake*: 15)

(7) cannot be taken as an example either of a (second-person)[10] vocative since *your most humble Servant* corefers with first-person *I* or of LD, since the initial constituent is integrated into the syntactic structure of the clause and fulfils the syntactic function of premodifier within the subject *Your most humble Servant* (...) *I*.

The distinction between a vocative and a premodifying appositive term is blurred in examples such as (8):

(8)   How, my dear creature, have I used you inhumanly? (S. Fielding, *The
      Cry*: 97)

My dear creature can be analysed as either a vocative or the premodifier of *you*. Be that as it may, (8) is not an example of LD since sentence-initial *my dear creature* either constitutes a specific speech unit by itself or realises the function of premodifier within the object *my dear creature* (...) *you*.

A further condition on LD which is specified, in passing, in the definition in (3) is the necessity for the left-dislocated constituent and its 'copy' to occur

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[10] Exclamative expressions which do not convey second-person reference will not be treated as vocatives and can, in consequence, be taken as examples of LD. To give an example, we do not object to the analysis of *we!* in (i) as a left-dislocated constituent, resumed by the second occurrence of *we* – repetition, as a subtype of LD, is common to specifically spoken language:

(i)   We! [my Lord!] [cried they with one voice], we would not go up to the gallery for
      your Highness's revenue.   (H. Walpole, *The Castle of Otranto*: 40)

in the same clause. This requirement prevents examples such as (9) and (11) from being regarded as instances of LD:

(9)   Lord Viscount Fondville, he would not have you omit Viscount for the world, left us this morning (F.M. Brooke, *The History of Lady Julia Mandeville*: 73)

(10) 'Kissing!' said the Lady, 'do you call that no Crime?' (H. Fielding, *Joseph Andrews*: 41)

(11) On this she asked me if I knew Polly Philips. Undoubtedly, says I, the fair girl which was so tender of me when I was sick, (J. Cleland, *Memoirs of a Woman of Pleasure, Vol. I*: 75)

On the one hand, in (9) above, *he would not have you omit Viscount for the world* is a comment clause which is inserted with the matrix clause *Lord Viscount Fondville (...) left us this morning*. Put differently, *Lord Viscount Fondville* cannot be said to be a left-dislocated constituent resumed by means of *he* in the parenthetical clause since the former functions as the subject of *left*. Example (10) is, in contrast, an example of LD since *kissing* and *that* belong to the same sentence *Kissing (...) do you call that no Crime?*. This is an example of a direct reported discourse interrupted by the clause including the verb of speech *said*.

On the other hand, the referential link holding between *Polly Philips* and *the fair girl which was so tender of me when I was sick* in example (11) above is not an instantiation of LD, since the two constituents are uttered by different speakers – *she* (or the speaker) and *I*. This obviously shows that these segments cannot be constituents of the same clause. It seems in order here to point out that our ('same-sentence') constraint is not necessarily in keeping with the literature on LD. In this respect, Geluykens (1992: 23-24) accepts dialogic LD since, in his opinion, LD is an interactive strategy whose definition must be stated in pragmatic rather than in syntactic terms. To our knowledge, if examples such as (11) above are treated as instances of LD, then there are no syntactic differences between LD and simple reference, which is the semantic phenomenon that accounts for the connection between *Polly Philips* and *the fair girl which was so tender of me when I was sick*.

The 'same-sentence' constraint, as already defined, leads to the exclusion of (12) from the class of LD constructions:

(12) 'tis that fine Piece of his, where – Yes, yes, I have read it very often; I remember it perfectly well
      (F. Coventry, *Pompey the Little, Book 1*: 63-64)

Since *that fine Piece of his, where (...)* and *it* belong to different clauses, example (12) will simply constitute an illustration of the pronominalisation of *that fine Piece of his, where (...)* by the personal pronoun *it*. This example has

been brought into consideration because it resembles other utterances in which LD is the strategy chosen by the speaker or writer in order to compensate for a false beginning, which is known as 'self-correction'. To give an example, *he*, either in (13a) and (13b), which partially corefers with *his character*, constitutes a new sentence-opener for the sentence *he loved a jest in his heart*. Both examples are thus regarded as instances of self-correction:

(13) a.   His character was, – he loved a jest in his heart –

(L. Sterne, *Tristram Shandy*: 39)

b.   His character, – he loved a jest in his heart –

On strictly syntactic grounds, we shall contend that only (13b) is an example of LD since *his character* cannot be said to belong to a sentence different from that containing *he*. In contrast, *his character* in (13a) is part of the incomplete sentence *his character was* and thus is not an instance of LD.

On some occasions, the ascription of the left-dislocated constituent to either the matrix or a subordinate clause is not straightforward, the interpretation of the utterance in its context being crucial here. To give some examples, in (14) we would indisputably analyse *little Julio* as the subject of the subordinate clause *little Julio often attending him when he made his Visits to her*, which, in its turn, fulfils the function of reason adjunct (or predicate modifier). In consequence, (14) is not an example of LD since *little Julio* is an immediate constituent not of the sentence headed by *commenced* but of the nonfinite one whose verb is *attending*.

(14) [The Italian Nobleman above-mentioned had an Intrigue with a celebrated Courtesan of Bologna,] and little Julio often attending him when he made his Visits to her, (as it is the Nature of all Servants to imitate the Vices of their Masters,) he also commenced an Affair of Gallantry with a Favourite little Bitch named Phyllis, at that Time the Darling of this Fille de Joye.

(F. Coventry, *Pompey the Little, Book 2*: 12)

(15) little Julio attending the Italian Nobleman above-mentioned, he also commenced an Affair of Gallantry with a Favourite little Bitch named Phyllis, at that Time the Darling of this Fille de Joye.

As far as (15) is concerned, the decision on whether *attending the Italian Nobleman above-mentioned* is a postmodifier of *little Julio* within the noun phrase *little Julio attending the Italian Nobleman above-mentioned* or the predicate of a nonfinite subordinate clause is not clear to us. If the analysis of this sentence is guided by the interpretation of *little Julio* as the head of the noun phrase, then (15) would be an example of LD, since *little Julio* would depend on the clause following the break. If, in contrast, *little Julio* receives a proper interpretation as the subject of the nonfinite clause, example (15) would

be, syntactically speaking, identical to (14) above and therefore would be not eligible as a left-dislocated construction.[11]

2   The Corpus

As part of a major project on the thematic organisation of the clause in the recent history of English, the aim of this paper is to analyse LD once word order has been fixed in the language. To that end, we base our investigation on data taken from three computerised corpora containing material from late Middle (lME), early Modern (eModE), late Modern (lModE) and Present-day English (PDE). The data for the lME and the eModE periods have been retrieved from *The Helsinki Corpus of English Texts* (Kytö 1996). The literary works by eighteen authors in the *Chadwyck-Healey* collection (*Eighteenth Century Fiction*) have served as the basis for the eighteenth century. The *Lancaster-Oslo/Bergen Corpus of British English* (Johansson 1978) has offered the material for PDE. Table 1 gives the word totals for each period:

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[11] When the proform or the resumptive expression holds a semantic relation of multiple coreference with the constituent occurring before the break, the analysis of the construction as LD is out of the question. Multiple coreference is illustrated in (i), in which *they* refers to *Don Medenta* plus *Charlotta*:

(i)   Don Medenta leading Charlotta, they wandered to a Place where they saw some Trees growing very close together,   (P. Aubin, *Charlotta Du Pont*: 50)

The 'same-sentence' constraint predicts that example (i) would be eligible as LD if the left-dislocated segment and the copy occur in the same sentence. This would imply that *Don Medenta leading Charlotta* constitutes not an independent clause but a non-clausal category. If *leading Charlotta* were a postmodifier of *Don Medenta*, then *Don Medenta leading Charlotta* would be a noun phrase which could be claimed to be left-dislocated. Since the supposed copy proform *they* resumes not the singular referent materialised by *Don Medenta* plus its nonfinite postmodifier but *Don Medenta* plus *Charlotta*, *Don Medenta leading Charlotta* does not convey unique reference and thus cannot be analysed as a (left-dislocated) noun phrase. The constituent occurring before the comma is, in consequence, a subordinate clause functioning as a (time/reason/manner) adjunct.

Table 1: The corpus

Period	Word totals
lME	71,097
eModE	199,921
lModE	311,566
PDE	98,007
Totals	680,591

3   A Statistical Overview of LD

The distribution of LD in the periods investigated is shown in Table 2. So that the raw results (Roman font) can be compared among periods, we have normalised the results per 1,000 words (italics):[12]

Table 2: Distribution of LD

Type	lME	eModE	lModE	PDE	Total
LD proper	85/*1.19*	78/*0.39*	46/*0.14*	10/*0.1*	219/*0.32*
wh-LD	13/*0.18*	18/*0.09*	1/*0.003*	0	32/*0.04*
Totals	98/*1.37*	96/*0.48*	47/*0.15*	10/*0.1*	251/*0.36*

Two types of LD have been identified in Table 2, namely LD proper and *wh*-LD, in which a *wh*-constituent appears in a position reserved for the left-dislocated material. An example of *wh*-LD is (16):

(16) what þou fyndis þer-in, do it of clene
        (*The 'Liber De Diversis Medicinis' in the Thornton Manuscript*:10)

The referent of the unbound relative clause *what þou fyndis þer-in* in (16) is resumed by the proform *it* in the ensuing kernel clause. Since the location of *wh* left-dislocated constituents in sentence-initial position is not due to the fact that they are *wh*-segments, as confirmed by (17), we shall consider *wh*-LD as a subtype of LD proper.

(17) do what þou fyndis þer-in of clene

The figures in Table 2 show that *wh*-LD is highly stigmatised in the language, at least from lModE onward, since only one example complying with the *wh* subtype has been recorded in lModE and none in the PDE period. Even though the lack of examples of *wh*-LD could be claimed to be a consequence of the literary nature of the texts, the PDE subcorpus, which consists of different text types, points towards the progressive avoidance of *wh*-LD. The only example which has been classified as *wh*-LD in lModE is (18) below:

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[12] Normalisation per number of clauses has been carried out in, for example, Pérez-Guerra, forthcoming and has not modified the results significantly.

(18) whatever enemies I find without, I will always endeavour not to cherish one in my own bosom.

(S. Fielding, *The Cry, Vol. I*: 38)

One is a partitive proform which resumes the relative clause *whatever enemies I find without*. The example thus conforms to condition (c) in (3) above since, semantically speaking, *one* conveys a 'part' of the preposed *wh*-clause, the latter functioning, informatively speaking, as setting.

When applied to the distribution in Table 2, chi-square demonstrates that the rate of variation undergone by LD – both LD proper and *wh*-LD – from lME onwards is statistically significant.[13] In fact, the proportion of LD from lModE onwards amounts to approximately 1 out of 10,000 words, which places the strategy of LD in a marginal position as far as word order is concerned. Such a conclusion is in keeping with the process of syntactisation (see Pérez-Guerra, forthcoming), in progress in these periods, according to which peripheral constituents which cannot be integrated in the syntactic structure of the clause are avoided in at least written (planned) linguistic production. In the fight towards full syntactisation, LD is especially vulnerable since it involves elements which, by definition, cannot be accommodated within the syntactic structure of the clause. In order to confirm whether the decrease undergone by left-dislocated material across time can also be applied to other fronting strategies or not, in Table 3 we include information about the distribution of topicalisation[14] (see Section 1 above) and adverbial fronting (sentence-initial adjuncts, disjuncts and conjuncts) in the same periods – unfortunately, no data can be offered for the strategy of topicalisation in the lModE period. The normalised figures are given in italics:

Table 3: Distribution of other fronting strategies

Type	lME	eModE	PDE	Total
topicalisation	1,225/*17.22*	2,676/*13.38*	1,171/*11.94*	5,072/*13.74*
adverbial fronting	54/*0.75*	667/*3.33*	336/*3.42*	1,057/*2.86*
Totals	1,279/*17.98*	3,343/*16.72*	1,507/*15.37*	6,129/*16.6*

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[13] For p≤ 0.001, χ^2 = 26.4245. The distribution is significant.

[14] Sentence-initial adverbial complements, illustrated in (i), are included in the data for topicalisation since its location in initial position is less natural, and thus more marked, than in postverbal position. Adjuncts, in contrast, occur naturally in sentence-initial position and are, in consequence, included in the counts for adverbial fronting:

(i) [But in this commendation of musike I wold nat be thought to allure noble men to haue so moche delectation therin, that,] in playinge and singynge only, they shulde put their holle studie and felicitie   (T. Elyot, *The Boke Named The Gouernor*: 26)

The information in Table 3 suggests that the decline of LD in written speech is in keeping with the general decrease of topicalisation.[15] The figures also corroborate that adverbial fronting does not run parallel to topicalisation and LD, since the presence of an adjunct, disjunct or conjunct in sentence-initial position has minor consequences for the syntactic organisation of a sentence.[16]

4   Suprasyntactic Variables Affecting LD

4.1   Style and Genre

Table 4 displays the distribution of LD in the corpus according to the style/genre of the texts, namely, expository, instructive and statutory:[17]

Table 4: Style and LD

Type	lME	eModE	lModE	PDE
expository	0	13	-	0
instructive	71	24	-	2
narrative	11	28	47	8
statutory	2	1	-	0
others	14	30	-	0
Totals	98	96	47	10

Since all the texts in the eighteenth-century subcorpus belong to the narrative subcategory, only the lME, eModE and PDE data allow for further

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[15] Kohonen (1978: 174) claims that the number of clauses with fronted constituents decreases whilst the number of sentences conforming to SVO word order increases. As far as the proportion of adjuncts specifically is concerned, corpus-based Breivik & Swan 1994: 28 leads to the conclusion that '[t]he relative frequency of sentences with initial adverbial has apparently decreased since the Old English period'. Pérez-Guerra (1999: 220) shows that the number of sentence-initial conjuncts decreases across time. In contrast, disjuncts are surprisingly more frequent in PDE; such a fact reinforces the claim that at least contemporary English is more involved than it used to be in older periods (see Traugott 1989, 1995: 44-49; Finegan 1995:8-10; Bækken 1998:7; González Álvarez 2002: 287, 289; or, on a more theoretical basis, Langacker 1990).

[16] For p≤ 0.025, χ^2 = 8.4679. The distribution is significant.

[17] The ascription of the lME and eModE texts to the categories expository, instructive, narrative and statutory has been done by following the classification developed by the compilers of *The Helsinki Corpus*. In that corpus, the tag <Z> labels the different texts are EXP(ository), INS(tructive), NARR(ative) or STAT(utory). We have applied the same categorisation to the PDE texts. As pointed out in the main text, all the samples in the lModE subcorpus belong to the narrative subcategory. A final remark seems in order here since the statistical validation of the distribution in Table 4 is severely conditioned by the fact that all the data in the statutory and the expository rows belong to solely a few textual samples.

examination as far as the style of the texts is concerned. Even though the figures in Table 4 have not undergone any kind of statistical normalisation, one easily reaches the conclusion that LD cannot be characterised as a strategy applying to exclusively informal language since most of the corpus examples are found in instructive and narrative text types, which clearly instantiate formal English.

In the same vein, Pérez-Guerra (1999: 223-24) points out that the proportion of LD is considerably lower in the lME, eModE and PDE spoken texts than in the written – and even the written-to-be-spoken – passages, and that the number of sentences with left-dislocated material decreases across time independently of the written or the spoken character of the texts. This fact contradicts Geluykens' (1992: 34) claim that LD is more frequent in the spoken medium.

4.2 Information

This paper will not deal with the functions of LD in the discourse – expressing contrast, emotion, setting the scene, identifying a part of previous discourse, self-correction or hesitation, etc. – and will simply examine the informative potential of the left-dislocated material in the corpus in order to either corroborate or refute the informative characterisation of LD as is maintained in the relevant literature. To that end, we have designed a basic taxonomy of informative content which classifies left-dislocated constituents as follows:

- 'referring', either linguistically/textually or deictically, when the content of the linguistic expression has already been mentioned or alluded to in the discourse, belongs to the universal knowledge, or is a current situational element. In keeping with Ariel 1996: 23ff, an expression will be regarded as linguistically/textually referring if it is not new in a span of seven sentences previous to its occurrence.

- 'low-referring', when only non-head components of the expression – i.e. its complements or modifiers – are informationally 'available', when the entity denoted by the expression is 'derivable' from the linguistic context, or when its referent has been alluded to in the previous discourse in a span of more than seven clauses, and

- 'nonreferring', when the referent can neither be recalled from the discourse domain linguistically – in the previous seven clauses –, situationally or permanently, nor derived from a previous referring expression.

Graphic 1 displays the proportions of the informative category just described in the corpus:
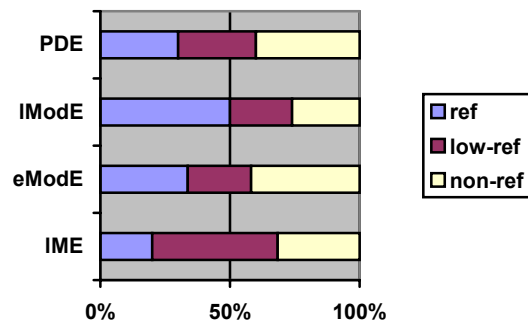
Graphic 1: LD and information

The results in Graphic 1 do not warrant any conclusions as far as the historical characterisation of LD in terms of information is concerned, since the proportions of recoverable ('ref'), partially recoverable ('low-ref') and irrecoverable ('non-ref') information are practically identical in lME and PDE. This graphic also reveals that less than 40 percent of the left-dislocated segments are absolutely non-referring, which is not in keeping with the common belief that left-dislocated segments are highly irrecoverable (Geluykens 1992:33; Keenan & Schieffelin 1976; Prince 1997:124), that is, either absolutely new or re-introduced.[18] The proportions in Graphic 1 show that the majority of the left-dislocated material has been verbalised in the immediately previous discourse.

4.3 Length

Table 5 outlines the average length – number of words – of the constituents occupying a left-dislocated position in the periods under examination:

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[18] Such informative characterisation of LD as a strategy which allows the insertion of irrecoverable referents in initial position leads to the distinction between left-dislocated material and average subjects, usually sentence-initial, since the latter normally convey recoverable information. Our own data do not, however, contradict the previous claim since what Graphic 1 portrays is the informative heterogeneity of left-dislocated segments, which contrasts with the high proportion of absolutely recoverable subjects. Whereas the unmarked organisation of the clause, with sentence-initial subjects, is in keeping with the principle of given-before-new (Quirk *et al* 1985: 1357), the occurrence of left-dislocated material in initial position does not corroborate such a principle, since dislocated themes are not clearly characterised as either recoverable or irrecoverable.

Table 5: Length

Period	Length
lME	8.9
eModE	8.8
lModE	11.4
PDE	7.4

Table 5 shows that LD must be characterised as a highly marked organisation strategy with respect to the length of the sentence-initial material since in all the periods the average number of words in the left-dislocated constituents is significantly higher than the length of unmarked subjects – 2.08 words in Pérez-Guerra 1999: 56. This fact indicates that the occurrence of a constituent in the position reserved for left-dislocated segments does not comply with the principle of end-weight (Biber *et al* 1999:898; Quirk *et al* 1985: 1361-62).

(19) exemplifies the resumption of a complex left-dislocated constituent by means of the proform *he* in the main clause:

(19) Valerius, though a little Opposite at first, yet, upon his Mother's pressing, and repeating how far my Happiness was the Object, if not the whole End of the Undertaking, he at last consented,

(J. Barker, *J. Exilius, Vol. I*: 46)

5   Concluding Remarks

This paper has undertaken the characterisation of LD as a (semantically-constrained) syntactic strategy which alters the unmarked organisation of the clause. Once LD was defined and distinguished from other competing constructions – topicalisation, subordination, etc. –, special attention was devoted to the evolution of LD in the recent history of the English language, namely from 1420 onwards. In this respect, we have examined the diachronic frequency of the construction, its informative potential, the connection between LD and written/spoken and/or formal/informal language, as well as the compliance of LD with the principle of end-weight.

The main conclusions are as follows. First, the data show, on the one hand, the radical decrease of *wh*-LD and, on the other, the diminution of LD proper, in accordance with the general decrease of other fronting strategies such as topicalisation. Second, LD is more productive in written and in formal texts, which contradicts other assumptions found in the relevant literature. Third, the informative nature of left-dislocated constituents is considerably heterogeneous since they accommodate both recoverable and irrecoverable referents. Finally, left-dislocated constituents are very long, which places LD

in a highly marked position with respect to (lack of) compliance with end-weight.

Summing up, LD, both in written/spoken and formal/informal language, has been a marked syntactic strategy in the recent history of the language and, as such, is not subject to the principles which rule the organisation of the clause, namely, given-before-new, end-weight and the necessity of integration in the syntactic skeleton of the clause.

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'Integrated' and 'Non-Integrated' Left-peripheral Elements in German and English[*]

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Abstract

In this paper, we investigate two pairs of structures in German and English: German Weak Pronoun Left Dislocation and English Topicalization, on the one hand, and German and English Hanging Topic Left Dislocation, on the other. We review the prosodic, lexical, syntactic, and discourse evidence that places the former two structures into one class and the latter two into another, taking this evidence to show that dislocates in the former class are syntactically integrated into their 'host' sentences while those in the latter class are not. From there, we show that the most straightforward way to account for this difference in 'integration' is to take the dislocates in the latter structures to be 'orphans', phrases that are syntactically independent of the phrases with which they are associated, providing additional empirical and theoretical support for this analysis — which, we point out, has a number of antecedents in the literature.

1 Introduction

In recent years, there has been a great deal of interest in the syntactic, semantic, and discourse properties of the sentence's left periphery; yet a truly compelling analysis of the different structures associated with this domain remains elusive. One particularly puzzling set of structures consists of those that contain sentence-initial elements considered in some sense to be the

'topics'[1] of the sentences in which they occur. Although various structures of this kind have been recognized across languages, we shall be concerned with two broad classes into which they are commonly organized, respectively characterized by sentence-initial elements that are more and less integrated into the sentence — what we mean by 'integrated' to become clearer as we proceed. Members of these two classes in German and English, the two languages that we shall be focussing on in this paper, are illustrated in the pairs of sentences in (1) and (2), respectively:

(1) a. Den   Hans, den mag jeder.
         the-ACC Hans him like everyone
         'Hans, everyone likes him.'

     b. Hans, everyone likes.[2]

(2) a. Den/Der   Hans, jeder   mag ihn
         the-ACC/NOM Hans   everyone likes him
         'Hans, everyone likes him.'

     b. Hans, everyone likes him.

At first blush, the members of these two classes — which we shall henceforth be referring to as I- and N-classes, respectively, as a mnemonic for 'integrated' and 'non-integrated' — appear to be very similar cross-linguistically. However, significant differences between them were recognized early on in generative research, the differences in question generally related to the status of sentence-initial elements as either moved to or base-generated in left-peripheral positions (e.g., Rodman 1974; Vat 1981). This 'movement versus base generation' dichotomy still figures in much work on the subject (e.g., Grewendorf 2002; Grohmann 2003), although other work has described the dichotomy somewhat differently, taking the key difference between the two classes to be the higher or lower position that the dislocate occupies, both positions being either base positions (e.g., Anagnostopoulou 1997) or derived ones (e.g., Boeckx 2003; Boeckx and Grohmann 2003).

Interestingly, another description of these two classes has long coexisted with these more standard approaches, although figuring less prominently in the literature. This description, which we shall be investigating in detail

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[1] Note that it was already recognized by Cinque (1983 [1997: 94]) that the use of the term 'topic' for these structures was 'perhaps somewhat misleading'. We shall be investigating the applicability of this notion to these structures in the text below.

[2] In 'topicalization' structures like this one, we shall be following standard practice and indicating a comma between the left-peripheral element and the rest of this sentence, although there seems no reason to believe that the left-peripheral element here is actually set off from the rest of the sentence by a pause — a point we shall be returning to in the text.

below, is one according to which the relation between the left-peripheral element and its 'host' sentence can be characterized in terms of principles of narrow syntax in I-class but not in N-class structures. More specifically, left-peripheral elements in the former structures are seen to be syntactically integrated into the sentence; whereas those in the latter are, in Haegeman's (1991) terminology, 'orphans', independent of the host sentence and integrated into it by non-syntactic means (e.g., Cardinaletti 1987; Cinque 1983; Hoekstra 1999; Zaenen 1997). While such a view may sound unorthodox in the context of alternative 'narrow syntactic' analyses, it not only provides a straightforward account of a range of syntactic, semantic, prosodic, and discourse contrasts between I- and N-class structures, but also highlights intriguing parallels, not commonly noted, between the dislocates of N-class structures and such elements as discourse adverbials, non-restrictive modifiers, parenthetical expressions, and vocatives, all of these widely regarded as not combining compositionally with the phrases they are associated with (see, e.g., Asher 2000; Sells 1985; Heim and Kratzer 1998: 64). If none of these elements combines compositionally with their host sentences, then we need to ask why this is; and the idea that they are not, syntactically speaking, part of this sentence offers a way to answer this question. An 'orphan' analysis of N-class dislocates also points to another parallel between them and sentence 'fragments', phrases used with the force of sentences. As we shall show, this parallel is a far more natural one than that between I-class dislocates and 'fragments', as drawn by Merchant (to appear).

In what follows, we shall first lay out a range of contrasts in the syntactic and pragmatic/discourse behaviour of German and English I- and N-class structures that motivate an analysis of these structures as respectively involving the syntactic integration and non-integration of the dislocate into the host sentence (§2). While certain of these contrasts, as we shall show, turn out to be more subtle than generally recognized, they nevertheless provide strong support for the 'integrated/non-integrated' distinction that we are arguing for. In the course of these investigations, we shall also point out some intriguing contrasts between the German and English structures, which, to our knowledge, have received little attention in the literature. We shall then turn to the syntax of the I-class/N-class contrast, where we shall focus on an 'orphan' view of the latter (§3). Here we shall provide some new evidence for this view, which we shall briefly compare, on the one hand, with standard analyses of I-class structures, according to which their dislocates occupy CP or IP positions and are in a chain with resumptive elements or traces lower in the CP or IP; and, on the other hand, with other recent analyses of N-class structures, which take dislocates to be base-generated in or moved to high left-peripheral positions. Finally, we shall offer a summary and some conclusions (§4).

2   Some Differences between I- and N-class Structures

In order to begin our investigation of I- and N-class structures in German and English, we shall review some basic properties that distinguish members of each class in the two languages and also show that these structures pattern with I-class and N-class structures cross-linguistically. We shall then consider other syntactic differences between these classes that have been claimed in the literature. Of particular importance in both cases will be those contrasts taken to be evidence for or against 'connectivity', which Zaenen (1997: 120) defines as 'any grammatical encoding of the within-sentence syntactic function of the constituent.' What we shall find is that the patterns of acceptability related to these differences are, on closer inspection, rather more complex than generally acknowledged, making the presence or absence of connectivity somewhat more difficult to assess than has sometimes been acknowledged. As we shall explain, however, such complex patterns still turn out to offer good support for an I-class/N-class distinction. The same conclusion will emerge from an examination of the discourse properties of these structures.

2.1   Key Prosodic, Lexical, and Syntactic Differences

The German and English 'topic' structures illustrated in (1)–(2), which we repeat below, have gone under various names in the literature. Here we shall be referring to the I-class structures in (3a) and (3b) as German Weak Pronoun Left Dislocation (henceforth WPLD) and English Topicalization (henceforth TOP), respectively; and the N-class structures in (4a) and (4b) as German and English Hanging Topic Left Dislocation (henceforth HTLD), respectively:

(3)   a.   GERMAN WEAK PRONOUN LEFT DISLOCATION:
Den   Hans, den mag jeder.
the-accHans him like everyone
'Hans, everyone likes him.'

b.   ENGLISH TOPICALIZATION:
Hans, everyone likes.

(4)   a.   GERMAN HANGING TOPIC LEFT DISLOCATION:
Den/Der   Hans, jeder   mag ihn
the-ACC/NOMHans everyone likes him
'Hans, everyone likes him.'

b.   ENGLISH HANGING TOPIC:
Hans, everyone likes him.

Since the German structures in (3)–(4) look similar on the printed page,[3] it is important to recognize that these figure chiefly in spoken rather than written language and that their pronunciation is one of the chief means by which they are distinguished, the dislocate in HTLD structures forming a prosodic unit distinct from that of the rest of the sentence, and that in WPLD structures generally having progredient intonation and representing no such distinct unit (Altmann 1981).[4] (In order to highlight this difference between German structures, we shall henceforth be making use of the notation of Altmann (1981), who indicates the WPLD pattern with '$\rightarrow$' and the HTLD pattern with '$\downarrow$' between dislocate and sentence.) This difference in the prosodic integration of dislocates also distinguishes English HTLD from TOP structures, and is widely observed to distinguish N-class from I-class structures cross-linguistically (e.g., Anagnostopoulou 1997: 153; Grohmann 2003: 141-142).

A second key difference between these two classes of structures in German and English is related to the properties of their resumptive elements. Resumptives in German WPLD are restricted to the class of weak *d*-pronouns, which are homophonous with definite article forms. Those in German HTLD, however, reflect a much wider range of possibilities, including definite and indefinite descriptions, and personal and demonstrative as well as *d*-pronouns. This corresponds to a widely reported cross-linguistic difference, whereby I-class resumptives commonly take the form of clitics or other weak pronouns and N-class resumptives have a wider range of forms (e.g., Cinque 1983 [1997: 96]). English HTLD can also be reliably distinguished from TOP on the basis of its resumptive element, not only because it has such an element whereas TOP does not, but also because its resumptives, like those of German HTLD, encompass a wide range of forms.

The position of the resumptive also helps us to distinguish I-class from N-class structures in German and English. In WPLD, the resumptive occupies either the *Vorfeld* position, commonly assumed to be Spec/CP, or the 'topic' position inside the IP (the latter to be described in more detail below); whereas in HTLD, the resumptive may occupy both these and lower positions in the tree such as the base positions of the subject or object. The resumptive in English HTLD, similarly, may occupy canonical subject or object positions.

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[3] Notwithstanding certain significant differences in word order and case-marking possibilities, which we shall be describing presently.

[4] We recognize that the intonational facts are rather more complicated than we have suggested in the text, complicating some of the patterns described below, including those illustrated in (6)–(7). We can note, however, preliminary investigation of spectrograms and pitch tracks of recordings of the English sentences *Beans, I like* and *Beans, I like them* (as supplied by Charles Reiss, personal communication) indicates that the generalizations in the text represent a useful starting-point for future research.

Another difference between the two classes of structures pertains to case-marking possibilities for NP dislocates. In WPLD, the case of such a dislocate is always the same as that of the resumptive. In TOP, similarly, the case of an NP dislocate is always that expected from its grammatical function as subject or object. In contrast, the case of an NP dislocate in German HTLD may either match or mismatch that of the resumptive NP in the host sentence; and in English HTLD, the case of a pronominal dislocate, the only kind that display case marking, is always accusative regardless of the case of the resumptive NP in the host sentence (Rodman 1974 [1997: 46; 53, n. 8]).

(5)   a.   WPLD:
           Den/*Der Hans, → den mag jeder.
           the-nom   Hans WP.him like everyone
           'Hans, everyone likes him.'

      b.   German HTLD:
           Der   Hans, ↓ jeder   mag ihn
           the-NOM Hans   everyone likes him
           'Hans, everyone likes him.'

      c.   English HTLD:
           Me/*I, I like booze.   (Rodman 1974 [1997: 58, n. 8])

Another contrast related to 'matching' requirements in I-class and N-class structures involves the syntactic category and thematic and subcategorization requirements of the dislocate and the resumptive or trace in the host sentence (Cinque 1983 [1997: 101–102]). In I-class structures, these two elements must have the same category and fulfil the same requirements, whereas in N-class structures they need not, as illustrated in (6)–(7) (note that the English sentences are the translation equivalents of the German, a practice we shall be adopting wherever practicable in the following discussion):

(6)   WPLD and TOP:

      a.   *London, → da   möchte ich wohnen.
           London   there would I   live

      b.   *London, I would like to live.

(7)   HTLD:

      a.   London, ↓ ich möchte dort wohnen.

      b.   London, I would like to live there.

Interestingly, however, it is not obvious that I-class structures permit a greater range of syntactic categories for the dislocate than N-class structures, as has sometimes been claimed (Cinque 1983 [1997: 113]; see also Grohmann 2003: 167). While inspection of the German and English data

does indicate that I-class structures display a great breadth of possibilities, as shown in (8), the same breadth of possibilities appears to be available for N-class structures, as shown in (9):

(8)   WPLD and TOP:

    a. Stolz auf Maria, → das soll   Otto sicherlich sein.
       Proud of Mary   that should Otto certainly be

    a′. Proud of Mary, Otto must certainly be.

    b. In die Stadt, → dorthin ist Otto mit seinem Auto gefahren.
       into the city   to there is Otto with his   car   drove

    b′. Into the city Otto drove his car.

(9)   HTLD:

    a. In Paris, ↓ ich würde dort gerne wohnen.
       In Paris I   would there gladly live

    a′. ?In Paris, now there I'd sure like to end up.[5]

    b. Sehr schlecht, ↓ so hat sich   nur Otto benommen.
       very badly   so has himself only O. behaved

    b′. Very badly, that's how Otto behaved.

    c. Sorgfältig, ↓ so liest Otto wichtige Bücher.
       carefully   so reads O. important books

    c′. Carefully, that's how Otto reads the books.

    d. To go backward that much, a lot of guys can't do it.
       ('Jobs grow, optimism shrinks in Wisconsin', *Los Angeles Times* on-line edition, 9.8.2004)

A final key difference between I- and N-class structures in German and English pertains to island sensitivity. As illustrated in (10)–(13), the dislocates in WPLD and TOP are sensitive to islands, whereas their counterparts in German and English HTLD are not (note that a recognition of the prosodic difference between German WPLD and HTLD is crucial in establishing these contrasts):

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[5] Note that there was considerable inter-speaker variation in the judgements of this sentence.

(10) WPLD and TOP: Adjunct islands

a. *Den Peter, → Hans geht in die Kneipe, bevor er den trifft.[6]
   the   Peter   Hans goes to the pub   before he him meets

b. *Peter, John goes to the pub before he meets.

(11) WPLD and TOP: Complex NP islands

a. *Peter, → Maria hasst das Gerücht, dass dem die Mafia
   Peter   M.   hates the rumour that him the Mafia
   geholfen hat
   helped   has

b. *Peter, Mary hates the rumours that the Mafia helped.

(12) HTLD: Adjunct islands

a. Peter, ↓ Hans geht immer in die Kneipe, bevor er ihn trifft.
   Peter   Hans goes always to the pub   before he him meets

b. Peter, John always goes to the pub before he meets him.

(13) HTLD: Complex NP islands

a. Peter, ↓ Maria hasst das Gerücht, dass die Mafia ihm
   Peter   M.   hates the rumour that the Mafia him
   geholfen hat.
   helped   has

b. Peter, Mary hates the rumours that the Mafia helped him.

This pattern corresponds with those observed for I- and N-class structures generally (see, e.g., Cinque 1983; Vat 1981); and, like the other patterns just described, reflects a robust difference between these structures.

2.2 Other Syntactic Contrasts

Other contrasts reported in the literature, despite being widely accepted, turn out to be less robust than those described above. One of these pertains to the possibility of referential dependencies between the dislocate and the resumptive, where the basic generalization is that the dislocate in I-class but

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[6] We consider the sentences in (10a) and (11a) to be instances of island violations because — as shown in Frey 2004b and elsewhere and as we shall point out below — we analyse WPLD resumptives as being able to occur in the *Mittelfeld* and not just in the *Vorfeld*, as some have argued (see, e.g., Grohmann 2003). As such, a sentence like that in (i) would be unacceptable because the resumptive *den* itself has moved out of an adjunct island:

(i) *Peter, den geht Hans₁ in die Kneipe, bevor er trifft.

not N-class structures behaves 'as if it occupied the position of the resumptive pronoun' (Cinque 1983 [1997: 104]). This has led to a specific claim, due to Vat (1981), regarding the variable binding of left-peripheral pronouns by quantificational NPs in the host sentence: namely, that such binding is possible with I-class but not N-class structures. The kinds of sentences and judgements that motivate this claim, based on Vat 1981 [1997: 90, (60)], are illustrated below:

(14) a. WPLD:

   Seine$_1$ Mutter, $\rightarrow$ die verehrt [jeder Junge]$_1$
   his   mother   her admires   every boy
   'His$_1$ mother, every boy$_1$ admires her.'

   b. Topicalization:
   His$_1$ mother, every boy$_1$ admires.

(15) HTLD:

   a. *Sein$_1$ erster Artikel, $\downarrow$ ich glaube, dass [jeder Linguist]$_1$ ihn als
   his   first   article   I believe that every linguist it as
   Mißerfolg betrachten würde.
   failure   consider   would

   b. *His first article, I think every linguist would consider it a failure.

(16) HTLD:

   a. *Sein Nachbar   zur Linken, $\downarrow$ mit dem muss jeder Kursteilnehmer
   his   neighbour to-the left   with him   must every participant
   die Hausaufgaben erledigen.
   the homework   accomplish

   b. *His neighbour to the left, every participant should do his
   homework with him.

Vat (1981 [1997: 70, 90]) takes the unacceptability of such instances of HTLD to follow directly from the claim that the pronouns in the dislocates, which function as variables, are not in the scope of the quantificational expressions in the host sentences, on the assumption that the latter do not c-command the former at any level of representation. This view of HTLD is the standard one in the literature, the patterns of acceptability supporting it being widely accepted.

Yet, even Vat's (1981 [1997: 70]) discussion of such examples reveals a the recognition of a certain discrepancy between prediction and observation, given both the 'highly subtle and often murky' facts about variable binding and the role of factors 'which contribute to the difficulty of establishing correct judgement[s]'. Indeed, the authors' belief that variable binding requires c-command leads them to assert that it 'must be' the case that the

variable binding is impossible in sentences like (15b), though admitting that the judgements supporting such a conclusion are 'quite difficult to establish', and to treat acceptable binding in certain HTLD structures as 'ungrammatical but acceptable'.

As it happens, further investigation has revealed an intriguing pattern. This is that while many speakers produce very stable judgements of sentences like those in (14)–(16) consistent with Vat's predictions — a fact which will figure in our discussion of the discourse properties of I- and N-class structures in §2.3 — we have also found speakers who accept a variable binding reading of German and English HTLD sentences. Moreover, they accept such a reading for other structures, including those in (17)–(18), in which the quantificational expression is similarly claimed not to c-command the coindexed pronoun at any level of representation or point in the derivation:

(17) a. Ob   seine$_1$ Freundin erscheint oder nicht, es wird doch jeder
         whether his   girlfriend appears or   not   it will   every
         Typ$_1$ kommen.
         guy   come

    b. Whether his girlfriend shows up or not, every guy will be there.

(18) a. Wenn sein$_1$ Chef glücklich ist, so ist jeder Angestellter$_1$
         when his   boss happy   is   so is every office-worker
         auch glücklich.
         also happy

    b. When his$_1$ boss is happy, every office-worker$_1$ is happy too.

That certain speakers' acceptance of variable binding in HTLD does reflect a fact, however, puzzling, about these structures is also suggested by the results in an informal study conducted by Gisbert Fanselow of about 50 linguistics students' judgements of the four sentences in (19) (Gisbert Fanselow, personal communication):

(19) a. Seinen$_1$ vierzigsten Geburtstag, den möchte   kein Professor$_1$
         his   fortieth   birthday   it would like no   professor
         alleine verbringen.
         alone spend
         'His$_1$ fortieth birthday, no professor$_1$ wants to spend it alone.'

    b. Seinen$_1$ vierzigsten Geburtstag, keiner$_1$ möchte   den alleine
         his   fortieth   birthday   no one   would like it alone
         verbringen.
         spend
         'His$_1$ fortieth birthday, no one$_1$ wants to spend it alone.'

c. An seinem$_1$ vierzigsten Geburtstag, an diesem Tag weint jeder
on his fortieth birthday on this day cries every
Linguist$_1$.
linguist
'On his$_1$ fortieth birthday, every linguist$_1$ cries.'

d. Apropos sein$_1$ vierzigster Geburtstag, ich glaube, dass jeder
as regards his fortieth birthday I think that every
Professor$_1$ ihn mit einer Riesenparty begangen hat.
professor it with a huge party celebrated
'As regards his$_1$ fortieth birthday, I think that every professor$_1$
celebrates it with a huge party.'

What Fanselow found was that in addition to the 35% of subjects who responded according to the expected pattern, accepting the first two sentences and rejecting the last two, 31% of subjects accepted both the first two and the third, and 14% of subjects accepted the first two and the fourth sentence.[7] Such patterns suggest, then, that the c-commanding of a pronoun by a coindexed quantificational expression (at a level relevant to interpretation) may be sufficient but not necessary for variable binding.

Such cases of possible variable binding without c-command also turn out to be intriguingly similar to cases of possible variable binding between sentences like those in (20), which we have found to be acceptable to speakers who accept variable binding in sentences like those in (15)–(18) and (19c, d) and unacceptable to those do not accept the latter sentences:[8]

(20) a. Fast jeder Stuhl, den wir gesehn haben, war echt schön.
almost every chair it we saw have was really beautiful
Leider war er auch viel zu teuer.
unfortunately was it also much too expensive

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[7] The results described above summarize the most frequent patterns; others include the rejection of the second sentence, acceptance of all four, and missing answers.

[8] Note that these elicit judgements somewhat different from classic cases of anaphora in modal subordination contexts, as given in (i)–(ii), which seem generally acceptable, both in German and in English (the original English examples are from Sells 1985: 2, (5); cited in Roberts 1989: 717):

(i) a. Jedes Schachspiel ist mit einem zusätzlichen Bauern ausgestattet. Dieser klebt an der Unterseite des Deckels.

b. Every chess set comes with a spare pawn. It is taped to the top of the box.

(ii) a. Jeder Reis-Bauer in Korea besitzt einen Holz-Karren. Gewöhnlich bekommt er diesen von seinem Vater.

b. Every rice-grower in Korea owns a wooden cart. Usually he gets it from his father.

   b.   Almost every chair we saw was really beautiful. It was also much
        too expensive.

At this stage we cannot offer any detailed account of the ability of some
speakers to arrive at variable binding readings of the sentences in (15)–(18),
(19c, d), and (20), and can only speculate that they may have an explanation
in terms of the semantic subordination of the expression containing the
variable to the expression containing the quantificational expression, which is
taken to be the explanation of acceptable variable binding in classic cases of
modal subordination (see, e.g., Roberts 1989).

   What is also worth pointing out is that recognizing the ability of certain
speakers to arrive at these readings need not lead us to abandon the variable
binding criterion for distinguishing I- and N-class structures, but rather to
reinterpret this criterion as indicating a direction of contrast, as follows. In
line with the judgements reported above, we can take variable binding in I-
class structures to be uniformly acceptable, but in N-class structures to vary
considerably from speaker to speaker (and perhaps from sentence to
sentence, although we have not yet subjected this claim to much scrutiny).
On this view, variable binding in N-class structures would resemble those in
the intersentential contexts illustrated above. We make this parallel more
explicit in §3 below.

   Broadly similar remarks about a direction of contrast also apply to a claim
made by Altmann (1981) about parenthetical expressions in I- and N-class
structures. According to Altmann, such expressions may occur between the
dislocate and host sentence in German WPLD but not HTLD structures. This
claim can be extended to English, where we find a similar contrast between
TOP and HTLD. These patterns are illustrated with translation equivalents in
German and English in (21)–(22):

(21) a.   WPLD:
           Den Peter, wie du   weißt, den mag   jeder.
           the Peter   as   you know, him likes   everyone.

      b.   TOP:
           Peter, as you know, everyone likes.

(22) a.   German HTLD:
            *Der Peter, wie du   weißt, jeder   mag ihn.
           the Peter   as   you know, eveyone likes him.

      b.   English HTLD:
           Peter, as you know, everyone likes him.

Much as we saw with variable binding above, further investigation of such
occurrences of parentheticals reveals a more complex pattern of
acceptability. In this case, the acceptability of German sentences like (22a)

increases for at least some speakers when there is a longer pause between the parenthetical and the host sentence, as suggested by the punctuation in (23):[9]

(23) Den Peter, wie du weißt — jeder mag ihn.

As for the English cases, the instances of parentheticals in TOP structures turned out to be more acceptable for some but not all of the speakers we consulted, and for those who did find the former more acceptable, the latter improved in acceptability with a greater pause between dislocate and host sentence, just as in German HTLD.

Once more, then, we find a clear direction of contrast, rather than an absolute contrast, between I-class and N-class structures, with the former structures being uniformly acceptable when the dislocate is separated from the host sentence by a parenthetical, while the latter structures vary in acceptability depending on the speaker and the degree of prosodic separation between parenthetical and host sentence. As such, this parenthetical placement criterion, like the variable binding criterion, support an I-class/N-class distinction — though in a manner less direct than generally thought, and less direct than the prosodic, lexical, and syntactic contrasts between these structures described above.

2.3 Discourse Properties of I- and N-class Structures

2.3.1 'Links' and 'Topics'

The I-class/N-class distinction is further supported by contrasts in the discourse properties of I-class and N-class structures, already noticed in early studies such as Rodman 1974 [1997: 33–34]. Rodman observed the following pattern, which showed that TOP and HTLD were not acceptable in the same contexts:

(24) a. What can you tell me about John?
      i. John, Mary kissed.
      ii. *John, Mary kissed him.

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[9] Another complication that emerges for Altmann's (1981) claim is that, for some speakers, both of the sentences in (i) are acceptable, even though the latter, with a nominative-marked dislocate, is clearly an instance of HTLD:

(i)   a. Den Peter, wie du weisst, den mag jeder.

      b. Der Peter, wie du weisst, den mag jeder.

This indicates that many factors — in this case, the position of the resumptive — may conspire to make the occurrence of parentheticals with German HTLD acceptable.

b. What can you tell me about John?
    i.   Nothing. *But Bill, Mary kissed.
    ii.   Nothing. But Bill, Mary kissed him.

(Rodman 1974 [1997: 33–34], (19)–(20))

Rodman took such contrasts to provide good evidence that TOP and HTLD were structures derived by quite distinct means, rather than the latter being a 'pronoun-leaving version' of the former, as suggested by Ross (1967).

Significantly, we find the same pattern for WPLD and HTLD in German, highlighting the parallel between I-class and N-class structures in the two languages:

(25) a. Was kannst du mir über Hans erzählen?
        'What can you tell me about Hans?'
        i.   Hans, → der hat Maria geküsst.
            Hans   he has Maria kissed
        ii. *Hans, ↓ er hat Maria geküsst.

    b. Was kannst du mir über Hans erzählen?
        i.   Nichts. *Aber Peter, → der hat Maria geküsst.
        ii. Nichts. Aber Peter, ↓ er hat Maria geküsst.

This contrast between I-class and N-class structures can be described with the help of Birner and Ward's (1998: 20) notion of a 'link', which they describe as 'linguistic material representing information which stands in a contextually licensed [partially ordered set] relation with information evoked in or [inferable] from the prior context, and serves as a point of connection between information presented in the current utterance and the prior context.'[10] While the examples in (24)–(25) make it clear that the dislocates of both I-class and N-class structures are related to previous discourse in some fashion, it is only the former that must serve as 'links' to previous discourse. This is shown for German and English in Frey (to appear); the pattern in illustrated for both languages in (26):

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[10] Birner (2004) notes problems for a description of felicitous preposing in terms of partial ordering, given sentences like the following one (her (25a)):

(i)   We ate in a terrible French restaurant last night. #The cork was green.

Since such a relation is transitive, the preposing of *the cork* should arguably be possible, given that a cork is part of a bottle of wine and wine is always found in a French restaurant. On this basis, Birner concludes that 'defin[ing] these linking relations as poset relations is therefore either incorrect or incomplete.' Although this 'transitivity problem' does seem to be a real one, we can perhaps put it aside here without doing any real violence to our argument, and leave a more adequate treatment of 'linking' for future research.

(26) Die Kinder hatten ihren ersten Ferientag und Maria hat vorgeschlagen, dass sie Fußball spielen.
'It was the first day of the children's vacation and Mary suggested that they play football.'

a.   WPLD:
Der Otto, der wollte aber schlafen.
'Otto, he just wanted to sleep.'

a′. TOP:
Otto, Mary watched over closely.
☞ Otto must be a member of the set of children.

b.   German HTLD:
Der Otto, er wollte aber schlafen.
'Otto, he just wanted to sleep.'

b′. English HTLD:
Otto, he just wanted to sleep.
☞ Otto need not be a member of the set of children.

What we see here, in other words, is that the dislocate in the I-class structures stands in the 'part-of' relation to the set of children on vacation evoked in previous discourse; whereas the dislocate in the N-class structures need not stand in such a relation.

Further highlighting this difference in the 'link' properties of I-class and N-class structures is a contrast that, to our knowledge, has previously gone unnoticed in the literature. This is that HTLD structures can be discourse-initial (though, of course, requiring contextual support), whereas WPLD and TOP structures cannot, as suggested by the following examples:

(28) (Pointing to a sanctimonious politician on a television programme:)

a.   That jack-ass, I heard they caught him with a prostitute.

b.   #That jack-ass, I heard they caught with a prostitute.

(29) (Pointing to a sanctimonious politician on a television programme:)

a.   Dieser Blödmann, ↓ man hat ihn kürzlich mit einer Prostituierten erwischt.

b.   #Diesen Blödmann, → den hat man kürzlich mit einer Prostituierten erwischt.

The point, again, is that WPLD must be a 'link', whereas HTLD can, but need not, be one.

Another discourse contrast between German I-class and N-class structures, described by Frey (to appear), is perhaps even more surprising

given a widespread assumption about dislocates in both classes of structures. The assumption is that these dislocates are always topic expressions, where the referent of such an expression is understood in Reinhart's (1981) sense as what 'the sentence is used to assert something about'. (Given the various uses to which the term 'topic' has been put, we shall henceforth use the term A-topic, short for 'aboutness-topic', to identify this sense of 'topic'.) Such an assumption seems to be plausible, based, for example, on an inspection of the HTLD examples from Rodman 1974 and their German translations, as given in (24)–(25). Yet, closer inspection of these examples reveals that the kind of question with which Rodman frames these examples — 'what can you tell me about…?' forces the answers to be about the individual identified in the question. Once one eliminates the 'aboutness-forcing effects' of these questions, however, the relation between dislocates and A-topics in I-class turns out to be different from that between dislocates and A-topics in N-class structures. As Frey shows, the dislocate and its associated resumptive in German WPLD but not HTLD structures always indicate A-topics.

Frey establishes this point by first showing that in German generally, A-topics that occur in the German *Mittelfeld* must occur higher than the base position of sentential adverbials — a position higher than that of any other element in the *Mittelfeld* (Frey 2004a). Since contexts like those supplied in Rodman's examples force an argument to an A-topic, any such A-topic occurring in the *Mittelfeld* together with a sentential adverbial must occur above this adverbial, as (30) shows:[11]

(30) Was kannst du mir über Hans erzählen?
      'What can you tell me about Hans?'

      a. Nächstes Jahr wird der Hans zum Glück eine reiche Frau
          next   year will the Hans luckily   a   rich   woman
          heiraten.
          marry
          'Next year, Hans will luckily marry a rich woman.'

      b. #Nächstes Jahr wird zum Glück der Hans eine reiche Frau heiraten.

Further support for this claim about the position of A-topics comes from the observation that non-referential NPs — which, by common assumption, cannot be A-topics — cannot occur above sentential adverbials:

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[11] Frey's claim regarding A-topics is that there is a designated structural position for such elements in the *Mittelfeld*, inside IP. For a similar claim about Finnish, see Holmberg and Nikanne 2002.

(31)*Während des Vortrags haben mindestens zwei leider
during the lecture have at least two unfortunately
einen Apfel gegessen.
an apple eaten
'During the lecture, at least two people, unfortunately, were eating an apple.'

If we now return to WPLD and HTLD structures, we can see that — for those speakers who have stable judgements that these structures contrast with respect to variable binding, as described in §2.2 above — resumptives in the former structures clearly behave as A-topics according to the criterion just described, making the dislocates with which they are associated A-topics also:

(32) a. Seinem$_1$ besten Freund, jeder Berliner$_1$ wird dem zum Glück
his best friend every Berliner will him luckily
Geld ausleihen.
money lend
'His best friend, every Berliner, luckily, will lend him money.'

b.??Seinem$_1$ besten Freund, jeder Berliner$_1$ wird zum Glück dem Geld ausleihen.

In contrast, resumptives in HTLD structures need neither be in 'A-topic position' as shown in (33a), where the resumptive *ihn* 'him' is clearly below the sentential adverbial *anscheinend* 'apparently'; nor be referential expressions, as shown in (33b), where the dislocate and the resumptive associated with it have a non-specific indefinite interpretation:

(33) a. Der Hans, heute will anscheinend keiner ihn unterstützen
the Hans today wants apparently no one him support
'Hans, today no one apparently wants to support him.'

b. Einen Mann ohne schlechtes Benehmen, Maria sucht
a man without bad attitude Mary looks for
einen/ihn noch.
one/him still
'A man without an attitude, Mary is still looking for one/him.'

The data from German thus not only indicate another striking contrast in the discourse properties of I-class and N-class structures, but also make it clear that dislocates and their associated resumptives are necessarily A-topics in I-class but not N-class structures.

Comparable data from English suggest that the A-topic property does not even hold of I-class structures generally, and certainly does not hold of N-class structures, despite the common assumption that it does (see, e.g., Frey to appear; Prince 1998). Perfectly acceptable TOP structures like those in

(34), for example, demonstrate that dislocates in the structures may be quantifier expressions and thus not A-topics:

(34) a. At least some kinds of beans I really like.

b. Many kinds of beans I just don't like.

c. Some computations he may not be able to carry out in his head.

(Birner and Ward 1998: 80)

As for HTLD structures, the pattern here is somewhat more complex, since comparable dislocates in these structures do appear to be unacceptable, as suggested by the following sentences from Rodman 1974 [1997: 43]:

(35) a. *Someone, he's coming.

b. *A boy, I saw him.

c. *Everybody, they're doing it.

d. *Many boys, Sarah Bernstein would like to kiss [them].

(Rodman 1974 [1997: 43, (50)])

However, such examples do not represent the full pattern, given acceptable instances of HTLD structures with quantificational dislocates such as the following ones:

(36) a. A boy, they really want one, since they already have two girls.

b. 'Any clashes between demonstrators and counter-demonstrators, we'll try to keep those to a minimum', he said.
('Activists Oppose Catholic Church's Antiabortion Stance', *Washington Post* 25.4.2004, C01)

At this stage, we can offer no detailed account of the difference between (35) and (36). However, we can speculate on its source in the relative lexical poverty of the dislocates in (35) and the lack of any context to restrict the domains that these expressions quantify over. This leads to the expectation of a non-specific reading for the resumptive, but this expectation appears to clash with salient interpretations of the host sentences, on which specific readings of the resumptives are more natural. In contrast, the sentences in (36) both have dislocates and resumptives that are non-specific, and they are all fully acceptable.

While there clearly remains much to be said about the A-topic properties of I- and N-class structures, the data just examined demonstrate quite convincingly that not all such structures require their dislocates and associated resumptives to be A-topic elements. What they also show is that there are significant cross-linguistic differences in A-topic properties even among I-class structures.

The picture of the discourse properties of I- and N-class structures that emerges from the above discussion is in an important sense similar to what we have just seen for variable binding and parenthetical placement, inasmuch as dislocates in German and English I-class structures are uniformly links and those in German I-class structures are uniformly A-topics, suggesting a necessary connection between their grammatical and discourse properties; whereas their N-class counterparts may, but need not, be links or A-topics, suggesting no such necessary connection. This is precisely the insight that we shall seek to develop in our discussion of the syntax of these two classes in §3.

2.3.2 Some Speculations about Discourse Properties and the 'Root/Embedded' Contrast

Before we do so, however, it might be worth noting the relevance of the respective discourse properties of I-class and N-class structures to another contrast between these structures claimed in the literature: that in their ability to occur in embedded clauses. Although this contrast has not, to our knowledge, been related to the discourse properties of such structures, these properties may very well be behind the observed patterns of embeddability.

On the standard view (e.g., Cinque 1983 [1997: 96]), the dislocate in N-class structures associates typically only with matrix clauses, whereas that in I-class structures may associate with either matrix or embedded clauses. Of course, the reference to 'typically' here makes this contrast a weak one, since it reflects a longstanding recognition that embedded HTLD structures are possible, if restricted.[12] Thus, alongside embedded TOP and WPLD structures such as those in (37)–(38), we find embedded HTLD structures in both English and German, the former having figured in the literature since Ross 1967:

(37) TOP:

    a. John says that Sue, Bill doesn't like.   (Authier 1992: 329, ex. 1a)

    b. It's true that this book, he read thoroughly.

                                          (Authier 1992: 333, ex. 8b)

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[12] However, Grohmann (2003: 151), for example, denies the possibility of embedded HTLD in German (which we believe is at odds with the cases given below, at least on the assumption that these cases, which involve V2 word order in the embedded clause, are truly cases of syntactic embedding); and Anagnostopoulou (1997: 154) reports that in Greek, embedded HTLD is not possible, while embedded I-class clitic left dislocation is. As regards English, we find authors such as Anagnostopoulou (1997: 154, 167) recognizing the possibility of embedded HTLD structures but taking these to occur only in a limited range of environments, analysed as CP-recursion environments (for discussion of these environments, see Authier 1992; Iatridou and Kroch 1992).

  c.   'They know the money they give as an incentive, they make up twentyfold,' said Bonnie Reiss, a senior advisor to the governor. ('Runaway Filming a Challenge for Gov.', *Los Angeles Times* 30.9.2004)

(38)   WPLD:

  a.   Ich glaube, den Hans, den   mag jeder
    I   *believe the Hans him likes everyone*
    'I think Hans, everyone likes him.'

  b. ? Peter glaubt,   den Hans,   dass den Maria liebt.
    Peter believes   the Hans that him Maria loves
    'Peter thinks that Hans, Maria loves him.'

(39)   English HTLD:

  a.   I said that my father, he was tight as a hoot-owl. (Ross 1967)

  b.   John always knew that his father, he'd been a bit of a drinker.

  c.   Yeah, I realized a bit too late that my father, he got in way over his head.

  d.   'I think the general physics community, they're a little bored with the equation,' he said. ('What makes an equation beautiful', *New York Times*, online edition, 24.10.04)

(40)   German HTLD:

  a.   Hans glaubt, Maria, ↓ sie wird gewinnen.
    Hans believes Maria   she   will   win
    'Hans thinks Maria, she will win.'

  b. ? Maria weiß,   Hans, ↓ Petra hat ihn geküsst.
    Maria knows Hans   Petra has him kissed
    'Maria knows that Hans, Petra kissed him.'

Moreover, as an inspection of the examples in (39) and (40) indicates, embedded HTLD does not appear to be limited to bridge verb contexts, as is sometimes claimed.

 Interestingly, a certain contrast emerges between German and English here, related to the kinds of embedded clauses that may acceptably host HTLD. In English, which makes use of the same word order for both matrix and embedded clauses, we find embedded HTLD either with or without complementizers, there being no obvious contrast in the acceptability of embedded HTLD related to the syntax of the embedded clause. However, in German, which makes use of V2 word order for matrix and embedded clauses (in which case the latter have no complementizers) and V-final word order for embedded clauses only (in which case complementizers are

obligatory), we find embedded HTLD far more generally acceptable with V2 order, as in (40), than with V-final order, as in (41), many speakers judging the latter quite unacceptable, as indicated:[13]

(41)*Hans glaubt,   die Maria, ↓ dass Peter sie wirklich liebt.
     Hans believes the Maria   that Peter her really   loves
     'Hans thinks that Maria, Peter really loves her.'

The V2/V-final pattern just described represents a rather puzzling difference between German and English, but one that may be related to our finding that embedded WPLD structures in German with V-final word order are likewise unacceptable for many speakers,[14] with sentences like (42a) contrasting sharply with ones like (42b), as suggested by the judgements in (42):

(42)　a.　Ich glaube, den Hans, →den mag jeder.

    b.??Ich glaube, den Bush, → dass den viele Deutscher nicht mögen.
      I   believe the Bush   that him many German   not   like
      'I think that Bush, many Germans don't like him.'

One possibility for explaining the unacceptability of (41) and (42b) for these speakers, which we can only sketch here, is to appeal to the kinds of contributions that I-class and N-class structures make to the discourse, together with the respective contributions of V2 and V-final embedded clauses. As we have seen, I-class structures in German must promote an A-topic introduced in previous discourse and I-class structures in general must contain 'links' to previous discourse — both 'A-topic-promoting' and 'linking' functions being typically associated with main clauses.[15] Similarly,

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[13] Interestingly, some speakers did accept such sentences or even varied in their judgement of different HTLD sentences. We shall have more to say about this below.

[14] The judgements reported in the text for (42) accord with those in the literature, including that of Müller and Sternefeld (1993: 488) and with, e.g., Grohmann's (2003: 172) remark that WPLD 'is restricted to V2 environments and as such can only be embedded under "bridge verbs" that allow such embedding'. However, we have found speakers who accept sentences like those in (38b) and (42b), indicating that a characterization of these sentences as simply ungrammatical does not tell the whole story. Although we cannot yet offer an account of the variation in speaker judgements here, there does seem to be a significant dialectal difference, with speakers of Southern German dialects accepting such structures more readily than those of Northern German dialects.

[15] Cases like the following one (from Wunderlich 2003: §3), in which the non-topic expression *von Peter* in the main clause forces a coreferential element in an embedded clause to assume A-topic status, make it clear that A-topics are not restricted to main clauses as a matter of grammatical fact:

(i)　　Ich glaube von Peter, dass er niemals lügt.
　　　　'I believe of Peter that he never lies.'

N-class structures in both German and English serve (perhaps among other functions; see, e.g., Prince 1998) to create a significant break in discourse structure — this function again typically associated with main clauses.[16] Now, various authors have suggested that the unexpected acceptability of embedded 'topic' and other canonically 'root' structures is related to the ability of these embedded structures to somehow assume 'root' status. According to Lasnik and Saito (1992: 193, n. 7), for example, speakers' acceptance of embedded HTLD in English may involve their construal of the embedded clause 'as a matrix clause in some sense', with the actual matrix clause perhaps having an 'adsentential' status. Such remarks echo earlier ones by Urmson (1963: 237), who proposes that the verb *bedauern* 'regret' in a sentence like (43), where it takes a clause with V2 rather than the more typical V-final word order, has been 'converted into a parenthetical verb' (see Gärtner 2001: 127–28 for further discussion):

(43) Ich bedauere, ich muss das   hören.
      I   regret   I   must that hear
      'I regret (to have to inform you) that I must hear that.'

Now, the substantial research on the properties of embedded V2 and V-final clauses in German (e.g., Gärtner 2001, 2002; Meinunger 2004; Reis 1997, 1999) suggests that the former have some of the properties of V2 main clauses — in particular, the ability to convey assertions — whereas the latter generally indicate the semantic subordination of the embedded clause to the main clause. The idea, then, that both embedded WPLD and HTLD are far more natural for many speakers when the embedded clause has V2 rather than V-final word order because such V2 embedded structures are more consistent with the 'main clause' functions of these two structures, which are both closely implicated in a sentence's assertion. The observation that judgements on these sentences are quite variable suggests that the association between WPLD and HTLD structures and V2 word order represents a

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[16] On this function, see, e.g., Frey (to appear), who shows that German HTLD but not WPLD structures create a break in the discourse, accounting for the acceptability of the continuation in (a) but not in (b) below:

(i)   Maria wird morgen mit Hans nach Paris fahren.
        'Maria will go to Paris with Hans tomorrow.'

   a.   Der Hans, ↓ er ist sehr zerstreut in der letzter Zeit.
        the Hans he is very absent-minded lately

   b.   #Den Hans, → der ist sehr zerstreut in der letzter Zeit.
        'Hans, he has been very absent-minded lately.'

The idea is that the HTLD structure in (a), but not the WPLD structures in (b), provides a suitable transition to a new theme, which can be integrated into a higher level of discourse that subsumes the previous sentence.

tendency, which is stronger for some speakers and can be more easily overridden by others. This alone, however, does not account for a significant asymmetry observed in the acceptability of embedded WPLD and embedded HTLD with V-final word order: namely, that speakers who accepted the former tended to reject the latter. What we can speculate here about this pattern is that it suggests that the discourse properties of HTLD are more strongly associated with main clause assertion that those of WPLD, making the former less compatible with the general subordinating function of V-final clauses. While clearly a great deal more needs to be said about how the discourse properties of I-class and N-class structures interact with the word order of embedded clauses, our brief comments suggest that this may be a promising direction for such research into the patterns given in (37)–(42).

3 Towards an Analysis of the I-class/N-class Contrast

Let us summarize the main conclusions of the previous section. Our investigation of reported contrasts between I-class and N-class structures in German and English has revealed certain of these to be spurious, but a number of them to be quite sharp. Among the latter were that I-class but not N-class structures (i) consisted of dislocates and host sentences forming a single prosodic unit; (ii) in German structures, had resumptives that were uniformly *d*-pronouns; (iii) had dislocates and resumptives that matched with respect to case-marking and syntactic category; (iv) displayed island sensitivity; (v) had uniformly available variable binding readings of pronouns in the dislocate coindexed with quantificational expressions in the host sentence; (vi) uniformly permitted parentheticals to precede the host sentence; (vi) had dislocates that were uniformly discourse links; and (vi) in German structures, had dislocates and resumptives that were uniformly A-topics. In general, then, the picture of the I-class/N-class contrast that emerged was one on which the former structures were characterized by necessary grammatical properties and behaviour, whereas the latter displayed considerable variety in such properties and behaviour. Of course, the question that now arises is how this range of contrasts can best be captured.

3.1 The Syntax of I-class Structures

One way of thinking about this contrast has been in terms of the integration of I- and N-class dislocates into their respective host sentences, as reflected in the 'connectivity' effects that they do or do not display, where such effects signal that the dislocates play a grammatical role within the sentence. We adopt the widely held view that these effects — in particular, case- and syntactic category-matching between dislocate and resumptive, uniform

variable binding, as described above, and island effects — demonstrate that the dislocate in I-class structures forms an A′-dependency with a theta-position inside the IP. As it happens, this dependency has been captured by two basic means in the literature: namely, by movement of the dislocate from an IP-internal to a left-peripheral position and by its base-generation in the latter position and chain formation with a theta-position.

On movement approaches, the surface position of the dislocate reflects an operation that either copies the original element in a left-peripheral position or, equivalently, moves this element and leaves behind a trace. One recent movement approach to WPLD, that of Grohmann (2003), takes the original element to be moved twice: first into an intermediate C-domain position and then into a higher position, with the copy in the intermediate position being spelled out as a resumptive pronoun. Another recent approach, traceable to Vat's (1981) 'Vergnaud-raising' analysis, posits a 'big XP' as the source of both dislocate and resumptive, with the dislocate being base-generated in a specifier-head configuration with the resumptive in a single phrase (e.g., Boeckx 2003; Grewendorf 2002; see Cecchetto and Chierchia 1999 for this approach to Italian DP clitic left dislocation, a variety of I-class structure). In this case, the whole phrase first moves to a higher sentence-internal position and then splits apart, with the dislocate moving to its final left-peripheral position and the resumptive remaining behind.

On base-generation approaches to German and English, the dislocate and the resumptive, in the case of WPLD, and an empty operator, in the case of TOP, are base-generated in distinct positions, the former in the C-domain and the latter in a θ position. The relation between the dislocate and the resumptive and its trace, in the case of WPLD, and the dislocate and the operator and its trace, in the case of TOP, is then created by chain formation (e.g., Anagnostopoulou 1997; Cinque 1983; Frey 2004b; Rizzi 1997).

While the technical details of these various proposals are quite different, each nevertheless succeeds in capturing the same 'connectivity' effects just summarized above. The key observation uniting these effects, then, is that the dislocate in I-class structures behaves as an element in the 'core' rather than the 'periphery' of the sentence, despite a surface position associated with the latter.

Although space limitations preclude further consideration of these analyses of I-class structures, what is worth briefly examining here are some interesting contrasts as well as commonalities among WPLD and TOP structures, particularly since some analyses of these structures treat them as essentially the same, modulo the presence of a resumptive in the former and an empty operator in the latter (see, e.g., Anagnostopoulou 1997: 186, n. 12 for some discussion). In fact, closer inspection reveals significant differences in the attachment site of the dislocate and thus the structure of the clause to

which the dislocate attaches. This can be seen most easily in (i) the respective positions of the complementizer in embedded WPLD and TOP structures, as shown in (44)–(45),[17] where sentences like (44b) are impossible even for those who readily accept (44a); and (ii) the well-formedness of questions under the dislocate in German but not English, as shown in (46):

(44) a.   Ich glaube, den Hans, → dass den jeder mag.

     b. *Ich glaube, dass den Hans, → den jeder mag.

(45) a.   I think that John, everyone likes.

     b. *I think, John, that everyone likes.

(46) a.   Dem Hans, → würde dem wenigstens Peter Geld   ausleihen?
         the   Hans   would him at least   Peter money lend

     b. *Hans, would Peter at least lend money to?

These contrasts indicate that in German but not in English, the phrase hosting the dislocate must be higher than that hosting the complementizer. One possibility consistent with this observation is that the dislocate in WPLD is base-generated in the specifier of the highest projection of the C-domain, as argued by Frey (2004c); whereas that in TOP occupies a lower (perhaps adjoined) position (e.g., Lasnik and Saito 1992: 81).[18]

One other observation of German and English worth making here concerns the iterability of the dislocate in I- and N-class structures. Now, it has been widely assumed since Cinque (1983) that HTLD permits 'at most one' dislocate, whereas clitic left-dislocation (a variety of I-class structure, as noted above) imposes 'no (theoretical) limit' to the number of such phrases (Cinque 1983 [1997: 96]), this difference supported by data from Italian and other languages (see, e.g., Cinque 1983; Rizzi 1997). As we shall see, this generalization also seems to be well supported by data from English, but not by those from German.

The relevant English structures support Cinque's claim about both I-class and N-class structures. Thus, HTLD structures like that in (47a) are clearly unacceptable, contrasting sharply with sentences like that in (47b):

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[17] See Authier 1992: 329 for some discussion of the English facts.

[18] Authier (1992: 330) takes the possibility of sentences like that in (i) to argue in favour of the possibility that topicalized elements are actually in the lower CP of a CP-recursion structure:

(i)   John swore that under no circumstances would he accept their offer.

                                     (based on Authier's (4a))

Another suggestion, however, which is more in keeping with the claim made in the text is that such negative inversion structures do not involve movement into the CP, the negative elements 'remain[ing] clause-internal' and 'not overtly mov[ing] as far as they would in a corresponding affirmative declarative sentence' (Sobin 2003: 185).

(47) a. *Me, Lenny, he's gonna go pet some bunnies and I'm gonna get
      my six shooter.

   b. Me and Lenny, he's gonna go pet some bunnies and I'm gonna get
      my six shooter.   (Rodman 1974 [1997: 36–37], (30)–(31))

Moreover, such HTLD structures also contrast with acceptable TOP
structures such as those in (48) (see, e.g., Culicover 1996: 452–454):

(48) a. To that man, liberty we would never grant.

   b. Liberty, to that man we would never grant.

                              (Culicover 1996: 453, (23a), (24a))

When we turn to German, however, we find precisely the opposite
pattern, with multiple dislocates in HTLD structures being acceptable and
those in WPLD structures being unacceptable, as (49a) and (49b) suggests
(see, e.g., Grohmann 2003: 160):[19]

(49) a. HTLD:

      Dem Alex, das Geld, du hättest   es ihm   nicht
      the Alex the money you would.have it to.him not
      wegnehmen dürfen.
      take.away   may
      'To Alex, the money, you should not have taken it away from
      him.'

   b. WPLD:

      *[Ihrem$_1$ Doktorvater]$_2$, [ihr$_1$ Auto]$_3$, jede Studentin$_1$ hat dem$_2$
       her   supervisor   her car   every student   has him
      das$_3$ heute gezeigt.
      it   today shown
      'Her supervisor, her car, every student showed it to him today.'

The inability of WPLD dislocates to iterate can be seen to provide some
support for a unique specifier position for the dislocate in WPLD structures,
as argued by Frey (2004c), with the (at least marginal) ability of HTLD
dislocates to do so suggesting no such unique position in the C-domain. The
English patterns, on the other hand, indicate no necessary connection
between either class of dislocate and a unique specifier position in the C-
domain. While the observed difference in the iterability of German and

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[19] However, Grohmann's (2003: 160) own example of an N-class structure with multiple
dislocates, as given in (i), was not accepted by any of the many native speakers we
consulted, and as such does not provide reliable support for this claim:

(i)   Der Alex, der Wagen, seine Mutter, gestern hat sie ihm den geschenkt.
      'The Alex, the car, his mother, yesterday she gave it to him.' (Grohmann's (59a))

English I-class dislocates might be seen to fall out of such a grammatical difference, a difference in the iterability of N-class dislocates is perhaps more surprising. It is possible, however, that this is related simply to the greater ability that German provides through its case system to relate dislocates thematically to the host sentence. Although further consideration of this possibility will have await further research, it seems consistent with the analysis of N-class structures that we shall be offering in the following section.

3.2   The Analysis of N-class Structures

3.2.1   The Basic Case for Orphans

Having sketched the standard analyses of I-class structures in German and English, we come finally to the question of how N-class structures should be analysed. The approach that we wish to defend here, as noted in the introduction, is in fact an old one, offered by many authors over the years, although figuring less prominently in recent research. Its leading idea is that the dislocates in HTLD are, syntactically speaking, independent of their host sentences, having in Haegeman's (1991) terms the status of 'orphans'; so that the relation established between the dislocate and the resumptive, and indeed between the dislocate and the host sentence more generally, is 'one of discourse grammar' (Cinque 1983 [1997: 98]). The singular virtue of such an account, as Cinque and others have noted, is that it captures in a very straightforward way the 'extra-sentential' syntactic, semantic, and discourse behaviour of HTLD dislocates, as outlined in §2. In addition, such an analysis gives substance to a clear intuitive parallel between HTLD structures and various others that have a plausible 'orphan' analysis, as we shall see.

   Since Cinque's original (1983 [1997: 98–100]) remarks on this matter remain as relevant today as they were twenty years ago, they are worth close attention. Cinque points out that the absence of connectivity effects between the dislocate and resumptive — generally reaffirmed by our own consideration of these effects in §2, although with a complication regarding variable binding, as we described in this section — suggests, but does not confirm, 'that the rule responsible for the "connection" [between these elements] is not a sentence grammar rule but a principle of discourse grammar.' However, a number of observed properties of HTLD would either follow directly from or be entirely expected on such a 'discourse grammar' analysis, whereby the relation between the dislocate and resumptive is the same as that 'between a full NP and a pronominal in two adjacent sentences in discourse', as illustrated in (50):

(50) I like *John*. I do think however that *he/that little bastard* should be
      quieter.   (Cinque 1983 [1997: 98], (15))

More specifically, the lack of (obligatory) case-matching in HTLD would
follow directly, since this is 'just what happens between two NPs in two
distinct sentences', as would the lack of island effects, since these represent
'a sentence grammar phenomenon.' Similarly, the range of forms that
resumptives in HTLD can assume would be expected on this 'discourse
grammar' claim, given that such forms 'are all permitted means of
coreference across sentences' (Cinque 1983 [1997: 98–99]). Even the typical
occurrence of the dislocate in 'in the absolute initial position' in root contexts
becomes understandable if the relation between dislocate and resumptive is
one between two distinct units in a discourse. These and other considerations
thus lead Cinque to the tentative conclusion that 'HTLD is a discourse
grammar phenomenon', which he takes to be the 'simplest possible analysis'
consistent with the data, there being 'no reason to hypothesize anything
special' in addition to the discourse principles that govern the relations
between elements across sentence boundaries (Cinque 1983 [1997: 100]). We
find Cinque's conclusion echoed, for example, by Zaenen (1997), who
assumes that the dislocate in HTLD 'is not in the same sentential domain as
the rest of the sentence, and that hence the relation between it and the rest of
the sentence is established in the same way as the relation between parts of
separate sentence[s] is established; i.e. by anaphoric linking' (Zaenen 1997:
121-22).

If we consider what this 'discourse grammar' proposal for HTLD means
for the analysis of the HTLD dislocate in particular, we arrive at the proposal
offered by Haegeman (1991) for other 'non-integrated' elements: namely,
that these too are 'orphans', syntactically independent of their host sentences.
Admittedly, such a proposal, according to which certain sentence-initial
phrases are not actually part of the sentence, may seem rather obscure. Yet,
there are clearly other pairs of expressions, such as the question-answer
sequence in (51), that are tightly connected in a discourse but nevertheless
independent units syntactically:

(51) What do I think of John? He's a fool.

One way to understand 'orphans' in minimalist terms is as expressions whose
elements are the sole members of a numeration. In other words, an orphan is
simply not part of the same numeration as its host sentence, much as one
sentence is not in the same numeration as another one. As far as we can tell,
nothing would rule out such a numeration, since the well-formedness
conditions of the grammar apply not to numerations directly, but rather to the
syntactic structures derived from them. The question, then, is only whether
any syntactic principles in terms of which derivations are evaluated would

rule out such orphans. Here, we wish to conjecture that no such principles would do so, leaving the proof of such a conjecture for future research. What we might already observe, however, is that syntactically speaking such orphans would appear to involve straightforward merging operations, bearing a close resemblance to structures assembled in independent derivational space and subsequently merged with the rest of the sentence. The only obvious difference between these structures and orphans is that they are members of the same numerations as the other terminals in the sentence, whereas orphans are not, and so have nothing further to merge with.

Note that on this 'orphan' picture of HTLD dislocates, these expressions do not c-command their resumptives at any level of syntactic representation or point in a derivation. This provides us with a natural explanation of why the possibilities of variable binding between a quantificational expression in the host sentence and a pronoun dislocate bear some resemblance to the cases of intersentential variable binding given above: namely, that the absence of c-command means that other, non-syntactic, principles come to be responsible for the availability of such binding. Similar remarks apply to case mismatch between dislocate and resumptive: since on an orphan analysis of the former, these two elements are never in a structural configuration that ensures that they receive the same case, it is only the latter, as an element of the sentence, that must receive the case determined by its relation to the verb or a functional head.[20] Finally, the absence of island effects is entirely consistent with the orphan analysis of the dislocate, since on such an analysis — just as on standard approaches to HTLD, in which the dislocate is base-generated in a high left-peripheral position — the dislocate would never be in an A′-relation with an element inside the sentence and thus could not trigger such effects.

3.2.2   Additional Evidence for Orphans

Given the above allusion to standard approaches to HTLD, a natural question to ask about the 'orphan' analysis canvassed above is what distinguishes it empirically from these other approaches, according to which the dislocate, positioned high in the left periphery, is coindexed with the resumptive, occupying one of the lower positions in the sentence described above (e.g., Chomsky 1977; Grohmann 2003; Rodman 1974; Vat 1981).[21] As it happens,

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[20] Of course, this description begs the question of how the dislocate receives its case, which is often visible in English as well as German. At this stage we have no concrete analysis to offer, but will take up this question briefly in §3.2.2 below.

[21] A more radical variant of this 'high left-peripheral position' approach has been sketched in Boeckx and Grohmann (2003). Although the technical details differ, the comments in the text appear to apply to such an analysis also.

there is a range of facts about HTLD structures that such proposals are hard-pressed to explain, but which follow naturally on an 'orphan' analysis.

One such fact that offers particularly persuasive evidence for an 'orphan' analysis is that HTLD dislocates may readily be pronounced and understood as (confirmatory) questions, for which the host sentence represents the answer:

(52) A: Was hältst du von Hans?

B: Dem Hans? Er ist ein netter Typ.

(53) A: What do you think of Hans?

B: Hans? He's a nice guy.

If HTLD dislocates were indeed elements in the sentence that hosts them, then this pattern would be extremely difficult to account for — requiring, for example, a stipulation that elements beyond a certain projection in the tree may have an illocutionary force distinct from that of the rest of the sentence.

Similar remarks apply to the prosodic patterns of HTLD structures more generally. As noted above, the dislocate in these structures has been commonly observed to form a prosodic unit distinct from that associated with the host sentence. This is entirely consistent with the 'orphan' claim that these two elements are also syntactically distinct, since one would not expect two such distinct units to be tightly integrated prosodically. However, this would not follow in any direct way from the claim that the HTLD dislocate is an element in the host sentence. Of course, one could again stipulate that elements beyond a certain projection in the tree induce a prosodic break with the rest of the sentence, but such a claim would not appear to follow from any independent principles.

Other, subtler facts about HTLD dislocates also have a ready explanation on a 'orphan' analysis but not on one according to which these dislocates are simply left-peripheral elements high in the tree. For example, the pattern in (54) suggests that the negative polarity item *ever* must be c-commanded by a phrase containing the licensor *only*:[22]

(54) a.   John could only ever get a 'B'.

b.??John could ever only get a 'B'.

c.   Only a 'B' could John ever get.

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[22] Note that of the speakers we consulted, some did not reject (54b) outright, although they judged it considerably less acceptable than its counterpart in (54a) — perhaps because of the continued existence of the non-polarity item *ever,* equivalent to *always*, as in *forever* and such expressions as 'Adj *as ever*'. In addition, many speakers found (54c) considerably worse than (54d) (although some had the opposite judgement). Crucially, however, those who accepted (54d) also accepted (55b) but rejected (55a).

     d. Only a 'B', John could ever get.

Intriguingly, however, *ever* does not seem to be licensed by *only* in an HTLD structure, as in (55a), with the former in the dislocate and the latter in the host sentence, even though the corresponding HTLD structure without this pair of elements appears to be considerably more acceptable:

(55) a. *Only a 'B', John could ever get that.

       b. A 'B', John could get just that.

A natural explanation of this pattern is available on an 'orphan' analysis: namely, that the orphan, as an element syntactically independent of its host sentence, cannot c-command any element in this sentence — most notably, the polarity item *ever* in this case. As far we can tell, no obvious explanation is similarly available to more standard analyses of HTLD.

    Another pattern that likewise favours an 'orphan' analysis over its more standard alternatives is related to the ordering of I-class and N-class dislocates in the same sentence. Now, it is widely accepted that a single sentence may host both classes of dislocates is possible in German as well as English (see, e.g., Grohmann 2003: 199), as demonstrated by sentences like the following ones:

(56) a. Der Alex, den Wagen, den hat seine Mutter ihm gestern
         the Alex   the car   RP has his   mother him yesterday
         geschenkt.
         given
         'Alex, the car, his mother gave him yesterday.'

                             (Grohmann 2003: 159, (57))

       b. Now, my father, this junk he was always collecting. And my
           mother, this same junk she was always throwing away.

The sentences above exemplify what is understood to be the only possible pattern: that in which the I-class dislocate following the N-class dislocate (Grohmann 2003: 145).

    Significantly, however, we have found sentences like the following ones, where the order of dislocates appears to be reversed but which are acceptable for at least some speakers:[23]

(57) a. Das Auto, der Hans, er hat das nicht seiner Frau leihen wollen.
         the car   the Hans he has it   not to.his wife lend   want
         'The car, Hans, he did not want to lend it to his wife.'

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[23] Admittedly, the I-class status of the outer dislocates in the German examples is difficult to verify, given that these can arguably be analysed as HTLD dislocates. Such a problem, however, does not arise for the English example, in which the I-class dislocate clearly precedes the N-class dislocate.

    b. Den Hans, das Auto aus Slowenien, den hat es nie
        the   Hans the car from Slovenia   him has it   never
        im Stich gelassen
        let down
        'Hans, the car from Slovenia, it has never let him down.'
                              (Gisbert Fanselow, personal communication)

(58) Now, this junk, my father, he was always collecting. And this same
      junk, my mother, she was always throwing away.

If we adopt the standard assumption that I-class dislocates do indeed occupy a fixed position in the tree, then a natural explanation of these patterns is that N-class dislocates do not, and may thus either precede or follow their I-class counterparts. This is fully consistent with an 'orphan' analysis, since the linear order of orphans is not determined by any syntactic position that they occupy in the sentence; but is difficult to reconcile with standard approaches, unless these stipulate additional movement operations to capture such facts.

    Of course, certain other properties of N-class structures that we have already described, which distinguish them from I-class structures, seem to be more consistent with an 'orphan' analysis, which claims a radical difference between I- and N-class structures, than in analyses in which the difference between these structures is far less pronounced. For example, the observation that N-class dislocates, unlike their I-class counterparts, do not have stable 'link' or A-topic properties seems understandable if they are not constituents of the sentence and thus not assigned any well-defined information-structural role in it, as I-class dislocates appear to be. In addition, the contrast between N- and I-class structures with respect to the acceptability of parentheticals intervening between dislocate and host sentence seems understandable if they reflect a difference in the hearer's task of determining how these two kinds of dislocates are respectively related to the host sentence — a task arguably made more difficult in the case of N-class dislocates when additional 'non-integrated' information stands between the dislocate and the host sentence. Neither of these observations, however, has any obvious explanation if N-class dislocates simply occur higher in the tree than their I-class counterparts.

    A rather different source of evidence for an 'orphan' analysis of N-class structures comes from the many structures that are likewise observed to contain expressions 'loosely' associated with the sentences with which they occur (Espinal 1991; Haegeman 1991). Among the many expressions of this kind are parentheticals, non-restrictive modifiers, vocatives, and speech act and perhaps other left-peripheral adverbials (see Shaer 2004), as illustrated in (59). Like N-class dislocates, all of these are fully omissible from their host sentences, which are as such syntactically and semantically complete without them:

(59) a. Jill, *of course*, still likes Jack.

    b. It is no surprise that you, *a college drop-out*, hate academics.

    c. *Senator*, you are no Jack Kennedy.

    d. *Frankly*, I don't give a damn.

    e. *With his X-ray vision*, George could find the weapons.

    f. *Quietly*, John got stinking drunk.

Significantly, there is a range of evidence, much of it paralleling what we have presented above, that these expressions are indeed syntactically independent of the sentences with which they occur (see, e.g., Espinal 1991). For example, we find left-peripheral adverbials containing polarity licensors apparently not c-commanding negative polarity items in the sentence, as in (60a), just as we found in HTLD structures, and in contrast to uncontroversial movement structures such as subject-auxiliary inversion and focus-moved structures, as shown in (60b, c) (Shaer 2003: 248):

(60) a. *Only quietly, John ever got drunk.

    b. Only quietly did John ever get drunk.

    c. ?Only QUIETLY, John ever got drunk.

In addition, as McCawley (1982) originally showed, parentheticals like that in (59a) behave with respect to VP ellipsis like elements outside the VP, as illustrated in (61a). This pattern appears to be duplicated among instrumental adverbials like that in (59e), as illustrated in (61b) (Shaer 2004):

(61) a. John talked, of course, about politics, and Mary did too.
       ='Mary talked about politics too'; ≠ 'Mary talked too'
       ≠'Mary talked, of course, about politics too'

                                     (McCawley 1982: 96, (5a))

    b. With his X-ray vision, George found the weapons and Tony did too.
       ='George found the weapons';
       ≠'with George's/his own X-ray vision, Tony found the weapons'

A final source of evidence for an 'orphan' analysis of HTLD dislocates is another class of structures that appear to be closely related both to HTLD and to the structures exemplified in (59). These are the 'sentence fragments' (Morgan 1973; Stainton 1995, 2004) illustrated in (62), which can be used to make assertions but are not obviously constituents of sentences:

(62) a. Nice dress

    b. To Cathy, from Santa   (Stainton 1995: 293, (20a–b))

What is most relevant for us here and constitutes a striking form of evidence that such fragments are better treated as orphans than as the pronounced constituents of otherwise unpronounced sentences, as argued by Stanley (2000), Merchant (to appear), and others, is that both HTLD dislocates and fragments display the same patterns of case-marking. In other words, what we find is that the case of both the dislocate and the fragment may be different from what would follow from the apparent thematic function of these elements. Accordingly, German fragments like those in (63) can be marked either nominative or accusative, and those in English can be marked only accusative, irrespective of their thematic function and thus of the case-marking that would be expected if they were constituents of full sentences:

(63) a. Ein doppelter Espresso, bitte.

b. Einen doppelten Espresso, bitte.

(64) a. A: Which Barbie doll do you want? B: Her, please.

b. A: Who was standing by the window? B [pointing]: Her!

This mismatch between case-marking and thematic function is also found with HTLD dislocates in German and English, suggesting that the same (extra-grammatical) mechanism of case-marking is at play in both. Admittedly, some doubt has been cast in the literature on the desirability of positing such case-marking mechanisms (see, e.g., Merchant 2003: §2), which in this case permit the non-canonical nominative marking of patients and accusative marking of agents. Yet, it is clear that attested patterns of case-marking are in any case far richer than those generally considered in theoretical discussions of case, and include case attraction phenomena such as that illustrated in (65), in which the adjective *firmissimas* agrees in case with the nearest case-marked NP, *quas*, in the embedded clause, rather than *copiis*, the NP that it modifies in the matrix clause:

(65) Si veniat   Caesar cum copiis   quas   habet
if should come C.   with forces-DAT that-ACC has
firmissimas
very strong- ACC
'Should Caesar come with the very strong forces that he has'

(Kennedy 1962: 156, §332, n. 2)

Such patterns, which constitute an open question for theories of case distribution, suggest that much more needs to be said about case-marking in any event, including the possibility of 'extra-grammatical' case-marking mechanisms like the one alluded to above.

What we have seen in this section, then, is that an older approach to N-class structures, investigated in some detail in such studies as Cinque (1983) and Zaenen (1997) but playing a less prominent role than analyses of HTLD

dislocates as occupying high left-peripheral positions, has a good deal to recommend it. Not only does it turn out to accord well with a large range of properties of HTLD — those that we investigated in §2 as well as other patterns — but also accounts for striking parallels between HTLD structures, others that contain expressions 'loosely' associated with their host sentences, and so-called 'sentence fragments'. Finally, while this analysis seemed highly unorthodox, we suggested that it might, despite initial appearances, be consistent with current minimalist conceptions of the grammar after all.

4   Summary and Conclusions

In this paper, we considered an array of prosodic, lexical, syntactic, and discourse properties of two pairs of structures: German weak pronoun left dislocation and English topicalization, on the one hand, and German and English hanging topic left dislocation, on the other. A detailed review of these properties suggested that the dislocates in the former pair of structures, which we dubbed I-class structures, displayed clear signs of being integrated into the structure of their host sentence; whereas the dislocates in the latter pair of structures, which we dubbed N-class structures, displayed clear signs of not being so integrated. After a brief consideration of some current approaches to I-class structures and some puzzling differences between German and English, we turned our attention to the analysis of N-class structures. We began this investigation by reviewing of Cinque's original (1983) case for treating these as a kind of 'discourse phenomenon', and then proceeded to show how his proposal could be cashed out in terms of Haegeman's (1991) 'orphan' analysis, according to which N-class dislocates were syntactically independent of their host sentences. What emerged from this discussion was the straightforward way in which such an approach explained the prosodic, lexical, and 'connectivity' facts that we had assembled; and the possibilities that it provided for explaining the discourse properties of N-class structures as well as a range of other facts that were extremely difficult to explain on alternative approaches. Finally, we pointed to additional evidence for such an 'orphan' analysis of HTLD dislocates in the form of parallels between these dislocates and other 'loosely' integrated elements such as parentheticals and certain left-peripheral English adverbials, on the one hand, and 'sentence fragments', on the other. While we admitted at various points in our discussion that a great deal of work remains to be done — with respect both to the collection of data and the development of various details of our analysis — before a truly clear picture of the difference between I- and N-class structures in German and English can emerge, we nevertheless believe that the analysis of these structures that we have proposed here is a compelling one, which suggests interesting new ways of

accounting for the numerous puzzles lying at the syntax/discourse interface of the left periphery.

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Echo Questions, Echo Negation, and Split CP*

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Abstract

This work examines English echo questions (EQs) against the background of Rizzi's (1997) analysis of split CP. It argues that EQs do not behave as the split CP analysis predicts that they should, and that their behavior can instead be straightforwardly explained within the classic CP analysis. Further, what are termed here 'echo negations' of negative inversion constructions are shown not to parallel EQs, a surprising result if negative inversion architecture parallels question architecture, as claimed by split CP proponents. In general, classic CP architecture is more appropriate for analysing this range of phenomena.

Rizzi (1997) presents what has been termed a split analysis of Complementizer Phrase (CP). This is sketched in (1) below. The proposal is very broad, and it is claimed to explain a variety of facts about the English complementizer system. In this paper, I will not take on many of the large aspects of the proposal. Here, I wish to deal with two phenomena each of which raises some degree of doubt about the extent to which a split CP analysis is explanatory of the CP architecture of English. This in turn raises questions about the universality and perhaps the efficacy of split CP. The central facts to be discussed here concern echo questions (EQs) and their correspondence to CP structure under various assumptions about what CP structure is like. As I will try to show, a description of the patterning of possible and impossible EQs in English appears to be fairly straightforward under what I will call the 'classic' CP analysis. In contrast, the description of EQs becomes more complicated under the split CP analysis. Following this is a brief consideration of negative inversion (NI) constructions and a phenomenon that I will term 'echo negation'. If NI constructions parallel questions in their involvement with CP structure, as has been claimed, then one might expect their 'echo negation' forms to have properties similar to EQs; however, as we will see, they do not. Thus, these findings constitute a small bit of evidence that the classic analysis of CP, one consisting of Spec, CP and C, may be more appropriate for English.

1   A Sketch of the Split CP

Rizzi's now well-known elaborated analysis of the CP shell (1997) is shown in (1):

(1) [$_{ForP}$ For° [$_{TopP*}$ Top° [$_{FocP}$ Foc° [$_{TopP*}$ Top° [$_{FinP}$ Fin° [$_{IP}$ …

To quickly review the major features which are relevant to this discussion, the CP shell is divided into what Rizzi designates as a high 'Force' layer, and a low 'Finiteness' layer. Sandwiched in between these layers are possible topic and focus positions.[1] Both adverb movement and topicalization are initially analyzed as involving the same positioning, movement to/placement in Spec, TopP (Rizzi 1997: 300). Thus, topicalization of an argument and fronting of an adverbial result in roughly parallel structures, as in (2):

(2)   a.   [$_{ForP}$ … [$_{TopP}$ your article$_i$ Top° … [$_{IP}$ she really enjoyed t$_i$]]]

   b.   [$_{ForP}$ … [$_{TopP}$ tomorrow Top° … [$_{IP}$ she will read it]]]

The declarative complementizer *that* is high, in Force° (Rizzi 1997: 301, 312), as in (3a). However, its non-phonetic counterpart (intuitively null *that*), is a null finite head in Fin° (Rizzi 1997: 312), which is low in the structure, as in (3b):

(3)   a.   …said [$_{ForP}$ that [$_{TopP}$ yesterday Top° … [$_{IP}$ she really enjoyed your article]]]

   b.   …said … [$_{FinP}$ [$_{Fin°}$ Ø] [$_{IP}$ she really enjoyed your article]]]]

The infinitival complementizer *for* is also low, in Fin° (Rizzi 1997: 301), as in (4):

(4) … wanted very much … [$_{FinP}$ [$_{Fin°}$ for] [$_{IP}$ her to enjoy your article]]]]

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[1] Rizzi argues that the non-recursive character of FocP can be explained by the observation that [Spec, FocP] is 'new' information, and the complement of Foc° is 'given' information. Hence, this complement cannot be another FocP, something containing 'new' information (in Spec). Assuming that this is correct, then a Topic/Focus distinction may not be needed in the general architectural scheme. Instead, we may have the simpler available structure in (i), with T/FP simply being undifferentiated in the abstract as to what content it might have:

   (i) [$_{ForP}$ For° [$_{TFP*}$ T/F° [$_{FinP}$ Fin° [$_{IP}$ …

That is, these are only available structural positions, with no preliminary semantic bias. However, a complication with this possible simplified view is the claim that the question operator seeks out [Spec, FocP], which doesn't exist per se in (i). Perhaps the non-cooccurrence of FocP with question operators is, like the non-occurrence of FocP recursion, semantically based.

Question operators in main clauses are claimed to occupy an intermediate position, namely, Spec, FocP (Rizzi 1997: 298-300), as in (5a). Question operators in embedded clauses are claimed to land higher. They occupy Spec, ForceP, as in (5b).

(5)   a. $[_{ForP}$ $[_{FocP}$ what$_i$ $[_{Foc^o}$ might$_j$] $[_{FinP}$ $[_{IP}$ she t$_j$ see t$_i$]]]]]

  b.   ...wonders $[_{ForceP}$ what$_i$ Force^o $[_{FocP}$ Foc^o $[_{FinP}$ Fin^o $[_{IP}$ she might see t$_i$]]]]]

Thus, both classic CP elements and topic and focus elements appear sprinkled throughout the now complex CP system. Surprisingly, despite this 'spreading' of CP elements and claims of extended distinctions, this complex layer is also claimed to 'collapse'. In particular, unless a topic or focus element appears within this layer, forcing apart Force and Finiteness, these two heads/layers combine into a single-headed layer, with a single head carrying features of both force and finiteness (Rizzi 1997: 312-315). This is roughly represented in (6), with *that* in (6a) (following Rizzi's verbal characterization) encoding 'primarily' force, and the null finite head in (6b) encoding 'primarily' finiteness:

(6)   a.   ...said $[_{For/(Fin)P}$ that $[_{IP}$ she really enjoyed your article]]

  b.   ...said $[_{(For)/FinP}$ ø $[_{IP}$ she really enjoyed your article]]

This brief sketch will suffice for present purposes. Let us turn next to EQs in English.

2   Echo Questions

First, I will offer a sketch of EQ facts in classic CP terms, for the reason that certain possible generalizations about them become readily apparent on this analysis. Later, I will consider a split CP analysis.

2.1   EQs and Classic CP Elements

EQs may be analyzed (following Sobin 1978, 1990) as falling into two general types. One type, a *pseudo-EQ,* involves posing a normal question such as (7b) to a declarative utterance such as (7a).

(7)   a.   U: $[_{CP}$ -WH $[_{IP}$ Mary dated Beethoven]]

  b.   E: $[_{CP}$ Who did [IP Mary date]] ↑? (a pseudo-EQ)

Such an EQ has final rising ('echo' or 'surprise') intonation (noted here by '↑', a feature I will simply assume in all further representations).

The second type of EQ, a *syntactic EQ*, (as in (7c) below) involves four key features, as listed in (8). (These are based on Sobin 1990: 146, but with some characteristics revised to conform to more current assumptions following Chomsky 1995; see also Dumitrescu 1990, 1991):

(8) Properties of syntactic EQs in 'classic' CP terms:

a) surprise intonation ($\uparrow$);

b) 'COMP freezing' — an exact copy of the LF(/post-spellout) CP structure of the utterance being echoed;

c) 'B-binding'— unselective (C. L. Baker-style) binding in LF of EQ-introduced (D-linked and in-situ) *wh*-phrases (Pesetsky 1987);

d) a 'copy', possibly loose, of the non-CP elements of the utterance being echoed.

Thus, to the utterance (7a) above, we may also have an EQ response like (7c), a true syntactic EQ. The structure (7c′) illustrates the property noted in (8b) of Comp-freezing:

(7)   a.   U: [$_{CP}$ -WH [$_{IP}$ Mary dated Beethoven]]

c.   E: Mary dated who $\uparrow$?   (a syntactic EQ)

c′. [$_{CP}$ -WH [$_{IP}$ Mary dated who]]

The CP layer of (7a) contains only a simple -WH complementizer, and it is this simple CP configuration that is frozen or echoed in (7c/c′). I will say more later about binding the in-situ interrogative *who* in (7c/c′).

If the utterance being echoed is non-declarative, e.g., a simple yes-no question, then a pseudo-EQ is not possible. Pseudo-EQs may only be formed in response to a declarative utterance. Also not possible is any syntactic EQ which does not match the ('classic') Comp structure of the utterance, as illustrated in (9):

(9)   a.   U: [$_{CP}$ [$_C$ Did] [$_{IP}$ Mary meet Mozart at the party]]?
              [+WH]

b.   *E: [$_{CP}$ Who   did   [$_{IP}$ Mary meet at the party]]?
              [+WH]

c.   *E: [$_{CP}$ -WH [$_{IP}$ Mary met who at the party]]?

d.   E: [$_{CP}$ [$_C$ Did]   [$_{IP}$ Mary meet who at the party]]?
              [+WH]

Question (9b) fails as a possible pseudo-EQ to (9a) since (9a) is not declarative. Again, only a declarative U can trigger a pseudo-EQ. (9b) and (9c) each fail as syntactic EQs to (9a) because neither matches the Comp

structure of (9a), a simple interrogative C filled with *did* and an empty Spec,CP. Only (9d) succeeds as a syntactic EQ here, since it alone matches the Comp structure of (9a). This is a somewhat striking finding in that in non-EQ syntax, a question with such a *wh*-phrase would be ungrammatical unless that *wh*-phrase had moved to Spec,CP as in (9b).

The Comp-freezing aspect of syntactic EQ formation displays another dramatic result. Out of context, a construction such as (10a) is normally considered impossible (a Superiority violation), and (10b) is deemed the only derivable sequencing of the elements involved:[2]

(10) a. *What did who eat at the party?

       b. Who ate what at the party?

However, there are utterances to which a construction such as (10a) is the only viable EQ response, and one like (10b) is not possible. So, consider (11a):

(11) a. U: [$_{CP}$ What did [$_{IP}$ Jack the Ripper eat at the party]]?

       b. E: [$_{CP}$ What did [$_{IP}$ who eat at the party]]? (= 10a)

       c. *E: [$_{CP}$ Who [$_{IP}$ ate what at the party]]? (= 10b)

Here, the acceptability judgments of EQ responses to (11a) are the reverse of those in (10), a fact explained neatly by Comp-freezing.

Syntactic EQs also involve unselective binding or B-binding, as noted in (8c). Thus, in addition to the CP layer being frozen on the elements of the utterance being echoed, a B-binder is introduced which binds any EQ-introduced in-situ *wh*-phrase. (12) shows fuller representations of the earlier EQ structures in (7c′), (9d), and (11b) which here include a B-binder Q:

(12) a. E: [$_{CP}$ Q$_i$ [$_{CP}$ -WH [$_{IP}$ Mary dated who$_i$]]] (= 7c′)

       b. E: [$_{CP}$ Q$_i$ [$_{CP}$ Did [$_{IP}$ Mary meet who$_i$ at the party]]]? (= 9d)

       c. E: [$_{CP}$ Q$_j$ [$_{CP}$ What$_i$ did [$_{IP}$ who$_j$ eat at the party t$_i$]]]? (= 11b)

As is typical of syntactic EQs, the interrogative elements in the now frozen CP layer lose their interrogative force. In effect, it is as if the clause containing them had become subordinated (in the sense that *wh*-phrases in subordinate/embedded clauses such as *I asked who Mary saw* do not seek a response). Only the now higher B-binder and the co-indexed in-situ *wh*-phrase which it binds have interrogative force. Consequently, although an original utterance such as (11a) would have sought a response like (13a), its EQ (12c)

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[2] Originally analyzed as violations of the Superiority Condition (Chomsky 1977), sentences such as (4a) have since received a variety of other explanations in more recent works, e.g., the Minimal Link Condition (Chomsky 1995). For present purposes, it will suffice simply to note their ungrammaticality as normal questions.

does not allow (13a), but instead requires something like (13b), a response only to the EQ-introduced *wh*-phrase:

(11) a. U: [$_{CP}$ What did [$_{IP}$ Jack the Ripper eat at the party]]?

(12) c. E: [$_{CP}$ Q$_j$ [CP What$_i$ did [$_{IP}$ who$_j$ eat at the party t$_i$]]]? (= 11b)

(13) a. *R: Peanuts!

     b. R: Jack the Ripper!

2.2 EQs and Non-CP Elements

In contrast to classic CP elements, non-CP elements appear not to be frozen in position. Consider, for example, the sentences in (14):

(14) a. U: Bill said that Mary was kissed by Mozart.

     b. E: Bill said that Mary was kissed by who?

     c. E: Bill said that who kissed Mary?

     d. U: Bill wondered if an oyster kissed Mary.

     e. E: Bill wondered if what kissed Mary?

     f. E: Bill wondered if Mary was kissed by what?

Here, the EQ is freely either active or passive. In either case, the EQ-introduced *wh*-phrase is not a part of the frozen CP layer. The presence of both *that/if* and *who/what* in (14c) and (14e) are indications of this.

On the other hand, in (15a), where the interrogative argument *who* is CP-located in the U, it is frozen in place in its passive EQ (15b), and the active form (15c) is not possible:

(15) a. U: Bill wondered who was kissed by an oyster

     b. E: Bill wondered who was kissed by what?

     c. *E: Bill wondered what kissed who(m)?

To summarize here, under the classic analysis of CP, we can straightforwardly characterize key restrictions on possible EQs relative to the CP structure of the utterance. In a nutshell, the CP of the EQ is simply a frozen copy of the utterance CP, as characterized in (8b), with B-binding as in (8c). It is worth noting here that there is not a 'special' EQ syntax. This is a 'normative' analysis which employs devices available to other normal syntactic constructions, such as B-binding, which Pesetsky (1987) argues is employed in connection with D(iscourse)-linked *wh*-phrases which appear to violate Superiority, as in *Which movie did which person see?* It is only Comp-freezing, a discourse strategy interacting with the hard syntax, which is unusual or peculiar to EQs.

Now, with this brief sketch of EQ formation in classic CP terms, let us turn to the question of how EQs appear to operate in the context of the split CP proposal.

3   EQs and Split CP

Here, we pose the following question: How neatly does the split CP hypothesis allow limitations on EQ formation to be described or explained?

First, consider an intuitive notion Force and the sentences in (16)-(17), where the verb *know* allows either a declarative or an interrogative complement:

(16) a.   U: Bill knows that Mary kissed Mozart

    b.   E: Bill knows that Mary kissed who?

    c.   *E: Bill knows whether Mary kissed who?

(17) a.   U: Bill knows whether Mary kissed Mozart.

    b.   E: Bill knows whether Mary kissed who?

    c.   *E: Bill knows that Mary kissed who?

If we follow Rizzi's initial characterization of Force simply as the designation of whether a clause is interrogative, declarative, etc. (Rizzi 1997: 283; 301), then we might conclude from the patterning in (16) and (17) that Force is frozen. However, if we consider split CP in greater detail, the picture becomes less clear.

As noted earlier, in a split CP, the phonetic declarative complementizer *that* appears in Force° but the non-phonetic finite head ('null' *that*) is in Fin°. Now, in English, if the choice of the overt declarative complementizer *that* is 'optional' in a given utterance, then it is also optional in its EQ, as the sentences (18a) and (18e) illustrate:

(18) a. U: Bill knew (that) Mary liked cigars.

b. ...knew [CP (that)[IP Mary liked cigars
               [-WH]

c. ...knew [ForP [For° that] [FinP [Fin° ø] [IP Mary liked cigars ...

d. ...knew [FinP [Fin° ø] [IP Mary liked cigars]]

e. E: Bill knew (that) Mary liked what?

f. ...knew [CP (that)[IP Mary liked what]]
               [-WH]

g. ...knew [ForP [For° that] [FinP [Fin° ø] [IP Mary liked what]]

h. ...knew [FinP [Fin° ø] [IP Mary liked what]]

In (18), *that* may or may not appear in the utterance, and it also may or may not appear in the corresponding EQ, whether or not it has appeared in the utterance. Under the classic analysis of CP, this fact is easily accommodated: in (18b) and (18f), the declarative complementizer is frozen in its simple declarative or -WH aspect, though its phonetic form is still optional in either U or EQ.

In the split CP analysis, however, there is not the same neat structural correspondence between utterance and EQ CP structure. Consider first the case where the special collapse of Force and Finiteness mentioned earlier does not take place. (I mention this possibility because there are reasons to doubt that it should.)[3] Then sentence (18a) has either the structure (18c) with overt

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[3]Ideally, this theory eliminates 'C' as a category. A major reason that the *that*/øFin crunch has plausibility may be that these two items are still being thought of tacitly as Cs, and therefore as intrinsically related. However, since they are not Cs in this theory (and in fact nothing is), and since they have no special intrinsic relationship to each other (beyond the relationship imposed on them by Rizzi), the crunch really is an oddity relative to the elements (distinct heads) which are involved. Also, this isn't claimed to be a case of the major process which combine heads, namely, head movement.

Second, this is a theory that basically says that (what was) CP is thick with structure, not thin. It is an 'expansionist' theory. So the 'crunch' is simply unexpected on any general grounds within the theory. It looks like a simple case of really needing what we had before, and combining it with a later analysis.

Third, the crunch is posited in an attempt to account for the C-t effect and the adverb effect. Split CP per se (as Rizzi recognizes) loses any prediction with respect to the base C-t effect, so the crunch is posited to allow the Rizzi 1990 account to kick in, a theory which relies on 'classic' CP structure. The 'crunch' is a way of getting it back when needed.

Fourth, a part of the motivation for split CP is to explain the claimed fact that *that* is required before an adverb-effect-inducing adverbial. However, a key part of the analysis is the claim that there is no null force head, so this prediction rests in part on an *ad hoc* claim about the lexicon. And even this claim appears hard to maintain since it is necessary to posit a null Fin head which counts as a Force head. Further, it isn't clear that lack of a

that or (18d) with only a finite null head, and the parallel analyses hold for the EQ, with (18g) showing overt *that* and (18h) showing the null finite head. The problem is that (18c) might be echoed by (18h), and (18d) by (18g). So in this non-collapse scenario, it might be claimed that Finiteness is frozen, though oddly, Force is not. This is the reverse of the intuitions about (16)-(17), not a very intuitive result.

Next consider the case where the collapse of Force and Finiteness in sentences like (18) does take place. (Rizzi claims that they 'fuse' or unify when no topic or focus element (including a moved adverbial) is present, as was illustrated in (6) (repeated here).

(6) a. ...said $[_{For/(Fin)P}$ that $[_{IP}$ she really enjoyed your article]]

b. ...said $[_{(For)/FinP}$ ø $[_{IP}$ she really enjoyed your article]]

In this case, utterance (18a) with or without *that* will have as its structure either (18i) or (18j), respectively, and the EQ with or without *that* will have either (18k) or (18l).

(18) i. U: Bill knew $[_{For/(Fin)P}$ $[_{For/(Fin)°}$ that] $[_{IP}$ Mary liked cigars]]

j. U: Bill knew $[_{(For)/FinP}$ $[_{(For)/Fin°}$ ø] $[_{IP}$ Mary likes cigars]]

k. E: Bill knew $[_{For/(Fin)P}$ $[_{For/(Fin)°}$ that] $[_{IP}$ Mary liked what]]?

l. E: Bill knew $[_{(For)/FinP}$ $[_{(For)/Fin°}$ ø] $[_{IP}$ Mary liked what]]?

Again, (18k) may echo (18j), and (18l) may echo (18i). Though the structures look somewhat closer, given the claimed differences in feature composition and the problem of the categorial indentity of this head (and of the projected phrase) (Rizzi 1997: 312), even this looks somewhat 'fuzzy' as a proposed case of Comp freezing or copying. And this is as good as it gets.

The structural correspondence of uttered and echoed CPs degrades further in structures where a topic is involved. As already noted, an adverbial in Spec,TopP forces apart the Force and Finiteness layers, with Force obligatorily showing *that*. Assuming this, consider the possible utterance and echo pairs of (19) and (20):

(19) a. U: Bill said $[_{ForP}$ that $[_{TopP}$ by next week Top° $[_{FinP}$ $[_{Fin°}$ ø] $[_{IP}$ Mary will be smoking cigars ...

b. E: Bill said $[_{(Force)/FinP}$ $[_{(Force)/Fin°}$ ø] $[_{IP}$ Mary will be smoking what by next week...?

(20) a. U: Bill said $[_{(Force)/FinP}$ $[_{(Force)/Fin°}$ ø] $[_{IP}$ Mary will be smoking cigars by next week ...

complementizer with the adverbial actually results in strong unacceptability (Sobin 2002: 544).

b.   E: Bill said [ForP that [TopP by next week Topᵒ [FinP [Finᵒ Ø] [IP Mary will be smoking what ...?

These are not the only possible U-EQ pairs, but they are possible ones. Under this analysis of CP, the utterance and EQ pairs in (19) and (20) have quite different CP architectures, with little in the way of obvious structural correspondence between them. There appears to be no simple or direct statement available for capturing or delimiting the echo possibilities.

By contrast, the classic analysis of CP together with the rule of Comp-freezing predicts the possibilities in (19) and (20). Assume, as Lasnik & Saito (1992) (and others) have claimed, that expressions like *by next week* are IP- (or AgrP-) adjuncts. Then the utterance-echo correspondences in (19) and (20) may have the structures shown in (21) and (22).

(21) a.   U: [CP   Ø   Bill said [CP that [IP by next week [IP Mary will be
                [-WH]   [-WH]
           smoking cigars]]]]

      b.   E: [CP Qᵢ [CP   Ø   Bill said [CP   Ø   [IP Mary will be smoking
                      [-WH]   [-WH]
           whatᵢ by next week]]]?

(22) a.   U: [CP   Ø   Bill said [CP   Ø   [IP Mary will be smoking
                 [-WH]   [-WH]
           cigars by next week]]]

      b.   E: [CP Qi [CP   Ø   Bill said [CP that   [IP by next week [IP Mary
                      [-WH]   [-WH]
           will be smoking whati]]]]?

Here, as was the case in (18b) and (18f), it is CP containing a simple [-WH] complementizer which is frozen. The phonetic character of the complementizer is not at issue, as noted earlier. The adverbial phrase is mobile because in this analysis it is not a part of CP structure.

The split CP architecture encounters further complications with EQs given what it indicates about the elements that may occupy the Focus layer. Spec,FocP is the proposed landing site for *wh*-phrases in root (main) clauses, as noted earlier. So, consider in this light an utterance and some echo candidates such as those in (11) but with the split CP structure shown in (23). In these sentences, the focus layer contains a *wh*-phrase. Such sentences appear to indicate that perhaps the Focus layer is frozen in EQ formation; perhaps an EQ CP must retain the particular *wh*-phrase content and complementizer type of the FocusP of the utterance it is echoing.

(23) a.   U: ...[FocP What [Focᵒ did] ... [IP Jack the Ripper eat at the party]]?

      b.   E: ...[FocP What [Focᵒ did] ... [IP who eat at the party]]?

    c. *E: ...[$_{FocP}$ Who [$_{Foc°}$ ø] ... [$_{IP}$ ate what at the party]]?

Thus, it appears here that we might claim that Comp freezing applies to the Focus layer in a split CP analysis.

    However, this freezing result is not consistent when we consider Focus with other content. The sentences of (24) illustrate the echo questioning of utterances involving a non-interrogative focused argument which is also claimed to land in the Focus layer:

(24) a. U: HIS BOOK they should give to Mozart (not mine).

                                    (cf. Rizzi's (1997: 285, (2))

      a′ ...[$_{FocP}$ HIS BOOK [$_{Foc°}$ ø] ... [$_{IP}$ they should give to Mozart]]

      b.??E: HIS BOOK they should give to who?

      b′ ...[$_{FocP}$ HIS BOOK [$_{Foc°}$ ø] ... [$_{IP}$ they should give to who]]?

      c. E: They should give his book to who?

      c′ [$_{(Force)/FinP}$ [$_{(Force)/Fin°}$ ø] [$_{IP}$ They should give his book to who]]?

(Here, the examples with primes indicate the relevant split CP analysis of each sentence.) Clearly, (23c/c′) is quite viable as a syntactic EQ to (23a/a′), and in fact it seems preferable to (23b/b′), an EQ which sounds a bit strained. However, the CP structure of (23c/c′) bears little resemblance to that of (23a/a′). Thus, we have two problems. First, in apparent contradiction to the *wh*-phrase result in (23), the Focus layer in the EQs of (24) is not frozen. The best EQ has a distinct CP structure from its utterance. Second, the EQ which does contain a frozen CP isn't very good.

    The first problem doesn't exist under the classic CP analysis, as shown in (25).

(25) a. U: [$_{CP}$ ø   [HIS BOOK [they should give to Mozart]]]
              [-WH]

      b.??E: [$_{CP}$ Q$_i$ [$_{CP}$ ø   [HIS BOOK [they should give to who$_i$]]]]?
                  [-WH]

      c. E: [$_{CP}$ Q$_i$ [$_{CP}$ ø   [they should give his book to who$_i$]]]?
               [-WH]

In both of the EQs (25b) and (25c), Comp is frozen. Therefore, (25c) is predicted to be a good EQ to (25a). As for the problem of accounting for the oddity of (25b), focused phrases appear to behave in a manner more comparable to low elements like topics or like elements in passive constructions: in this analysis they are lower than, and are not a part of, a frozen CP. The somewhat unnatural character of (25b) may be accounted for in terms of a conflict of clause type. That is, perhaps a syntactic focus

construction is a type of assertion that conflicts with interrogation. Moving the focused phrase out of pre-subject focus position resolves the conflict, and here, such repositioning is possible since focus phrases are not a part of the frozen CP layer. Thus, (25c) is a preferable EQ to (25b).

In more explicit structural terms, perhaps the syntactic signal for the focus clause type is the focus phrase appearing left-edge. EQ formation might corrupt such a signal, since in the EQ, the B-binder appears left-most. Movement of the phrase resolves the conflict.

A possible way to attempt to salvage the split CP analysis here relative to EQ formation might be to say that the echo questioning itself involves or introduces a type of focusing. We might then derive the inability to 'stack' EQ elements and non-interrogative Focus elements from Rizzi's proposed ban on recursive focusing.[4] But this only muddies the waters. Clearly, multiple interrogative elements may occur, either in normal questions as in (26), or in EQs as in (27), at least at LF:

(26) Who ordered what?

(27) a. U: (Mary said that) Beethoven liked chocolate ants.

b. E: (Mary said that) Who liked what?

Hence, it is not clear that interrogative elements, which may indeed stack, are working at all like other non-interrogative Focus elements, which are claimed not to stack. Further, this approach may be mute since, as Newmeyer (2004) points out, multiple discontinuous focusing is possible in a single sentence, which would entail (covert) stacking of focus elements.

There is a further problem with what appears thus far to be the most reliably frozen layer within split CP in EQs, namely, the Focus layer with interrogative content. As noted earlier, it is only in main/root clauses that *wh*-phrases are said to land in the Focus layer. In embedded clauses, they are claimed to land in the Force layer. Nonetheless, embedded EQ clauses exhibit the same apparent freezing of CP elements as root clauses do, as illustrated in (28).

(28) a. U: They wondered what Mozart ate at Mary's party.

b. E: They wondered what who ate...?

c. *E: They wondered who ate what...?

d. *E: They wondered if who ate what...?

e. *E: Who did they wonder ate what...?

f. *E: Did they wonder what who ate...?

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[4] See note 1.

In fact, the whole CP network appears (relative to the classic CP analysis) to be frozen. In (28), the root EQ CP must remain simple declarative, and the embedded CP must contain *what*, as in (28b). Thus, overall it appears that there is little correspondence between, on the one hand, the elements that appear frozen in EQs, and on the other, any consistent location or layers in split CP. In the end, Focus, like Force, Topic, and Finiteness, does not appear to consistently allow a 'freezing' account of possible EQs. Perhaps something else is at work, but it is not obvious what that might be.

4   Final Observations on EQ Formation

To summarize this part of the discussion, the Comp freezing of basic CP features in English EQs can be characterized rather neatly and straightforwardly in something like the classic CP analysis: the CP layer consists solely of Spec,CP and C is uniformly frozen, with the phonetic character of C not at issue. However, there appears to be a variety of complications in attempting to characterize English EQs within the split CP hypothesis. The picture of EQ formation, which is sharp in classic CP terms, loses resolution in split CP terms. Though a finding like this is by no means conclusive about the correctness or incorrectness of a given theory of CP, it nonetheless points toward the possibility that English CP structure involves something more like the classic architecture than the split architecture suggested by Rizzi.

Perhaps in closing this topic of EQs, it is worth noting that there are other English CP facts for which the split CP hypothesis appears non-optimal. For instance, as the sentences in (29) illustrate and as has been widely noted, in English (as opposed to Italian), Topic elements are not compatible with moved *wh*-phrases:

(29) a.   Who will you give your book to?

  b. *Your book, who will you give to?

  c. *Your book, who will give to me?

Further, Topics and AvPs show a parenthetical intonational pattern which is unexpected from the point of view of the split CP analysis.

Finally, if *that* is Force and if *wh*-phrases move to Spec,FocP, a position below Force, then we obtain the wrong order for interrogative constructions with a 'doubly-filled Comp' where they have been attested to appear in English. For example, in Middle English (ME), we find constructions such as (30b) (which should have main clause syntax) and (31a-b). In these sentences, the moved *wh*-phrase precedes rather than follows the complementizer:

(30) a.   U: Madame, quod he, how thynke ye herby?

b.   E: How that me thynketh? quod she,...   (Chaucer 1387-1394: 99)

(31) a.   U: '...3et wist I neuere wel what that he mente.'

b.   E: 'What that I mene, O swete herte deere?'   (Chaucer 1385: 254)

In fact, these sentences are doubly interesting: the (b) examples appear to be EQs in ME. As we would predict, the classic CP elements, that is, the *wh*-phrase and the complementizer, are frozen, though other elements vary appropriately. In (30) we see a type of variation which is also available in Modern English: in instances where the complementizer *that* is optionally realized, the EQ may show it or not, as noted earlier. When the complementizer is phonetically realized, it appears to the right of, or below, the *wh*-phrase, whether root or embedded. This is the normal pattern: *wh*-phrase preceding complementizer.

5   Negative Inversion and Echo Negation

Now I would like to turn to negative inversion, and what appears to be another echo phenomenon, something that I will call 'echo negation'. The Negative Inversion (NI) construction is illustrated in (32a).

(32) a.   U: Rarely does he order pizza with pineapple.

a′   ...[$_{FocP}$ Rarely [$_{Foc°}$ does]...[$_{IP}$ he order pizza with pineapple]]...

As shown in (32a′), this construction has been claimed to parallel the split CP analysis of questions (Haegeman 2000; Haegeman & Guéron 1999). Here, the negative expression occupies Spec,FocP, as *wh*-phrases are claimed to do, and a verb moves to Foc°, as it is also claimed to do in questions. Of further interest is the possibility of 'echo negation' (EN) , as in (32b) and (32c).

(32) b.   EN: Rarely DOESN'T he order pizza with pineapple!

c.   EN: He rarely DOESN'T order pizza with pineapple!

When taking issue with the polarity of an utterance like (32a), it is possible to insert a second negative which would in other contexts be somewhat strange-sounding, perhaps not unlike the insertion of an echo *wh*-phrase. Also in parallel with an EQ-inserted *wh*-phrase, the inserted negative is stressed. Thus, these features make ENs at least superficially similar to EQs. Following this line of thinking, if both questions and NI constructions shared the same CP positioning properties, we might expect ENs to also share the more significant abstract properties of EQs, strengthening the case for such a parallel analysis. So we turn to the question of whether echo negation shows the same CP-related properties as EQs.

One significant property of EQ formation is that a newly introduced *wh*-phrase takes wide scope (in the sense of having 'root' interrogative force) relative to any other *wh*-phrase already present in the utterance. This was noted earlier in the set (11a), (12c), and (13), repeated here.

(11) a. U: [$_{CP}$ What did [$_{IP}$ Jack the Ripper eat at the party]]?

(12) c. E: Q$_j$ [$_{CP}$ What$_i$ did [$_{IP}$ who$_j$ eat at the party t$_i$]]? (= 11b)

(13) a. *R: Peanuts!

     b. R: Jack the Ripper!

In (12c), it is only the B-bound *who*$_j$ that has 'root' interrogative force, as indicated by the fact that its only possible response is (13b).

Consider in this light the scope of an EN-introduced negative as in (32b).

(32) b. EN: Rarely DOESN'T he order pizza with pineapple!

If *doesn't* in (32b) took wide scope (something like an EQ-introduced *wh*-phrase), then sentence (32b) should mean 'It is not the case that he rarely orders pizza with pineapple'. That is, perhaps he never orders it, perhaps he sometimes orders it, or perhaps he always orders it. However, (32b) doesn't have such meanings. Rather, it means 'It is rare that he doesn't order pizza with pineapple'. That is, he nearly always orders it. Thus, a newly-introduced negative takes narrow scope relative to the already-present negative expression, behaving in this respect quite differently from an EQ-introduced *wh*-phrase.

A related second property is (as noted earlier) that an already-present *wh*-phrase loses 'root' interrogative force in an EQ, a fact again illustrated by the impossibility of response (13a) above to (12c). However, in the EN construction, the already-present negative *rarely* has in every respect the same semantic force in the EN construction that it does in the original NI construction: it means 'It is rare that X', where in (32a) X is an affirmative proposition, and in (32b) X is a negative proposition.

Third, as was argued earlier at some length, a *wh*-phrase in the CP layer of an utterance is frozen in the CP layer of its EQ. However in the case of EN, the negative expression is not frozen in, as indicated by the fact that sentence (32c) (repeated here) is an equally possible EN to (32a).

(32) c. EN: He rarely DOESN'T order pizza with pineapple!

Thus, NI constructions and their ENs do not appear to behave in parallel to CP-related aspects of EQs, as might have been expected under a parallel split CP analysis. Again, this is not strong evidence against such an analysis, but much might have been made out of it if these facts had turned out differently.

6   Final Remarks

Here, I have tried to consider facts about EQ formation and what they might indicate about the nature of the CP layer. The classic CP analysis appears to facilitate a straightforward characterization of what some of the major limitations are on forming an EQ to a particular utterance. In a nutshell, a central limitation may be stated as Comp-freezing, as spelled out above. When one reanalyzes the CP layer as split, any tight correspondence between the elements that are frozen and the structure of CP dissolves. No comparably easy statement of utterance-echo correspondences appears to be available. If one kind of evidence favoring one description over another is that one description facilitates capturing generalizations that the other does not, then the EQ evidence seems to favor the classic CP analysis over the split CP analysis, at least as far as these English data are concerned.

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Competing Constraints on *Vorfeldbesetzung* in German[*]

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Abstract

The filling of the '*Vorfeld*' in German sentences is basically obligatory; which constituent, however, actually moves to the *Vorfeld* is underdetermined by syntax and thus governed presumably by discourse factors. Coming from English, there are certain competing expectations one could have: either the topic — more specifically, the backward-looking center — of a sentence is moved to the *Vorfeld*, or an element in a poset relationship to a set mentioned in the previous discourse, or elements with other functions, such as the exposition of brand-new information or the setting of a scene. A study of a corpus of texts of different stylistic levels showed that indeed all elements expected to appear in the *Vorfeld* are eligible for *Vorfeld*-movement, but that there is a strict ranking. Preferred *Vorfeld*-fillers are phrases containing brand-new information as well as scene-setting elements; only if no such elements are present can elements in a poset relationship with some previously mentioned set be moved to the *Vorfeld*. Finally, if such elements are not present either, backward-looking centers can move to the *Vorfeld*. Backward-looking centers have, for this reason, a relatively poor quota among *Vorfeld*-fillers, namely around 50%.

1 Introduction

The German language, as is well known, is subject to the verb-second constraint. This involves compulsory movement of the verb to C° and of some other constituent to Spec,CP (Vikner 1995). Spec,CP is in the German literature often referred to as *Vorfeld* (Grewendorf, Hamm, Sternefeld 1987; Reis 1987:147f.). Which constituent actually is moved to Spec,CP is underdetermined by syntax. It is consequently reasonable to assume that movement to Spec,CP is governed by discourse requirements.

What could these discourse requirements be? In order to address this question it is useful to have a look at a closely related language, let us say

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English, to see if there are phenomena which are comparable to German *Vorfeldbesetzung* (= movement to Spec,CP) in that they involve non-syntactically determined preposing of a constituent. In contrast to German, these English cases would involve non-canonical word-order, since English is not subject to the verb-second constraint, as German is, but instead obeys the constraint that the subject must precede the verb and should be the first constituent in the clause. This is nothing more than a consequence of the fact that English declarative main clauses (questions are not relevant for the purposes of this paper) do not have a CP as highest projection but only an IP. Since the subject receives case only after it has been moved to Spec,IP, it follows that this position is reserved for the subject and thus the subject ends up automatically as the first constituent of a (normal) main clause.

But in English there are still a number of constructions which involve non-canonical word order, i.e. where the subject is not the first constituent of the clause. Two of them are inversion and topicalization.

Note that both constructions are different from each other in that inversion in English shows a surface word order like

X – V – S

(V = Verb; S = Subject; X, Y = any constituent)

whereas topicalization shows a word order like

X – S – V

They both differ from the canonical word order which requires both that the subject be before the verb and that the subject be the first element in the sentence. The difference, to summarize, is that in both cases there is some non-subject element in the first position in the sentence.

This goes for English. German has, in contrast to English, not the subject-verb constraint, but the V2 constraint. This means that for German the equivalents of English inversion and English topicalization must have the same structure, namely:

X – V – S

since the only thing which is determined is the position of the verb, which must appear as the second constituent in the clause.

This is, however, only a subcase of the more general

X – V – Y

if we bear in mind that the subject-verb word order in German is not compulsory but comes into being only by chance or, to be more precise, by information structure requirements. In itself, the subject is not more privileged

to show up in the *Vorfeld* than any other constituent (cf. Rambow 1993: 2, contra Lenerz 1977:110).[1]

The two different constructions in English show different requirements as to information structure. They thus lead to two competing possibilities fo the analysis of *Vorfeldbesetzung*. One is that *Vorfeldbesetzung* works along the lines of English inversion. Inversion seems to be governed by Centering Theory (as outlined by Grosz, Joshi & Weinstein 1995; Prince 1998; Walker, Joshi & Prince 1998b). According to Centering Theory, referential expressions in an utterance are ranked in a list of forward-looking-centers (= C_f). The ranking is done according to preferably non-pragmatic factors such as syntactic function and theta-roles. The highest ranked forward-looking center is called the preferred center (C_p). Each sentence, furthermore, has a backward-looking center (= C_b), which is the entity which links the utterance back to the previous discourse (i.e. which is coreferential with some entity in the previous discourse). Another, less technical term for this would be 'topic', on one definition of this term. The C_p of an utterance is the entity which has the highest probability of be coreferential with the C_b of the following utterance. In a highly coherent discourse the C_b of an utterance is coreferential with the C_p of the preceding utterance.

Consider now the proposal made by Birner (1998) for English inversion as a simple starting hypothesis (cf. (1) from Birner 1998: 315): *In inverted English sentences the preposed element always contains the C_b.*

(1)   Tich made tea in a blackened billy and <u>McPherson</u> filled a telescopic cup he took from a pocket. Seated on a form, <u>he</u> helped himself to sugar […]. [Seated opposite **him**] was Tich, waiting for Gossip, wondering, hoping.

Since English inversion seems in some ways comparable to German *Vorfeldbesetzung*, it would not be surprising if the same were true for the German *Vorfeld*, viz. that it is the backward-looking center that is moved to Spec,CP.

The assumption that the *Vorfeld* contains the C_b of the sentence is very much in line with the traditional assumption that the *Vorfeld* in German is the prototypical position for the 'topic' of the sentence (in general see Gundel

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[1] Lenerz (1977: 110) is implicitly assuming that the normal position of the subject is the *Vorfeld* when he defines topicalization as a process of which the following is true: „Dabei wird das SU[bjekt] von dieser Position [i.e. the *Vorfeld*] verdrängt". But this conception is probably mostly due to the fact that on the version of Generative Grammar which was in use in the 1970s, the importance of functional categories such as IP and CP and the consequent position of the base generation of the subject was not fully recognized, and the subject, indeed, was thought to be the left sister of the whole verbal phrase, i.e. the rest of the sentence. So Lenerz and I disagree here only because we have different stages of the model as background.

1985: 94; for German especially, see Reis 2000). A possible definition of topic is that it is the entity, already evoked in the previous discourse, which the sentence is about (Gundel 1985: 85). A further, more precise definition of 'topic' is the element that takes care that the proposition is represented as happening rather than as pure, timeless fact — in other words, anchors it into the linguistic and extralinguistic context (Reis 2000). The definition of C_b, as given in Grosz, Joshi & Weinstein 1995 is not much more than the formalized version of this.

The second possibility for *Vorfeldbesetzung* is that it works along the lines of English topicalization (understood as in Prince 1999). In this case Centering Theory would not determine which elements are moved to the *Vorfeld*, but rather other processes*: The topicalized element stands in a salient partially-ordered set relation to some entity evoked in the discourse*. I do not want to go into the technical details of partially ordered sets (or 'posets' for short), but rather the reader refer to Hirschberg (1985:122) and Prince (1999:8) for this. For the moment it is sufficient to give the definition: A partially ordered set is a set whose members are in either a reflexive, transitive and antisymmetric relationship or in an irreflexive, transitive and asymmetric relationship. It is sufficient for the purposes of this paper to informally state that a poset relationship exists if there is a list of entities, explicitly or implicitly, and the topicalized element is part of that list, as in (2a,b); is in contrast to some entity already evoked, as in (2c); or resumes a whole set already evoked, as in (2d).

(2) a. 'We've got ***Earl Grey***, Ceylon, Lemon Ginger, Raspberry, Rose hip. Which'd you like?' – '***Earl Grey*** I'd like.'

   b. Thanks to all who answered my note asking about gloves. I didn't look at this bb for several days and was astounded that there were ***11 answers***. ***Some*** I missed, darn.   (from Prince 1999: 1)

   c. ***The necklace*** she got from a friend. ***The ring*** she bought for herself.

   d. 'And who you invited for this spontaneous orgy, you chump?' – 'Well, there's ***Charlie and Al and Liz and Pat and Tom and Shermy and Rick and John and Mary and Bill***. ***All these guys*** you'll have to order pizza for, I'm afraid.'

Note that it is decidedly not the C_b in the usual sense that comes into the *Vorfeld* on this view (cf. Prince 1999). So we end up with two diametrically opposed predictions about *Vorfeldbesetzung* in German.

In this article I want to examine whether either of these two predictions turns out to be true for German — in particular, whether Centering Theory can be used as a means to determine the constituent which is to be moved to Spec,CP, or not, and if not, what other factors play a role, so that looking for them might give the researcher a higher level of accuracy. It will turn out that

both predictions come out true under certain circumstances, but that they do not represent the whole picture. To test the assumptions I used a corpus consisting of transcripts of radio broadcasts (only read-loud manuscripts), articles and readers' letters from the *Stuttgarter Zeitung*, selections from two handbooks on literature, and works by Friedrich Dürrenmatt and Günther Grass. I decided to take texts from a number of different stylistic levels; to confine myself to e.g. newspaper discourse would have distorted the results since in newspaper discourse presumably other factors (e.g. catching the attention of the reader) play a role whose importance it is not possible for me to estimate. A more precise listing of texts used is given at the end of this paper.

I am using the following fonts in my examples to mark several possible discourse-relevant properties of constituents:

bold: $C_b(Un)$

<u>underlined</u>: $C_f(Un-1)$ coreferent with C_b (Un)

bold italic: P- kontrast

<u>***bold italic double underlined***</u>: scene-setting / brand-new

2   Findings

2.1   Centering Theory

An analysis of sentences in the corpus reveals that the prediction that it is preferably the C_b that occurs in the *Vorfeld* does not always obtain. It is true that the C_b is often in the *Vorfeld* (3), but often it is not.

   (3)   <u>Verteidigungsminister Peter Struck (SPD)</u> hat gestern sein
          Sparprogramm bekannt gegeben. **Er** sieht darin auch einen Schritt zur
          Reform der Bundeswehr.
          '<u>Minister of Defence Peter Struck (SPD)</u> proposed his program for
          cutting expenses yesterday. **He** sees it also as a step towards a reform
          of the Federal Army.' (StZ 1,1-2)

The performance is improved if one makes certain additions to Centering Theory proper and allows for NPs which are embedded in other structures as centers ((4a)); counts concepts rather than lexical items ((4b)), which includes also easily inferable sister-concepts ((4c)); also allows the inclusion of whole situations as possible C_fs ((4d)), even when they are only inferable ((4e)); allows for certain adverbial referential expressions ((4f)), even in ellipsis ((4e)); and permits centers from not the immediately preceding sentence, but the sentence before that ((4g)). Let us go into these additional conditions in

more detail; it will turn out that each condition can be maintained without interfering with the core of Centering Theory.

(4)   a.   <u>Gips</u> sei billig und binde schnell ab, sagen die Experten. [Ein rund drei Tonnen schwerer Block in **Gips** mit dem mittleren Körperabschnitt] steht zurzeit noch auf dem Bauhof in Eislingen.
'<u>Plaster</u> is cheap and dries out fast, the experts say. A block of **plaster**, weighing about three tons, containing the middle part of the body still stands in the builder's yard in Eislingen.' (StZ 3,30-31)

b.   Die Landesverteidigung solle künftig nicht mehr primäre Aufgabe der <u>Bundeswehr</u> sein. Die **Streitkräfte** sollten vielmehr im UN-Auftrag ‚überall auf der Welt' einen Beitrag zur internationalen Sicherheit leisten.
'The defense of the country shall in the future no longer be the primary task of the <u>Federal Army</u>. The **armed forces** shall instead contribute to international security, under the commission of the U.N., everywhere in the world.' (StZ 1, 8-9)

c.   Außerdem arbeiten sie unter einem ziemlichen <u>Zeitdruck</u>: Bereits **im kommenden Jahr** soll ihr derzeitiges Projekt beendet sein […].
'Furthermore they work under quite some <u>time pressure</u>: **next year** their recent project is already supposed be finished.' (StZ 3, 7-8)

d.   <u>Die Bundeswehr, die im Grundsatz bisher allein der Landesverteidigung verpflichtet war, soll nach Strucks Vorstellung zu einer Streitkraft werden, deren primäre Aufgabe Konfliktverhütung und Krisenbewältigung irgendwo auf der Welt ist, weil auch das der Verteidigung dient</u>. **Diese Verschiebung der Prioritäten** ist zweifellos notwendig.
'<u>The Federal Army, which was in principle up to now only committed to homeland defence, should become, according to Struck's ideas, an armed force whose primary task is prevention and management of conflicts anywhere on earth, as this also contributes to defense</u>. **This shift of priorities** is certainly necessary.' (StZ 2, 21-22)

e. Jene episch-lyrisch getönten Kantilenen lebten über Generationen hinweg ausschließlich in mündlicher Tradierung fort und <u>wurden</u> […] <u>zur Stärkung des Kampfeswillens vor den Schlachten rezitiert</u>. Als Beleg <sc. **dafür**> ließen sich Williams von Malmesbury Gesta Regum Anglorum anführen […].
'Those canzonas in an epic-lyric style existed over generations only in oral tradition and <u>were […] recited before battles in order to strengthen the determination to fight</u>. As an instance <sc. **of that**> one could cite William of Malmesbury's Gesta Regum Anglorum.' (HL 2, 7-8)

f. Die neunzig Tornado, die Struck aus dem Verkehr ziehen will, sollen <u>zwischen 2005 und 2012</u> außer Dienst gehen. **Erst dann** kommt es zur Kostenentlastung.
'The 90 Tornados (= fighter jets) that Struck wants to withdraw should end service <u>between 2005 and 2012</u>. **Only then** will there be some relief of expenses.' (StZ 2, 10-11)

g. Ein Beispiel bietet das oben zitierte Absagelied Friedrich von Hausens […] in dem die Techniken der Reimresponsion und – isolierung (Waisen) die <u>Strophe</u> in die Spannung zweier Zeilenblöcke fügen. Hier scheint es sich um eine eigenständige Erfindung des Autors in romanisierendem Stil zu handeln. Andere **Strophenformen** deutscher Sänger, vor allem des Westens, sind direkt Kontrafakturen romanischer Texte.
'An example is the refusal song quoted above of Friedrich von Hausen in which the techniques of rhyme correspondence and rhyme isolation (orphans) press the <u>stanza</u> into a tension between two blocks of verses. This seems to be an original invention of the author in Romanizing style. Other forms of **stanzas** of German poets, especially of the west, are direct contrafacta of Romance texts.' (HL 1, 10-12)

The first condition, that NPs which are embedded in other structures can function as centers, does not need a justification; neither Grosz, Joshi & Weinstein (1995) nor Walker, Joshi & Prince (1998b) commit themselves to which grade of embedding is allowed. The same goes for the second and the third conditions — that is, that we should think of centers as concepts rather than lexical items, and that different worded concepts and easily inferable sister-concepts can count as centers as well (see Birner 1998: 318); and that whole situations should be included as possible C_fs, even when they are only inferable. The second condition poses no problem since discourse models are representations in the minds of the discourse participants and it is to be expected that the entities in the discourse model are represented as one would

expect from mental processes, i.e. as concepts rather than as surface word forms. Especially in written discourse the limitations of a surface-oriented mental representation are obvious, as there the stylistic pressure for variation makes it rather rare that the same entity is referred to by the same word twice in rapid succession. And the third condition follows indirectly from the claim made in Walker, Joshi & Prince 1998b that a C_b need not be explicit but can also be only inferable. The distinction in Grosz, Joshi & Weinstein 1995 between realized and directly realized centers takes this into account. We can say that centers in German do not need to be directly realized.

It is slightly more difficult to reconcile the fourth and fifth conditions with classical Centering Theory, but it is not impossible. The fourth is perhaps easier than the fifth. The fourth condition, i.e. that also certain referential adverbials should count as centers, even when they are overtly in ellipsis, seems to need justification if one takes Centering Theory to be a theory that deals only with noun phrases. This is not the case. Grosz, Joshi & Weinstein (1995) never say that it is only NPs which are relevant, but rather imply that it is any referential expression (which are mostly NPs, though); and Walker, Joshi & Prince (1998b) do not commit themselves either to any claim about the types of semantic entities which can be centers. Since we are in the field of concepts, which probably are category-neutral, a restriction which makes reference to NPs would be rather odd. The only condition which a constituent must fulfil in order to be a possible candidate for Centering Theory is that it is a referential expression. That surely goes for referential adverbs like *dann*, 'then', *hier* 'here', *damit* 'with/by that', *dafür* 'for that', and *davon* 'of that'. Even if one wanted to confine Centering to noun phrases, it is easy to see that adverbs of the sort listed above are functioning like prepositional phrases with a referential expression as complement of P and can easily be replaced by such prepositional phrases. In many cases they are actually PPs and still recognizable as such. So they are embedded NPs in some ways, which would make this condition only a subcase of the first condition.

The fifth condition finally appears to be in sharp contradiction to the locality condition as it is stated in Grosz, Joshi & Weinstein (1995). But one has to allow for that, in order to account for the phenomenon of insertions. Insertions are not part of the general discourse but addenda to one or the other entity evoked in the utterance immediately preceding the insertion. They thus represent little embedded discourse segments.

Thus it seems that the definition of locality, as it appears in Grosz, Joshi & Weinstein 1995, has to be extended: *In principle, the C_b (U_n) has to be taken from the set of C_f (U_{n-1}). Under certain circumstances however, namely if U_{n-1} forms an embedded, self-contained sub-discourse with U_{n-2}, the $C_b(U_n)$ can be taken from the set of $C_f(U_{n-2})$* (cf. Birner 1998: 320). This is very much in line with Walker's (2000) observation, starting from work by Grosz & Sidner (1986), that discourse segments can be both linearly recent and hierarchically

recent. The case of insertion is an example of hierarchical recency: the utterances before and after the insertion are on the same hierarchical level and thus recent on that level. Since insertion cases are rather common, we can conclude that, at least in German, hierarchical recency is a sufficient condition for locality.

It is perhaps interesting to note that, although $C_b(U_n)$s which are coreferential with one member of the set of $C_f(U_{n-2})$ are undoubtedly functioning as centers, they behave quite differently from linearly recent centers in that they are in most cases not in the *Vorfeld*, whereas for linearly recent centers there is clearly a tendency to appear in the *Vorfeld* if nothing hinders them, as suggested in (5).

(5) Mit einem Haushalt von 24,4 Milliarden Euro […] hat die Bundeswehr laut <u>Struck</u> eine „solide finanzielle Grundlage". Enthalten seien in diesem Etat 1,15 Milliarden Euro für Auslandseinsätze und für den Kampf gegen den internationalen Terrorismus. [Die Opposition]$_{vf}$ übte [gestern Kritik am **Verteidigungsminister**]$_{mf}$
'With a budget of 24.4 Billion euros, the army has a sound financial basis, according to Struck. Included in this budget are 1.15 Billion euros for action abroad and the battle against international terrorism. The opposition criticized the defense minister yesterday.' (StZ 1,18-20)

It should be noted that, although it is very often the subject which is in Spec,CP, in the corpus there are numerous cases where the C_b is in Spec,CP position, but is not the subject (contra Rambow 1993: 8). The effect that the subject ends up quite often in Spec,CP is only a reflex of the fact that the subject in many cases simply *is* the C_b (see table 3) – what one would expect from sentences between which there is a continuation transition (cf. Grosz, Joshi & Weinstein 1995: 10; Walker, Joshi & Prince 1998b: 6), if the relative ranking of Cfs in German is as it is in most other more or less related languages and involves a ranking Subject >> all others (for English, see, e.g., Walker, Joshi & Prince 1998b:7).

But even so Centering Theory does not account for a large number of cases. In toto it is only 319 out of 622 sentences (= 51.29%) which have the C_b in the *Vorfeld*. The exact numbers can be taken from table 1.

Table 1: Proportion of backward looking centers in the *Vorfeld*

	GrT	*DüR*	*HL+DLM*	*StZ*	*Au*	*E*	*R*	*total*
# sent.	68	61	68	188	62	85	90	**622**
# C_b in VF	22	35	43	90	38	27	64	**319**
%	**32.35**	**57.37**	**63.24**	**47.87**	**61.29**	**31.76**	**71.11**	**51.29**

Table 2: Proportion of Subjects among backward-looking centers in the *Vorfeld*

	GrT	*DüR*	*HL+DLM*	*StZ*	*Au*	*E*	*R*	*total*
# C_b in VF	22	35	43	90	38	27	64	**319**
# *Subj.*	17	34	32	53	30	19	34	**219**
%	**77.27**	**97.14**	**74.42**	**58.89**	**78.95**	**70.37**	**53.13**	**68.65**

We note that what most readily have the C_b in the *Vorfeld* are radio manuscripts, closely followed by academic discourse, whether written purely for reading or for oral presentation. The smallest portion of centers in the *Vorfeld* are found in letters to the editor and Grass's 'Treffen in Telgte'; that the low percentage of the latter has nothing to do with literary style in general is obvious if one compares it to the percentage in Dürrenmatt's 'Der Richter und sein Henker'.

For the remaining half of the sentences one obviously needs other theories.

2.2   Topicalization

Almost all remaining cases, i.e. sentences where the C_b is not in the *Vorfeld*, can be characterized in terms of three notions: namely, 'kontrast', brand-new information or scene-setting. Since these notions will turn out to be more crucial to *Vorfeld*-filling than Centering, we will dwell on them a bit here.

Kontrast is used in the sense of Vallduví & Vilkuna (1998): a semantic operation that constructs a membership set out of the entity over which it operates together with comparable entities.

kontrast (a) $\rightarrow$ M = {…, a,…}

Note that this notion shares only the word (or better, phonetic form) with 'contrast' in the popular sense. The construction of a membership set M as described above does not necessarily imply that the entity stands in contrast with the other members in the set. Contrast in the popular sense comes into the play if we try to combine the notion of kontrast (in Vallduví & Vilkuna's sense) with the idea of posets (Prince 1999). A poset relationship can be seen as a special case of kontrast in that the additional condition holds that at least one other member of the set generated by kontrast must be evoked in the previous discourse, and the rules of the membership are determined by the notion of the poset relation.

So the poset-case of kontrast (in the following short P-kontrast) can be described as follows:

P-kontrast (a) $\rightarrow$ M = {…, a, b,…}; a $\in$ U_n; b $\in$ U_{n-m}; m < n

There is a strong tendency to put the element which is kontrastive in the *Vorfeld*. In most cases there is also a poset relationship with something from

the previous discourse. This is thus completely in line with topicalization in English (Whitton 2004). What is different from topicalization, however, is that a stronger condition holds: in almost all cases of P-kontrast the member b is taken from the directly preceding utterance. So for German the following holds:

P-kontrast (a) → $M = \{\ldots, a, b, \ldots\}$; $a \in U_n$; $b \in U_{n-1}$

But note that such P-kontrast cases still do not need to express contrast in the popular sense; usually they do not. That means that most of the P-kontrast cases are not focalized.[2]

In the case of P-kontrast the set M can be used exhaustively, as in (6a), or non-exhaustively, as in (6b).

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[2]Contrast in the everyday sense is, however, subsumed under P-kontrast; a definition of contrast in the ordinary sense in that framework could be: 'elements standing in (exhaustive) P-kontrast relationships to other elements which in addition are focalized'. This brings normal contrast in terms of intonation closer to brand-new elements. Rochemont & Culicover (1990: 21), following Rochemont (1986: 52), distinguish between Presentational Focus and Contrastive Focus. Presentational focus is assigned to phrases which are not construable from the context, so are essentially discourse-new; and it serves to introduce an individual into the discourse (Culicover & Rochemont 1983: 155; Rochemont 1986: 52). Contrastive Focus is assigned to phrases which are not discourse-new, but construable from the context, and for which it is true that the hearer believes that some element in the speaker's utterance is not true, but some other entity comparable to the doubtful element is true (Culicover & Rochemont 1983: 152f.). These authors note (1990:21) – which is important – that these two kinds of focus form a syntactically uniform notion, although they are interpretatively distinct. In fact, in earlier work they show that this distinction is purely with respect to the interpretation of the foci and has no impact on the structure; that is to say, there is one structural notion of focus, which can be interpreted in two different ways, namely presentational and contrastive (Culicover & Rochemont 1983:151). They demonstrate this structural identity with the similar behaviour of these kinds of focus with respect questionability and accent. Roughly speaking, in their view, the focus of a sentence is the phrase which has a lexical item in it (usually the rightmost one) that receives an accent. In question-answer pairs the definition is even simpler: The focus of the answer is the part which corresponds to the *wh*-word in the question. The point, that the two different interpretations of focus do not correspond to separate syntactic concepts but are treated as one phenomenon for syntax, is important for the argument further developed in their book, which is essentially a rundown of English sentence-types which mark focus by non-standard word-order. It might be noted in passing that it has already been observed for German that focus elements tend to appear either as far to the right as possible – or, quite contrary to that, in the *Vorfeld* (Reis 1987:169).

(6)   a.   Deshalb erreichten Moscherosch und Schneuber, die von Straßburg
her die Reise gemacht hatten, ausgeraubt (bis auf ihre den
Wegelageren nichtsnutzen Manuskripttaschen) das abgesprochene
Ziel: ***Moscherosch*** lachend und um eine Satire reicher; ***Schneuber***
jammernd und schon die Schrecken des Rückweges vor Augen.
'Therefore Moscherosch and Schneuber, who made their travel
from Strasbourg, reached the destination agreed upon, mugged
(save for their bags of manuscripts, not useful for the robbers):
Moscherosch laughing and with one satire more on his account,
Schneuber moaning and already afraid of the terrors of the travel
back.'

(GrT 1, 11-13)

M = {Moscherosch, Schneuber}

b.   So gehen die Experten davon aus, dass am Grund des Meeres
damals eine leichte Strömung vorgeherrscht haben muß. ***Hunderte
versteinerte Tintenfische*** wurden in einer entsprechenden
Anordnung gefunden. ***Die Kadaver der Saurier*** waren gegen
abgesunkene Baumstämme geschwemmt worden […].
'Thus the experts suppose that on the bottom of the sea there was
then a light current. *Hundreds of fossilized squids* were found in a
suggestive formation. *The corpses of the <plesio>saurs* have been
washed against sunk trees.'   (StZ 3, 37-39)
M ={…,Tintenfische, Saurier,…} (= animals which can end up on
the bottom of Jurassic lagoons)

It can be seen that the notion of P-kontrast need not exclude the other, less
important requirement that the C_b is in the *Vorfeld*, as shown in (7).

(7)   a.   Gestern wird sein, was morgen gewesen ist. Unsere Geschichten
von heute müssen sich nicht jetzt zugetragen haben. ***Diese*** fing vor
mehr als dreihundert Jahren an. ***Andere Geschichten*** auch.
'Yesterday will be what tomorrow has been. Our stories from today
do not need to have happened now. *This one* began over three
hundred years ago. *Other stories* too.' (GrT 1, 1-4)

  b. <u>Er</u> erlaubt den militärischen Führern nicht mehr, sich von Jahr zu Jahr über das wahre Ausmaß der öffentlichen Finanznot hinwegzutäuschen […]. Anders als **sein *Vorgänger Rudolf Scharping***, der auf eine geradezu märchenhafte Einnahmevermehrung baute, zwingt **Struck** die Generäle, die Augen zu öffnen.

   '<u>He</u> no longer permits the military leaders to fool themselves about the real extent of the financial tightness of the state. Differently from **his** *predecessor Rudolf Scharping*, who relied on a nearly miraculous increase in earnings, **Struck** forces the generals to see reality.' (StZ 2, 3-4)

In sentences like (7), there are two good reasons for the element which is in the *Vorfeld* to be in the *Vorfeld*: firstly, because the phrases in the *Vorfeld* contain the C_b; and secondly, because the phrases in the *Vorfeld* are in P-kontrast. But what happens if there is a conflict between the requirements of Centering Theory (i.e. that the C_b be in the *Vorfeld*) and of P-kontrast (i.e. that the P-kontrastive element be in the *Vorfeld*)? In my samples all of the conflicting cases suggest that P-kontrast overrides Centering if there is a conflict, as in (8). Note that a different order would indeed sound slightly deviant, as shown in (9).

(8) <u>Ihre</u> heimischen Zirkel faßten zu eng. ***Kein langwieriges Geschäft, keine kurzweilige Liebe*** konnte **sie** binden.
   '<u>Their</u> circles at home were too narrow. *No long-living business, no entertaining love* could bind **them**.' (GrT 1, 37-38)

(9) <u>Ihre</u> heimischen Zirkel faßten zu eng. #**Sie** konnte ***kein langwieriges Geschäft, keine kurzweilige Liebe*** binden.
   M = {Geschäft, Liebe}

But it should be noted that even here there is still a tendency to place the C_b as close to the front as possible, i.e. into the first position of the *Mittelfeld* (cf. Lenerz 1977:106ff.; Rambow 1993: 5). In case the C_b is the subject, this position even seems to be obligatory (cf. also Lenerz 1977: 97ff.; Rambow 1993: 5), since there were no examples in my samples where the C_b is the subject and occurs somewhere other than in the *Vorfeld* or the first position of the *Mittelfeld*. The relative preference of the subject to occur as far to the left as possible has been noticed as 'normal word order' insofar as sentences with the subject as the first spelt-out argument allow the highest number of potential foci and thus can occur in more contexts than sentences where the subject is preceded by some other argument (Höhle 1982: 122ff.).

(10)   Der Grabungsleiter Reinhard Rademacher und seine beiden Kollegen
Philipe Havlik und Hendrik Stöhr nehmen noch schnell einige
Koffeinschübe, bevor sie sich ans Werk machen. ***Etwas Aufmunterung***
können **sie** gut gebrauchen.
'The leader of the excavation R.R and his two colleagues P.H. and H.S.
take quickly a few shots of caffeine. *A bit of bucking up* **they** can use.'
(StZ 3, 5-6)

This is not at all surprising. Centers are, according to the claims of Centering
Theory, pretty much what in other frameworks is described as 'topic' (Walker,
Joshi & Prince 1998b: 3), or 'theme' in Prague School terminology (cf. Lenerz
1977: 9ff.). Topics/themes, however, are known to favour positions rather far
to the left, e.g. in a left periphery relative to the base-generated order of the
core constituents of the verbal phrase (i.e. the verbal head and its arguments;
see Lenerz 1977:15ff.; Jacobs 2001:644). Lenerz demonstrates throughout his
1977 study that one of the main factors governing scrambling in the *Mittelfeld*
is pragmatic: namely, the establishment of a theme-rheme structure (cf. also
Reis 1987:150f.). And the special status of the subject in that respect is also
not surprising. The unmarked position of the subject is in the first *Mittelfeld*
position (Lenerz 1977:97ff.), which is, in fact, also the base-generated position
(Spec,VP; unmarked strings in the *Mittelfeld* are to be thought of as equivalent
to the base-generated strings; cf. Reis 1987: 154 contra Lenerz 1977:30), so it
suffices, in cases where the topic is the subject, to leave it there. If the topic is
not the subject, however, or if the topic is the subject and nothing prevents it
from moving further left, movement of the topic to Spec,CP (a movement to
the left periphery in Jacobs's sense) is clearly favoured. Lenerz makes pretty
much the same observation when he notes that the leftmost constituent in the
Mittelfeld is either the theme in a more general sense, or else what he calls the
'*Mitteilungszentrum*', which usually is the subject but in certain cases, with
psych-verbs, passives etc., typically not (Lenerz 1977:106ff.). *Mitteilungs-
zentrum* is defined as the entity which participates most closely in the
proposition of the sentence (Lenerz 1977:108); in the case of verbs which
assign an agent-role to their subject, the *Mitteilungszentrum* must be the
subject and inside the *Mittelfeld* no constituent can be moved in front of it
(Lenerz 1977:119; Reis 1987:150).

2.3   Other Processes

Besides P-kontrast there are two other properties which a constituent can have
in order to be eligible for *Vorfeld* positioning: brand-new information and
scene-setting.

Scene-setting is rather self-explanatory. Brand-new information is taken, in
the sense of Prince (1981), as information which is both discourse-new and

hearer-new, or also in the sense of Rochemont (1986: 52) as information which is not construable from the context.

A problem with this finding, at first glance, seems to be that it disturbs the neatness of the cases of *Vorfeldbesetzung* which were comparable to topicalization and inversion. Without this other process we could say that in the German *Vorfeld* two pragmatically different constructions are merged which in a language without a strong verb-second constraint, such as English, are syntactically distinct from each other. But on closer inspection, we see that English also offers a construction for the case of brand-new elements, which shares with both topicalization and inversion the properties that it involves non-canonical word order and that a constituent with certain well-defined properties is fronted to the topmost position in the clause. The construction to which I am referring is left-dislocation.

Left-dislocation is distinct from topicalization in that the movement of the fronted element does not leave a gap in the clause; rather a coindexed pronoun, an overt trace, so to speak, is left behind (Prince 1997). The contrast can be made clear from example (11) (after Prince 1997: 125 (9e); 129 (12; 14))), where (11a) is topicalization and (11b) is left-dislocation. There are different discourse issues involved in the choice of topicalization and left-dislocation (see Prince 1997); (11a) is felicitous in contexts where (11b) is not and vice versa, but I can leave that aside for the moment.

(11) a. She had an idea for a project. She would take three groups of mice. [**One**]$_i$ she'll feed [**e**]$_i$ mouse chow. [**The second**]$_i$ she'll feed [**e**]$_i$ veggies, and [**the third**]$_i$ she'll feed [**e**]$_i$ junk food.

   b. She had an idea for a project. She would take three groups of mice. [**One**]$_i$ she'll feed [**them**]$_i$ mouse chow. [**The second**]$_i$ she'll feed [**them**]$_i$ veggies, and [**the third**]$_i$ she'll feed [**them**]$_i$ junk food.

Left-dislocation can serve three distinct discourse functions, two of which are rather similar to or related to topicalization (Prince 1997). One function, which has nothing to do with topicalization — so-called 'simplifying left-dislocation' — is the function which is of interest in this context. Prince (1997: 124) defines this discourse function roughly as follows: When discourse-new information is introduced into a discourse and it is located in a phrase generated in a syntactic position disfavoured for new information, this phrase can be moved into clause-initial position, thus creating a separate processing unit for the phrase containing new information. An example of a simplifying left-dislocation can be seen in (12) (from Prince 1997: 121, (3)):

(12) It's supposed to be such a great deal. [The guy]$_i$, when he came over and asked me if I wanted a route, [he]$_i$ made it sound so great.

Simplifying left-dislocation in English and the remaining cases of *Vorfeldbesetzung* in German have something important in common: there is a

brand-new entity involved, and it is moved to a position at the top of the clause. Whereas in English this occurs in a construction with non-canonical word order, in German this movement can be taken as one flavour of *Vorfeldbesetzung* among others, a process which is compulsory anyway. This also goes for the other two constructions which were mentioned in this paper.

The only problem is that German has left-dislocation too, as shown in (13), which distinct from *Vorfeldbesetzung*; and it is not entirely clear under what circumstances left-dislocation is used in German. Altmann 1981, the standard account of left-dislocation and similar constructions in German, speaks noncommittally of 'thematicity-marking' („LV-Strukturen dienen primär der Thematisierung", 1981: 48), and treats left-dislocation on a par with *Vorfeldbesetzung* (he speaks of double *Vorfeldbesetzung*, assuming (wrongly; see (13b)) that left-dislocation automatically involves movement of the coindexed pronoun to the *Vorfeld* (1981: 162). Jacobs (2001) counts left dislocation (cases like (13a); taken from Altmann 1981: 147) and hanging topic left dislocation (cases like (13b)) under his rundown of constructions explicitly marking a topic-comment structure. I will leave this issue for further research, especially since it is not of crucial relevance in this context. The important issue is this one: in situations where English would employ (simplifying) left-dislocation, German can use the multi-functional means of *Vorfeldbesetzung*.

(13) a. [Dieser Raum]$_i$, [der]$_i$ macht mich wirklich depressiv.
      'This room, it really depresses me.'

   b. [Der Typ da]$_i$, ich würd' [dem]$_i$ keine zwei Meter über den Weg trauen.
      'That guy, I would not trust him a bit.'

The data might suggest that scene-setting can be seen as a subcase of brand-new information (see the examples in (14)) in that the information in scene-setting elements is as a rule discourse-new, usually also hearer-new in some respect. Then one could assume that it is by virtue of these elements being brand-new rather than setting the scene that they are moved preferably to the *Vorfeld*. However, let us abandon this assumption for a moment and think more about the nature of scene-setting.

Rochemont (1986: 55) points out that scene-setting elements are, quite in contrast to brand-new (and thereby Presentational Focus elements), always indirectly c-construable — that is, not noteworthy for the recipient, even if it is new information, since it serves only as a scene-setting device. Molnár (1991:183) notes that in languages which have a pre-specified position for topics this position is often filled with temporal and local specifications. And Jacobs (2001:649) points out that adverbials of spatial or temporal position – i.e. roughly what I have called scene-setting – share important properties with

archetypal topics in that they fulfil two semantic conditions of topics: information separation and the specification of a semantic variable of the verb, namely the situation variable.[3] This view is supported by the fact that in languages like Hungarian, in which the topic position is strictly sentence-initial (Molnár 1991: 135ff., 165), temporal and local adverbials can nevertheless occur in exactly that position (Molnár 1991:184; cf. Jacobs 2001: 649).

We have seen that the *Vorfeld* in German sentences can be used as a topic position if there is no kontrastive (and thus focus) element which competes with it. If scene-setting elements are topics in some sense (and in German they share properties with other proper topics, e.g. they can be left-dislocated; Jacobs 2001: 649), it is not surprising that they can compete for *Vorfeld* position as well.

But what about our idea that many English constructions involving non-canonical word-order correspond to just one construction, viz. *Vorfeldbesetzung* in German? Should we not expect some English construction to cover that sub-type of German *Vorfeldbesetzung*?

Yes, we should, and indeed there is an English construction which makes use of non-canonical word order which is confined to the introduction of scene-setting elements, namely Directional and Locative Inversion (see Rochemont & Culicover 1990: 69ff.).

A closer look at this construction, however, reveals that at least in English there are crucial differences to e.g. the construction which marks brand-new information, namely left-dislocation. One of the major differences is that Directional and Locative Inversion identifies the postverbal subject as focus (Rochemont & Culicover 1990: 24ff., 69). It is consequently not the focus which is fronted in this case. This is in sharp contrast to left-dislocation, which does not mark a phrase explicitly as focus. So perhaps it would be better to treat scene-setting as a fourth condition in its own right.

Both conditions under discussion, i.e. scene-setting and brand-new, as illustrated, respectively, in (14) and (15), override both centering ((14a), (15a)) and P-kontrast ((14b), (15b)). Again, a different word order would sound slightly deviant, as (16) shows, especially if Centers are involved, as in (16a,c).

A ranking of scene-setting and brand-new with respect to each other could not be extracted with certainty from the data and is hard to extract anyway, since it is often the case that scene-setting elements also offer brand-new

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[3] It should be noted here that Jacobs's view of topic does not at all coincide with the notion of backward-looking center in Centering Theory, in that topics can either be new or belong to the background (2001:645), whereas backward-looking centers *per definitionem* cannot present new information and must be part of the background. Therefore a classification of scene-setting elements as brand-new entities would not be contradicted by that.

information. It was obviously this fact which led me to treat these two conditions under one heading to begin with. There was only one case in which there were two discourse-new entities introduced into a sentence, one scene-setting, and one not. Here the scene-setting element was the one that was preferred for *Vorfeld*-movement, as shown in (17). But to conclude from this that scene-setting in general beats new information would be premature; I found at least one example in which the scene-setting element offered no new information and was not in the *Vorfeld*, outrun by a brand-new element which was moved to the *Vorfeld*, as shown in (18). The example comes from an article about Daniel Libeskind's proposal for the new World Trade Center, and in this context the date 9/11 would be evoked anyway, but was explicitly mentioned several times in the article.

(14) a. Zwar den weitesten Weg […] doch den sichersten […] nahm Simon Dach, dessen <u>Einladungen</u> diesen Aufwand ausgelöst hatten. ***Schon im Vorjahr*** […] waren **die vielen einladenden und den Treffpunkt beschreibenden Briefe** geschrieben […] worden.
'The farthest way, but the most secure Simon Dach took, whose <u>invitations</u> started this business. *<u>Already in the preceding year</u>* **the many letters, inviting and describing the meeting point**, had been written.'   (GrT 1, 21-22)

  b. Nicht nur ***der fast vollständig erhaltene Schnittzahnsaurier*** ist eine Besonderheit. ***Auf einer Fläche von sechzig Quadratmetern*** haben die Wissenschaftler ***die Skelette von mindestens sechs Fischsauriern***, Ichthyosaurier genannt, entdeckt.
'Not only *the themnodontosaur, preserved almost in its entirety*, is something special. *<u>On an area of 60 square meters</u>* the scientists have discovered *the skeletons of at least six fish-saurs*, so-called ichthyosaurs.'   (StZ 3, 48-49)
M = {Schnittzahnsaurier, 6 Ichthyosaurier}

(15) a. <u>Er</u> mahnte aber auch, eine ernst gemeinte Überprüfung <sc. der Wehrpflicht> dürfe nicht von der Alternativlosigkeit der Wehrpflicht ausgehen. ***Mit einem Haushalt von 24,4 Mrd. Euro***, der bis 2006 stabil bleiben soll, hat die Bundeswahr laut **Struck** eine ‚solide finanzielle Grundlage'.
'<u>He</u> also warned that a serious reconsideration <of conscription> must not take the lack of alternatives to conscription as a starting point. *<u>With an budget of 24.4 billion euros</u>* that should remain stable until 2006, the federal army has a sound financial basis, according to **Struck**.'
(StZ 1, 17-18)

b. Diese sinnstiftende Zusammenfassung ist indessen nicht das Werk eines bewußt komponierenden einzelnen Künstlers, sondern vollzieht sich anonym im Volk. ***Joseph Bédier und Philipp August Becker*** versuchten ***demgegenüber (sc. the approach described in the last sentence)***, der modernen Konzeption des schöpferischen Individuums auch im Mittelalter zum Durchbruch zu verhelfen. 'This sense-creating composition is however not the work of a consciously composing individual artist but happens anonymously inside the population. *Joseph Bédier and P.A. Becker* tried *instead* to promote the modern concept of the creative individual also for the Middle Ages.'   (HL 2, 10-11)

(16) a. Zwar den weitesten Weg […] doch den sichersten […] nahm Simon Dach, dessen <u>Einladungen</u> diesen Aufwand ausgelöst hatten. #**Die vielen einladenden und den Treffpunkt beschreibenden Briefe** waren ***schon im Vorjahr*** geschrieben worden.

b. Nicht nur ***der fast vollständig erhaltene Schnittzahnsaurier*** ist eine Besonderheit. #***Die Skelette von mindestens sechs Fischsauriern***, Ichthyosaurier genannt, haben die Wissenschaftler ***auf einer Fläche von sechzig Quadratmetern*** entdeckt.

c. <u>Er</u> mahnte aber auch, eine ernst gemeinte Überprüfung <sc. der Wehrpflicht> dürfe nicht von der Alternativlosigkeit der Wehrpflicht ausgehen. #Laut **Struck** hat die Bundeswehr ***mit einem Haushalt von 24,4 Mrd. Euro***, der bis 2006 stabil bleiben soll, eine ‚solide finanzielle Grundlage'.

d. Diese sinnstiftende Zusammenfassung ist indessen nicht das Werk eines bewußt komponierenden einzelnen Künstlers, sondern vollzieht sich anonym im Volk. #***Demgegenüber*** versuchten ***Joseph Bédier und Philipp August Becker***, der modernen Konzeption des schöpferischen Individuums auch im Mittelalter zum Durchbruch zu verhelfen.

(17) Eine eigene musikalische Grammatik, aufgrund derer wir über den weiteren Verlauf der Tonfolge Erwartungen aufbauen. ***Am Max-Planck-Institut für Neuropsychologie in Leipzig*** ist ***der Musikwissenschaftler Stephan Kölsch*** auf diese musikalische Syntax gestoßen.
'An autonomous musical grammar, by which we build up expectations about the further development of the melody. *At the MPI for neural psychology in Leipzig   the musicologist Stephan Kölsch* discovered this musical syntax.'   (R2 A6, 5-6)

(18) *Mehr als 100000 Jobs* sind *nach dem 11. September* in Manhattan
      verloren gegangen.
      '*More than 100000 jobs* have been lost *after 9/11*.'   (StZ 6, 19)

It is interesting to note that, whereas in the case of centering there is still a strong tendency to put the C_b as far to the left as possible, in the case of P-kontrast this position seems not to be preferred, as suggested by (14b). This is not surprising, given the tendency of thematic or topic-elements to permeate as far to the left as possible — a tendency not shared by P-kontrastive elements, which are not necessarily thematic and sometimes can even be focalized.

3   Conclusions

The original aim of this paper was to investigate whether Centering Theory can make predictions about which constituent is moved to the *Vorfeld* in cases where the expression in the *Vorfeld* is referential. It seems from the data as if Centering Theory is in principle at work and tries to put the C_b into the *Vorfeld* position, but can be overridden by other processes (cf. for a different conclusion Rambow 1993: 5). The most important process seems to be *kontrast* in the sense of Vallduví & Vilkuna (1998); also important is the exposition of *brand-new information* (in the sense of Prince 1981) and scene-setting elements. Both scene-setting and brand-new information override P-kontrast for *Vorfeld* eligibility. Let me illustrate this with the diagram in (19).[4]

(19)
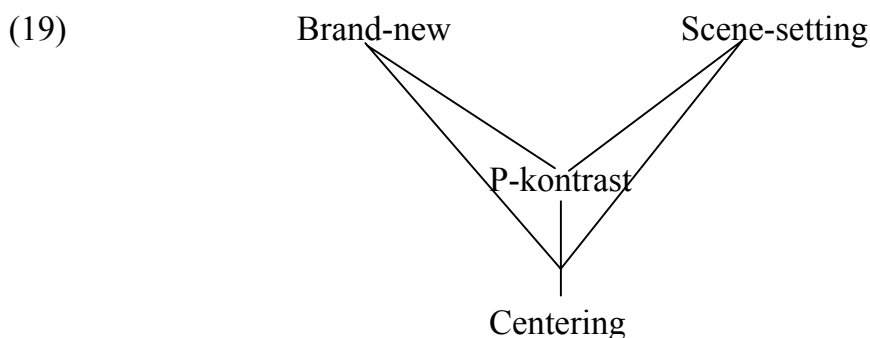
The *Vorfeld* position thus seems to be pre-specified for contrastive or brand-new elements. At the same time, there is the tendency to put the topic as far to

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[4]This diagram type, also called a Hasse diagram, was originally developed for displaying poset relations (following the two rules: (1) If $x < y$ in the poset, then the point corresponding to x appears lower in the drawing than the point corresponding to y, and (2) The line segment between the points corresponding to any two elements x and y of the poset is included in the drawing iff x covers y or y covers x. (Skiena 1990), and is used in such different fields as chemistry and linguistics (e.g. Optimality Theory, to show the ranking of constraints). I make use of the following interpretation of the diagram, which differs slightly from the original: Each line is to be read as 'x is higher-ranked than y', with x literally higher than y.

the left as possible. Possible conflicts between these requirements are solved as follows: If there are contrastive, scene-setting or brand-new elements present, they are moved into the *Vorfeld*. Only if no such elements are present can the C_b be put into the *Vorfeld*. It is interesting to note that even if the *Vorfeld* is already occupied there is a tendency to put the C_b as far to the front as possible, so that it occupies the first place in the *Mittelfeld* (i.e. the area between $C°$ and stranded $V°$-elements). If the C_b is the subject, this position seems to be obligatory. This finding is expected, given two competing possibilities: that *Vorfeldbesetzung* in German could work along the lines of English inversion or along the lines of English topicalization.

Linking back to the question asked in the beginning whether German *Vorfeldbesetzung* is like English inversion or English topicalization, we can see that both views are true, but that when the two requirements – i.e. the requirements that lead to topicalization versus the ones that lead to inversion – come into conflict, topicalization beats inversion/centering.

Abstracting away from the starting point, Centering Theory, we could state the following as the real conclusion of this paper: German *Vorfeldbesetzung* can serve four functions: (i) marking a backward-looking center; (ii) marking a scene-setting element; (iii) marking an element in P-kontrast with other elements; or (iv) marking new information which has been base-generated in a position disfavoured for new information. Each of these four functions is in English assigned a separate construction. That is, marking of a backward-looking center is assigned inversion (under certain additional circumstances); marking of a scene-setting element can be assigned locative inversion; marking of an entity in a poset relation (which is more or less comparable to P-kontrast in German) is assigned topicalization; and marking of new information is assigned left-dislocation. What these English constructions share is that they all involve non-canonical word order and the constituent which is marked for the respective pragmatic function is moved to sentence-initial position. For German it would be impossible to disambiguate these four constructions due to the verb-second constraint, which makes sure that only one constituent is moved to preverbal position so that a distinction between three constructions and a more or less 1-to-1 assignment of functions to these constructions as in English – both kinds of inversion with the word order X – V – S; topicalization with the word order X – S – V and Left dislocation with the word order $X_i – S_{(i)} – V – Y_{(i)}$ – could not be made. Another way to look at this is that behind German *Vorfeldbesetzung* three potentially different constructions are hidden, which surface as the same construction due to a particularity of German syntax, viz. the verb-second constraint. To take a cross-linguistic view, one could say that German *Vorfeldbesetzung* combines the properties of three constructions which in other Germanic languages, like English, would be distinct from each other.

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Texts used as Corpus:

Genre of text	Examples	Sigillum	Number of selections	Number of sentences
Literature	Günther Grass: Das Treffen in Telgte	GrT	3	68
	Friedrich Dürrenmatt: Der Richter und sein Henker	DüR	4	61
Scientific publications	H. Krauss, ed.: Neues Handbuch der Literaturwissenschaft, vol. 7	HL	2	36
	J.Bumke: Geschichte der deutschen Literatur im hohen Mittelalter	DLM	1	32
Newspaper	Stuttgarter Zeitung (Feb. 22; 28, 2003)	StZ	6	188
Scientific presentations	SWR2 Aula (fromwww.swr2.de)	Au	4	62
Letters	Stuttgarter Zeitung (Feb. 21; 24; 25, 2003)	E	9	85
Radio text	SWR2 Wissen (from www.swr2.de)	R	11	90

Discourse Particles in the Left Periphery

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Abstract

This article analyses the German discourse particle *wohl* 'I suppose', 'presumably' as a syntactic and semantic modifier of the sentence types declarative and interrogative. It is shown that *wohl* does not contribute to the propositional, i.e. descriptive content of an utterance. Nor does it trigger an implicature. The proposed analysis captures the semantic behaviour of *wohl* by assuming that it moves to SpecForceP at LF, from where it can modify the sentence type operators in Force^0 in compositional fashion. Semantically, a modification with *wohl* results in a weaker commitment to the proposition expressed in declaratives and in a request for a weaker commitment concerning the questioned proposition in interrogatives. Cross-linguistic evidence for a left-peripheral position of *wohl* (at LF) comes from languages in which the counterpart of *wohl* occurs in the clausal periphery overtly. Overall, the analysis sheds more light on the semantic properties of the left periphery, in particular of the functional projection ForceP.

1 Introduction

This paper brings together the old problem of the syntactic, semantic and pragmatic analysis of discourse particles with formal approaches to the syntax and semantics of the left periphery. In particular, the German discourse particle *wohl* in (1b) is analysed as a modifier on force (or sentence type) operators, such as *declarative* and *interrogative*. As such, *wohl* must be located in the left periphery at LF.

(1) a. Hein ist auf See.
         Hein is at   sea
         'Hein ist at sea.'

     b. Hein ist *wohl* auf See.
         Hein is   at   sea
         = Speaker assumes that Hein is at sea

The discussion is to be seen in the context of formal semanticists' renewed interest in discourse particles. These are argued to be special in that they do not contribute to the descriptive, i.e. propositional or truth-functional, content of an utterance, but to its expressive content (see Kratzer 1999 and von Fintel

2002 for discussion). The present analysis of *wohl* argues that at least part of the linking between descriptive and expressive content takes place compositionally in the left periphery of the clause, more specifically in the domain of ForceP. The analysis thus sheds more light on the semantic properties of this functional domain that was postulated by Rizzi (1997) on independent syntactic grounds.

The paper is organised as follows: The remainder of this section gives a brief overview of the main characteristics of the discourse particle *wohl* as found in the literature (see e.g., Abraham 1991; Asbach-Schnitker 1977; Doherty 1979, 1985; Jacobs 1991; Molnár 2001; Weydt 1969). Sections 2 to 4 present a number of observations that are relevant for the analysis. Section 2 shows that the interpretation of *wohl* is sensitive to sentence types. Section 3 shows that *wohl* does not form part of the proposition. Section 4 shows that *wohl* does not trigger conventional implicatures. The syntactic and semantic analysis of the discourse particle *wohl* is presented in section 5. Section 6 briefly addresses a number of open issues. Section 7 is the conclusion.

1.1   Surface Syntax

In surface syntax, *wohl* occupies positions that are typical for adverbial elements (cf. Jacobs 1991). In (2a), *wohl* occurs in the middle field at the left edge of VP, preceding all other adverbials. In (2b), it occurs as a DP-internal modifier.

(2)   a.   dass Hein *wohl* [$_{VP}$ heute [$_{VP}$ hier [$_{VP}$ ein Mädchen getroffen hat]]].
        that Hein   today   here   a   girl   met   has
        '…that Hein seems to have met a girl here today.'

    b.   der wohl attraktiv-ste   Matrose
        the   attractive-superl sailor
        'the presumably most attractive sailor.'

The surface-syntactic distribution of *wohl* indicates that it has not lost its original categorial status as an adverb despite its special semantic status (cf. Molnár 2001). In its original adverbial use, still attested in cases such as (3ab), *wohl* seems to be cognate to English *well*.

(3)   a.   Der König hat *wohl* geruht.
        the king   has well   rested
        'The king slept well.'

    b.   der wohl erzogene Junge
        the well raised   boy
        'the boy that was brought up well'

1.2 Semantic Contribution: A First Approximation

As a first approximation, *wohl* expresses a certain degree of epistemic uncertainty about the proposition of the clause it occurs in. It is used to express hypothetical statements rather than absolute certainties. It follows that an utterance containing *wohl* is infelicitous in contexts expressing absolute certainty, as shown in (4a). Nor can it be embedded under a verb expressing absolute certainty, as shown in (4b).

(4) a. #Ich weiß genau, wo Hein ist. Er ist *wohl* auf See
      I know for sure where Hein is he is at sea
      # 'I know for sure where Hein is. Presumably, he is at sea.'

   b. *Ich weiß genau, dass Hein *wohl* auf See ist
      I know for sure that Hein at sea is

1.3 Distributional Restrictions

Another striking fact about *wohl* is that it is restricted to sentence types that are evaluated at epistemically accessible indices. Such sentences are about what can be known (see Lohnstein 2000). Consequently, *wohl* is found in declarative and interrogative sentences, as in (5a, b). In contrast, it cannot occur in imperative sentences, which are evaluated at factive indices, referring to what is or should be the case, as shown in (5c).

(5) a. Hania hat wohl auch ihre Chefin eingeladen. *declarative*
      Hania has also her boss-fem invited
      'Presumably, Hania has invited her boss, too.'

   b. Hat Hania wohl auch ihre Chefin eingeladen? *interrogative*
      Has Hania also her boss-fem invited
      ≈ 'What is your guess: Did she or didn't she invite her boss?'

   c. *Sei wohl still! *imperative*
      be quiet

The ungrammaticality of (5c) suggests that *wohl* operates on another modal base than the modes of imperative clauses, namely on the epistemic base (what can be known). This conclusion is consistent with the observation that *wohl* expresses epistemic uncertainty from section 1.2.

   In the next three sections, I will introduce three more properties of *wohl* that will come to play a crucial role in the analysis.

2   Sentence Type Sensitivity

Apart from a restriction to certain sentence types, *wohl* exhibits a second kind of sentence type sensitivity. The 'epistemic reference point' for the evaluation of *wohl* depends directly on the type of sentence that *wohl* occurs in. The term 'epistemic reference point' here refers to that discourse participant (speaker, addressee, or both) whose epistemic state or knowledge is under discussion.

First, we find that the epistemic reference point of *wohl* in declarative clauses is the speaker (cf. Abraham 1991). This means that *wohl* in declaratives expresses uncertainty on the part of the speaker. We have seen in (4) that *wohl* is infelicitous in a declarative utterance if the speaker is absolutely certain about the proposition expressed by the utterance. In addition, (6) shows that for licensing *wohl* in declaratives it is not sufficient that one of the discourse participants (here the addressee A) is uncertain about the proposition under discussion if it is not the speaker.

(6)   SPEAKER (B) CERTAIN, ADDRESSEE (A) UNCERTAIN:
    A: Where is Hein? I have a suspicion where he is, but I am not sure.
    B: #Ich weiß, wo   Hein ist. Er ist *wohl* auf See.
       I   know where Hein is he is   at sea.

The picture changes with interrogatives. Here, the epistemic reference point of *wohl* is undetermined as long as it is not the speaker alone. Rather, an interrogative clause containing *wohl* indicates that the addressee does not know the answer for sure (cf. Asbach-Schnitker 1977). Given this, there are two possible ways to make a question with *wohl* felicitous. In the first case, both addressee and speaker of the question are uncertain about the answer. This is illustrated in (7a), uttered in a context where speaker and addressee are lost and wonder about the right way out. In the second case, only the addressee of the question is uncertain about the answer. This is illustrated in the school test situation in (7b), where the teacher can be safely assumed to know the answer to his question.

(7)   a.   BOTH ADDRESSEE (B) AND SPEAKER (A) UNCERTAIN:
      A to B: Ist dies *wohl* der richtige Weg?
           Is this   the right way
      ≈ 'Would /could this be the right way?'

    b.   ONLY ADDRESSEE UNCERTAIN:
      Teacher to student: Was ist *wohl* die Hauptstadt von Tansania?
                 what is   the capital   of T.
      ≈ 'What would be the capital of Tansania?'

In contrast, *wohl* is infelicitous in an interrogative clause whenever the addressee can be assumed to know the answer for sure. Typical contexts for this are so-called 'expert contexts', where the addressee is taken to be an

expert concerning the question under discussion. A typical example is the airline context from Gunlogson 2001 in (8).

(8)   A to an airline official: #Geht   der Flug wohl um 17.10 Uhr?
                                leaves   the flight   at 5.10 pm

Interestingly, the epistemic reference points in (6) to (8) are identical to those of sentences not containing *wohl*. Doherty (1985:19) observes that the epistemic reference point of declaratives is the speaker, whereas the epistemic reference point of interrogatives is undetermined as long as it is not the speaker alone. If so, *wohl* simply inherits its epistemic reference point from the sentence type. In order to capture this dependency, one can assume that *wohl* stands in a tight structural relation to wherever the sentence type is structurally encoded. Following Rizzi (1997), we might say that a candidate for the structural encoding of sentence types is the force projection in the left periphery (see section 5).

3   *Wohl* Does Not Form Part of the Proposition

This section shows that the meaning of *wohl* does not contribute to the proposition expressed by an utterance, where proposition is to be understood as the truth-conditional, descriptive aspect of the meaning of the utterance. In this, *wohl* differs from (epistemic) modal auxiliary verbs and modal adverbials such as *wahrscheinlich* 'probably' and *vermutlich* 'presumably'. There are two kinds of evidence that *wohl* does not form part of the proposition.

3.1   Intervention Effects with *wohl*

First, the presence of *wohl* leads to intervention effects with variable binding. The data in (9) show that *wohl* cannot intervene between a bound variable and its binder.[1] In (9a), *wohl* intervenes between a universal quantifier over events and the event variable of the embedded clause. In (9b), *wohl* intervenes

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[1] An apparent exception to this generalisation is the grammaticality of *wohl* in restrictive relative clauses. Sentence (i) is grammatical even though *wohl* appears to intervene between the raised relative pronoun and its bound trace.

(i)   Die Frau   schätzte die Punktzahl, die₁   sie *wohl* t₁ erreichen würde.
      the woman guessed the score   which she   get   would
      'The woman guessed at the score that she would presumably get.'

Section 6 presents an argument to the effect that the relative LF positions of *wohl*, the relative pronoun and its trace in (i) are such that *wohl* does not intervene between the latter two.

between the universal quantifier in the matrix clause and the bound subject pronoun in the embedded clause.[2]

(9) a. *_Wann immer_$_x$ ich _wohl_ e$_x$ in Rom war, ging ich ins   Kino.
          whenever   I   in R.   was went I   to-the movies
          INTENDED: 'Whenever I was presumably in Rome, I went to the movies.'

     b. *_Jeder_$_x$ Postler   wurde entlassen, weil   _er_$_x$ _wohl_ in der DKP war.
          each postman   was   fired   because he   in the DKP was
          INTENDED: 'Each postman was fired since he was presumably in the DKP.'

The relevant structural configurations are schematised in (10):

(10) a. whenever$_x$ [… wohl … e$_x$] [… e$_x$ …]
      b. each$_x$ ... [… x …wohl]

Notice that the ungrammaticality of (9a, b) has nothing to do with _wohl_ occurring in an embedded clause (see also Asbach-Schnitker 1977). This is shown by the grammaticality of (11), which is structurally similar to (9b) but involves no binding,

(11) Jeder Postler   wurde entlassen, weil die Post _wohl_ privatisiert wird.
      each postman   was   fired   since the post   privatised is
      'Each postman was fired because the post will presumably be privatised.'

Similar intervention effects are observed with the discourse particle _ja_ by Kratzer (1999). Compare (12) with (9a) above.

(12) a. *Wann immer ich _ja_ in Rom war, ging   ich ins   Kino.
           whenever   I   in R.   was went I   to-the movies
      b. whenever$_x$ [… ja … e$_x$] [… e$_x$ …]

Kratzer's explanation for the ungrammaticality of (12) is as follows: the discourse particle _ja_ expresses an epistemic attitude of the speaker, namely that the proposition p expressed by an utterance _ja p_ holds and that the facts described by p should — for all the speaker knows — be known to the hearer. Kratzer further assumes that epistemic attitudes in general cannot operate on open propositions, i.e. propositions containing unbound variables as in (12). This is because speakers can only entertain epistemic attitudes towards propositions that are fully specified as to when, where, and with whom. For this reason, the representation in (12b), in which _ja_ combines with an open

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[2] Sentence (9b) is grammatical on another reading on which _wohl_ takes scope over the entire causal connection of matrix clause and causal clause, meaning something like 'The speaker assumes that the reason for each employee's being fired is his or her membership in the German Communist Party.'

proposition containing the variable e_x, cannot be interpreted, resulting in ungrammaticality.

The fact that *wohl* shows the same intervention effects with binding as *ja* suggests that *wohl* cannot operate on open propositions with unbound variables either. The ban on combining *wohl* with open propositions receives a straightforward explanation if *wohl* expresses an epistemic attitude, such as ASSUME (see section 5), which can operate only on fully specified, i.e. closed propositions. If so, *wohl* selects for propositions instead of forming part of them.

3.2 *Wohl* Scopes over Question Formation

The semantic behaviour of *wohl* in interrogative clauses, such as yes/no questions, supports the conclusion reached in the previous section. This section shows that *wohl* obligatorily scopes over (proto-)question formation, which in turn takes as its input the proposition expressed by the question. It follows that — at least at the level of semantic representation — *wohl* must be located in a position higher than the level of propositions.

With the noteworthy exception of Asbach-Schnitker (1977), most existing accounts of the discourse particle *wohl* have focused on declarative clauses. Doherty (1985: 80) even denies the possibility of *wohl* in yes/no questions altogether, contrary to fact (see e.g. (5b) above). The focus on *wohl* in declaratives is unfortunate because declaratives are inconclusive regarding the semantic location of *wohl*. This is because the result of applying *wohl* to a proposition *can* in principle be expressed as another proposition. Consider, for instance, the propositional paraphrase of (13).

(13) Peter ist *wohl* zuhause.
    Peter is   at.home
    'The speaker assumes that Peter is at home.'

Things are different in questions, however. Semantically, questions can be modelled as sets of alternative propositions that are built on the basis of the proposition expressed by the question (Hamblin 1973; von Stechow 1991). For instance, the meaning of the yes/no question in (14a) can be represented as in (14b) (after proto-question formation; see Karttunen 1977) and (14c) (after addition of the illocutionary question operator '?')

(14) a. Does it rain?

    b. $\Rightarrow$ {it rains, it does not rain}

    c. $\Rightarrow$? {it rains, it does not rain}
        $\approx$ 'Tell me which of the alternatives is correct: It rains or it doesn't.'

The input for the formation of the proto-question in (14b) is the propositional content of the question in (14a): namely, the proposition *it rains*.

The semantics of yes/no questions allow for the following prediction concerning the semantic interpretation of *wohl*:

(15) If *wohl* made up part of the propositional meaning of an utterance, a proposition containing *wohl* should behave just like other propositions under question formation.

In particular, the semantic contribution of *wohl* should be part of the input for proto-question formation. This prediction is not borne out, as shown by the following argument. If the prediction in (15) were correct, we would expect (16a) to have the semantic representation in (16b). In particular, we would expect the semantic contribution of *wohl*, i.e. the epistemic attitude ASSUME, to take scope under question formation, and hence under negation (the relevant elements are indicated in bold face).

(16) a. Ist Hein *wohl* aufSee?
         Is Hein   at sea

     b. ?{assume(addressee,Hein at sea),¬assume(addressee,Hein at sea)}
         ≈'Tell me which is correct:
          You assume that H. is at sea,or you don't assume that H. is at sea'

As the paraphrase shows, (16b) represents a question about the epistemic state of the addressee, rather than about Hein's whereabouts. It simply questions the addressee's assumptions concerning Hein's being at sea. Therefore, (17) (or rather its German equivalent) should be a felicitous answer to (16a), contrary to fact.

(17) No, I don't assume that Hein is at sea   (# as an answer to (16a))

The answer in (17) is compatible with the addressee having no assumptions whatsoever about Hein's whereabouts, but this is not what somebody who asks (16a) is interested in.

Rather, he or she is interested in the whereabouts of Hein, at the same time allowing for a certain degree of uncertainty on the part of the addressee. This is captured by the semantic representation in (18), with *wohl* scoping over question formation and negation.

(18) ? **ASSUME** {Hein is at sea, ¬ Hein is at sea}
     ≈'Tell me your assumption concerning Hein's being at sea or his not being at sea.'

The representation in (18) correctly predicts that the following are felicitous answers to (16a) (see Asbach-Schnitker 1977: 50):

(19) *vermutlich (ja/nein)* 'presumably yes/no', *wahrscheinlich (ja/nein)* 'probably yes/no', *Ich denke (ja/nein)* 'I think/guess so/not' …

Summing up, it was shown that structures such as (16b) with *wohl* scoping under question formation cannot be the correct semantic representation of yes/no questions containing *wohl*. The correct representation is given in (18), with *wohl* scoping over question formation. Now, if question formation takes scope over propositions (mapping them onto sets of propositions), and if *wohl* takes scope over question formation, it follows that *wohl* cannot form part of the proposition, but must be located in a higher position semantically.

Notice finally that the semantic behaviour of *wohl* in questions differs from that of (epistemic) modal auxiliaries and modal adverbials. Unlike *wohl*, the latter take scope under negation, and hence under question formation in interrogatives. This is illustrated for the epistemic modal auxiliary *müssen* 'must' in (20a), which is paraphrased as (20b).[3]

(20) a. Muss Hein in das Unwetter   geraten?
        must Hein in the thunderstorm get
        'Must Hein get into the thunderstorm?'

    b. Is it necessarily so that Hein gets into the thunderstorm, or is it *not necessarily* so that Hein gets into the thunderstorm?   NEG >> MUST

The data in (20a, b) show that modal expressions do form part of the proposition, clearly setting these apart from the discourse particle *wohl*. Only *wohl* (and possibly other discourse particles) does not form part of the proposition, something that any analysis of such expressions must account for.

4 *Wohl* Triggers No Conventional Implicatures

In the preceding section, it was shown that the semantic scope of *wohl* is very high, with *wohl* outscoping even question formation. This makes it, at first

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[3] Unfortunately, Y/N-questions with modal adverbials such as *vermutlich* 'presumably', which at first sight is rather close in meaning to *wohl*, are only marginally acceptable. To the degree that they are acceptable, they behave like yes/no questions with epistemic modal auxiliaries. This is shown by (i), in which the modal adverbial takes scope under negation.

(i)   ??Wird Hein *vermutlich* in ein Unwetter   geraten?
        will Hein presumably in a   thunderstorm get
        'Tell me what is correct: It is presumably so that Hein will get into a thunderstorm, or it is *not presumably* so that Hein will get into a thunderstorm.'

Without getting into the reasons for why (i) is only marginally acceptable (see Doherty 1985: 41 for a possible explanation), it is important to point out that substitution of *wohl* for *vermutlich* in (i) results in wellformedness. This goes to show that the two expressions differ despite initial appearances to the contrary.

sight, look similar to another class of expressions that also outscope question formation. The class in question is the class of expressions that trigger conventional implicatures, e.g. expressives such as *verdammte* 'damned', parentheticals such as *wie du behauptest* 'as you claim', and particles triggering implicatures such as *auch* 'also'. Following Karttunen & Peters (1979), these elements can be analysed as contributing to an independent semantic level of implicature that stands next to the level of asserted meaning: <ASS, IMPL>.

   Looking at how expressions that trigger implicatures behave in interrogatives, (21a) shows that the expressive *verdammte* scopes over question formation. This is expected if the meaning of *verdammte* is processed at a semantic level different from that of question formation, as sketched in (21b).

(21) a. Hast   du den *verdammten* Hund gesehen?
        Have   you the damned   dog   seen
        'Have you seen that damned dog?'

     b. <[[Have you seen that dog z?]], speaker does not like z>
             questioned   implicated   meaning

Given the similar behaviour of *wohl* and implicature-triggering expressions in questions, one could falsely assume that *wohl*, too, contributes its meaning to an independent semantic level. On this line of reasoning, it would do so by triggering a conventional implicature to the effect that the addressee of the question is not absolutely sure about his or her answer. This is illustrated in (22).

(22) Potential semantic analysis of questions with *wohl* (to be rejected!)
     [[wohl p?]]=   < ?p,   addressee is not sure concerning p>
             questioned   implicated   meaning

This section argues that, despite first appearances, the discourse particle *wohl* should not be treated on a par with expressions that trigger implicatures. Consequently, it should not be taken to contribute to an independent semantic level of implicature. The argument proceeds by showing that *wohl* differs from elements triggering implicatures in two important respects.

4.1   Scopal Behaviour

The first difference concerns the scopal behaviour in embedded contexts. As the following examples show, expressives (e.g. (23)), parentheticals (e.g. (24)), and particles that trigger implicatures (e.g. (25)) can or must scope out of embedded clauses (see, e.g., Karttunen & Peters 1979; Potts 2002a, b).

(23) a. Bush sagt, dass die *verdammten* Republikaner Hilfe   verdienen.
         Bush says   that the damned   Republicans support deserve

   b. <B. says that the __ Rep.s deserve support; *Speaker dislikes the Rep.s*>

(24) a. Wenn der Smutje, *wie ich meine,* betrunken ist, gibt es kein Essen.
         if   the cook   as   I think   drunk   is there is no food

   b. <If the cook __ is drunk, there will be no food; *I think the cook is drunk*>

(25) a. Der Kapitän weiß, dass der Smutje *auch* betrunken war.
         the captain knows that the smutje also drunk   was

   b. <The capt. knows that the cook__was drunk; *somebody else was drunk*>

Since the semantic contribution of all these expressions is processed at an independent semantic level of implicature, such insensitivity towards embedding does not come as a surprise.

Unlike the above expressions, though, *wohl* never scopes out of embedding contexts. This is shown in examples (26)-(28). (26a) does not say that the speaker is uncertain as to whether the SPD deserves support. Likewise, (27a) does not say that the speaker has any assumptions about the cook's being or not being drunk. And in (28a), *wohl* has to be interpreted with respect to the epistemic state of the matrix subject, leading to incompatibility with the matrix verb *wissen* 'to know'.

(26) a. Schröder sagt, dass die SPD *wohl* Hilfe   verdient.
         Schröder says that the SPD   support deserves

   b. ≠<S. says that the SPD__deserves support; *speaker unsure if the SPD deserves support*>

(27) a. *?Wenn der Smutje wohl betrunken ist, gibt es   kein Essen.
         if   the cook   drunk   is   there is no   food

   b. ≠<If the cook__is drunk, there will be no food; *speaker unsure if the cook is drunk*>

(28) a. *Die Deern weiß,   dass Hein wohl auf See ist.   (cf.4b)
         the girl   knows that Hein   at sea   is

   b. ≠<The girl knows that Hein__is at sea; *speaker unsure if Hein is at sea* >

The different scope taking behaviour of *wohl* therefore suggests that it does not trigger a conventional implicature.

4.2 *Wohl* Does Not Introduce a Surplus Meaning

The second difference concerns the fact that all expressions that trigger conventional implicatures add a second level of meaning to the descriptive content asserted by a sentence. This was already illustrated in (23)-(25). One could say that these expressions contribute a surplus value to the mere propositional content of a clause. This state of affairs is schematised in (29), where α stands for some implicature-triggering expression.

(29) $[[\ [_p \ ....\alpha...] \ ]] = < [[p - \alpha]], \quad [[\ \alpha \ ]]>$
        asserted   implicated meaning

According to (29), the meaning of a sentence containing an implicature-triggering expression α equals the meaning of the sentence without α plus the meaning of α.

The same does not hold for *wohl*. Crucially, a sentence containing *wohl* does not say that the state of affairs described by the sentence without *wohl* holds. Rather, the presence of *wohl* has the effect that the state of affairs described by the sentence is still unresolved. To give an example, a felicitous use of (1b), repeated as (30a), does not allow for the conclusion that Hein is indeed at sea, whatever the precise meaning of *wohl*:

(30) a. Hein ist *wohl* auf See.
          Hein is   at   sea

     b. *<Hein is __ at sea, [[wohl]]>

Summing up this section, it was shown that there are good reasons not to treat *wohl* as an expression that triggers conventional implicatures. First, the scopal behaviour of *wohl* is not as free as that of typical implicature-triggering expressions. This argues against processing the meaning of *wohl* at an independent semantic level of implicatures. Second, unlike implicature-triggering expressions, *wohl* does not add meaning to the descriptive content of an utterance. Rather, the presence of *wohl* seems to change the kind of propositional commitment towards this descriptive content (Green 2000). It is this latter intuition that underlies the semantic analysis to be put forward in the following section.
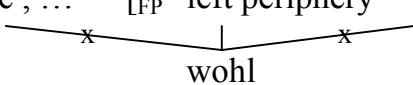
5 *Wohl* as a Modifier on Sentence Type Operators

This section presents the syntactic and semantic analysis of *wohl*. It is argued that *wohl* semantically modifies sentence types, or rather those elements that encode the sentence type structurally. As indicated at the end of the previous section, its semantic contribution consists in expressing a particular kind of propositional commitment. I further assume for declarative and interrogative

clauses that their sentence type is encoded in the form of the privative features *decl(arative)* and *int(errogative)*. Since these features are located in the head of a functional projection in the left periphery of the clause, *wohl* has to move there covertly if it is to modify them. Somewhat anticipating the discussion to follow, the two main ideas behind the analysis are given in (31):

(31) a. Semantically, *wohl* indicates a particular kind of propositional commitment. (Green 2000)

   b. Syntactically, *wohl* moves to the specifier of the functional projection ForceP at LF. (Rizzi 1997)

The assumption that *wohl* is interpreted in a high peripheral position explains its — at first sight contradictory — scopal behaviour. On one hand, we have seen that *wohl* does not form part of the proposition and must be interpreted above proto-question formation (see section 3). This observation is accounted for if *wohl* is interpreted in a high functional projection above the sentence type feature. On the other hand, we have seen that its scopal behaviour is not as free as that of expressions that trigger conventional implicatures. Again, this observation is accounted for if *wohl* is interpreted in a high functional projection but still inside the clause. This state of affairs is summarised in (32):

(32)   Implicature , …   [$_{FP}$ left periphery   [$_{IP}$ proposition]]

                                  x   x

                                           wohl

5.1 Semantic Assumptions

In section 4.2, it was already mentioned that sentences containing *wohl* are weaker in their assertive force than sentences not containing *wohl*. From *wohl p* it does not follow that *p*, but only that *p* is not implausible. In other words, the presence of *wohl* in an utterance *U* prevents a 'strong commitment' to the proposition *p* expressed by *U*, where 'strong commitment' here roughly corresponds to Stalnaker's (1978) notion of 'assertion'.

   Following Stalnaker, an assertion normally introduces a proposition *p* into the Common Ground (CG), where CG is the set of assumptions mutually accepted by the discourse participants. By way of example, an utterance of (33a) adds the proposition *p* in (33b) to the CG_i in (33c), yielding the new or updated CG_j in (33d).

(33) a. Hein ist auf See.
       Hein is   at   sea

   b. p = [[Hein is at sea]]

   c. CG_i = {…, p_x, p_y, p_z, …}   (CG before utterance of (33a))

d. $CG_j = \{\ldots, p_x, p_y, \mathbf{p}, p_z, \ldots\}$ (CG after utterance of (33b))

The introduction of *p* into the CG is informative because it reduces the number of possible worlds that are compatible with the CG. Before an utterance of (33a), the CG is compatible with worlds in which Hein is at sea as well as with worlds in which he is not. After the utterance of (33a), the CG is only compatible with the former.

An utterance of *wohl p*, on the other hand, is not informative in the same sense. Unlike in the case of normal assertion (or: strong commitment), it does not lead to an introduction of *p* into the CG. Rather it leads to the introduction of a different object, namely a speaker's *x* hypothetical commitment to *p*, here abbreviated as ASSUME(x,p).

(34)   a.   Hein   ist *wohl* auf See.
            Hein   is   at   sea

    b.   p = [[Hein is at sea]]

    c. $CG_i = \{\ldots, p_x, p_y, p_z, \ldots\}$ (CG before utterance of (34a))

    d. $CG_j = \{\ldots, p_x, p_y, \mathbf{ASSUME(x,p)}, p_z, \ldots\}$ (CG after utterance of (34b))

As in (33), the CG before an utterance of (34a) is compatible with worlds in which Hein is at sea and with worlds in which he is not. Unlike in (33), however, the CG after the utterance of (34a) is still compatible with both types of worlds. The utterance of (34a) is informative only in so far as the CG is incompatible with worlds in which the speaker x does not profess a hypothetical commitment to p.

In brief, an utterance of *wohl p* differs from ordinary assertion in that it does not express a strict commitment towards *p*. It only expresses a weaker commitment towards p, namely an idiosyncratic commitment on the side of the speaker that *p* is likely to be the case. This result ties in with Doherty's (1979) analysis of *wohl* as a 'hypothesis functor'. (35) is a first approximation of the meaning of *wohl*:

(35)   [[wohl p]] = ASSUME (x,p)   (with x = speaker, hearer, or both)

More generally, the present analysis implies that there are different kinds of declarative sentences. Adopting an idea from Green 2000, we can say that declaratives can be used to make assertions with different strength regarding their degree of commitment towards the proposition expressed:

[…] it is insufficient merely to describe speakers as committed to propositions and other semantic contents [e.g. sets of propositions, MZ]; accuracy requires also tracking the mode of that commitment by adverting to the force of the speech acts that engendered it. (Green 2000: 444)

Here, I assume that a commitment is strict in the default case (corresponding to Stalnaker's (1978) assertion), but it can also come in the weaker forms of assumption (e.g. with *wohl*), mere speculation, conjecture, etc.

Turning to interrogatives, these too come in different kinds. On their basic use, they make a request for an assertion by the hearer, but the requested assertion can have different degrees of propositional commitment. It can be strict, or it can be an assumption, a speculation etc.

Let us finally come back to the question of what the communicative gain is of using an utterance *wohl p* if it does not lead to the inclusion of *p* in the CG, but only to the inclusion of an idiosyncratic commitment to *p* on the side of the speaker. Again, the answer is found in Green 2000: 467.

Manifesting one's idiosyncratic commitments will facilitate communication in part by making clear an interlocutor's dialectical status, that is, it will help make clear to other interlocutors what sorts of utterance an interlocutor is likely to accept or, on the other hand, to challenge. Similarly, it will make clear what sorts of questions an interlocutor is apt to reject or, alternatively, to endorse and attempt to answer.

5.2 Syntactic Assumptions

The syntactic part of the analysis rests on two assumptions. Following Rizzi (1997), I assume that the specification of a sentence type, e.g. as declarative or interrogative, takes place in the highest position in the expanded left periphery, namely in ForceP:

(36) $[_{ForceP}$ Force^0 ... [TopP [FocP [FinP [...
          decl / int

The head of ForceP can host the features *decl* and *int*, respectively. Apart from determining the sentence type and therefore the semantic type of its denotation (*decl*: proposition; *int*: set of propositions), these features also determine the epistemic reference point against which the utterance is evaluated (see section 2). With *decl*, the epistemic reference point is the speaker. With *int*, the epistemic reference point is the addressee or addressee and speaker together (see Doherty 1985).

Extending Rizzi's analysis, I would like to argue that the functional projection ForceP is not only the locus of sentence type determination. In addition, it can be assumed to encode the strength of the propositional commitment, as outlined in the preceding paragraph. This modification in the

strength of commitment can be brought about by a modifying expression that is located in the specifier of ForceP.

5.3   A Compositional Analysis of *wohl*

I would like to argue that the discourse particle *wohl* is just such a modifier on sentence types. Since it has not yet lost its categorical status as an adverb (see section 1.1), it is base-generated at the edge of VP (see Fukui 1986), where it also occurs in the overt syntax, as shown in (37a). At LF, *wohl* moves covertly to the specifier of ForceP. This LF-movement to SpecForceP has the effect of (i) modifying the strength of commitment, and (ii) determining the epistemic reference point under Spec-Head-agreement with Force^0, as shown in (37c). The result can then combine with the illocutionary operator ASSERT (37d) (see also Doherty 1985; Abraham 1991).

(37) a.   [$_{ForceP}$ **decl**$_{speaker}$ [$_{TopP}$ Hein [$_{FinP}$ ist [$_{VP}$ wohl [$_{VP}$ auf See]]]]].
                                    Hein   is   at   sea

b.   [$_{ForceP}$ wohl$_i$ **decl**$_{speaker}$ [$_{TopP}$ Hein [$_{FinP}$ ist [$_{VP}$ t$_i$ [$_{VP}$ auf See]]]]]

c. $\varnothing$ (x, p) → ASSUME (speaker, p)
     (with '$\varnothing$' = default strict commitment)

d.   ASSERT (ASSUME (speaker, p))

The syntactic derivation for interrogative yes/no questions, such as (38a), proceeds in essentially parallel fashion, neglecting a possible difference in the positioning of the finite verb.

(38) a.   Hat Hania wohl auch ihren Chef eingeladen?
           has Hania   also her   boss   invited

b.   [$_{ForceP}$ hat + **int**$_{hearer}$ Hania [$_{VP}$wohl[$_{VP}$ auch ihren Chef eingeladen]]]?

c.   [$_{ForceP}$ wohl$_i$ **int**$_{hearer}$ Hania [$_{VP}$ t$_i$ [$_{VP}$ auch ihren Chef eingeladen]]]?

d. $\varnothing$ (x, {p, ¬p}) → ASSUME (hearer, {p, ¬p})

e.   ?(ASSUME (hearer, {p,¬p}))   ('?'=illocutionary question operator)

The meaning of (38a) in (38e) is compositionally derivable in three steps. It involves (i) proto-question formation triggered by the feature *int* in Force^0; (ii) functional application of the meaning of *wohl* in SpecForceP; and (iii) the addition of the illocutionary question operator *?*. The semantic values for *int* and *wohl* are given in (39ab).

(39) a.   [[int]]   = λp. {p, ¬p}

b.　$[[wohl]] = \lambda P.$ ASSUME $(hearer, \{q| q \in P\})$

Int takes a proposition as its argument and maps it onto a set of alternative propositions. *Wohl* takes a set P of propositions as argument and maps it onto a hypothetical commitment of the hearer towards the elements of P. The entire semantic derivation proceeds in parallel with the structural build-up and is sketched in (40). The semantic values of all nodes and terminal elements are given in bold face.

(40)　　　　　　　　　　　　**? (ASSUME (hearer,{p,¬p}))**　　　= (iii.)

　　　　　　　ForceP　　**ASSUME (hearer,{p,¬p})**　　= (ii.)

　　　wohl　　　Force′　**{p,¬p}**　　　　　= (i.)

λP.ASSUME(hearer,{q|q∈P})int　　FinP

　　　　　　λp. {p,¬p}　　**p**
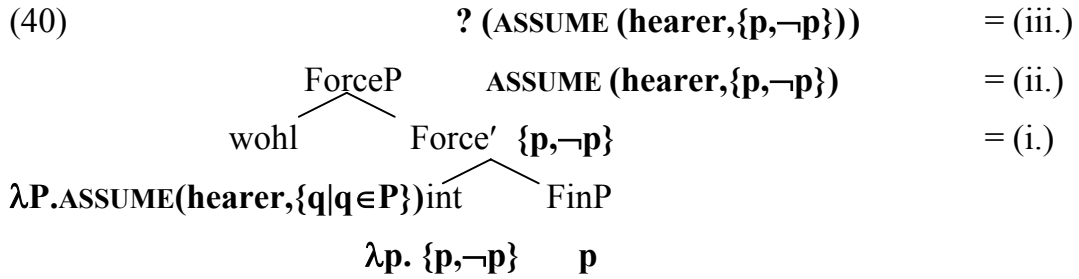
The meaning of declarative clauses containing *wohl*, such as in (37), can be derived in analogous fashion. The only difference stems from the fact that in declaratives *wohl* takes a proposition as complement, not a set of propositions. One therefore has to assume a certain flexibility in the selectional requirements of *wohl*.[4]

Summing up, the semantic derivation in (40), based on the syntactic derivation in (38), accounts for the scopal behaviour of *wohl* observed in section 3. In particular, the high structural position of *wohl* in Spec,ForceP explains why it scopes over question formation, which takes place in Force[0]. At the same time, the meaning of *wohl* is processed at the same semantic level as the rest of the clause. This explains the scopal differences between *wohl* and the expressions that trigger conventional implicatures that were pointed out in section 4.[5]

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[4] Alternatively, one could treat a proposition as equivalent to the set containing just this proposition as its only member, and shift its type accordingly. This way, *wohl* would always select for sets of propositions.

[5] Potts (2002b) shows a way to integrate the denotation of implicature-triggering expressions into a one-dimensional semantic representation. He does so by treating implicature-triggering expressions as partially defined identity functions that only give a value when their implicature is met, and no semantic value otherwise. If correct, the difference between *wohl* and implicature-triggering expressions is not so much a difference of the level of semantic representation, but rather a difference in denotation. Unlike expressions triggering conventioanl implicatures, *wohl* does not denote partially defined identity functions, giving rise to the observable scope restrictions.

5.4   Cross-Linguistic Evidence

The analysis of the discourse particle *wohl* as occupying a position in the left periphery at LF is largely motivated by semantic (scope) considerations. However, there is some cross-linguistic evidence to support it. In some languages, the counterpart of *wohl* occurs in the periphery of the clause in overt syntax, either in the highest functional projection or adjoined to the entire clause.

The Finnish counterpart to *wohl* in yes/no questions is realised as a suffix in the highest functional head.

(41) a. On-ko-*han*   Pentti kotona?
          is- Q- wohl   Pentti   at home
          'Would Pennti be at home?'

     b. Sa- isin-   ko-*han*   laskun?   ,
          got- subj1SG-   Q- wohl   billACC
          'Could I get the bill?'

English declaratives make use of sentence-final tags (possibly adjoined to ForceP) in order to express the weaker propositional commitment of assumption that is associated with *wohl*.

(42) A: Where is Peter?
      B: [He is at home], *isn't he*?

Similar peripheral tags are employed in the German dialects as an alternative to *wohl*:

(43) *oder?* 'or', *wa?* 'what' (Berlin), *ne?* 'not' (Rhineland), *gell/gelt?*
      'valid' (Upper German), *ge?* (Palatine), ...

Looking beyond *wohl*, other expressions that contribute to the expressive rather than to the descriptive content of a clause are expected to occur in a peripheral position as well. Confirming this expectation, Munaro & Poletto (2004) show that various Northern Italian dialects exhibit a number of particles with expressive content that indeed occupy a peripheral position in overt syntax.[6]

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[6] This last observation has to be treated with care, though. It may well turn out that the syntactic and the semantic properties of what at first sight look like similar particles differ even though all of them occur in the left periphery. See the brief discussion of the differences between the German discourse particles *ja* and *wohl* at the end of section 6, and Zimmermann 2004 for further discussion.

5.5   Accounting for the Properties of *wohl*

Apart form explaining the scopal properties of *wohl*, the analysis also accounts for the remaining properties of *wohl* that were observed in sections 1-4. First, the impossibility of embedding *wohl* under the verb *wissen* 'to know' (see (4b) in section 1.2) follows from selectional restrictions between the matrix verb *wissen* and the ForceP that it selects for. *Wissen* can as little select for a ForceP that is modified by *wohl*, as in (44a), as the verb *sich fragen* can select for a ForceP containing the feature *declarative*, as shown in (44b).

(44) a. *ich *weiß*, *wohl*-decl
         I   know

   b. *ich *frage mich*, *decl*
         I   wonder

Second, the restriction to declarative and interrogative clauses (see section 1.3) follows from the fact that a weak propositional commitment such as ASSUME can only be evaluated with respect to what can be known, i.e. at epistemically accessible indices (encoded by and only by the features *decl* and *int*).

Third, the fact that the epistemic reference point of *wohl* depends directly on that of the sentence type (see section 2) is accounted for, since *wohl* can inherit it from the sentence type feature in Force^0 under Spec-head-agreement.

Fourth, the intervening effects of *wohl* with variable binding (see section 3.1) follow from the fact that *wohl* must take closed propositions as arguments. From its high structural position in SpecForceP, it is able to do so.

Finally, the analysis can account for certain illocutionary effects showing up with *wohl* in declarative and interrogative clauses. In certain contexts, declaratives with *wohl* can be used as questions, as in (45a). Interrogatives with *wohl* can sometimes be used as directives, as in (45b).

(45) a. Das ist *wohl* dein   Freund?   →   *Question*
         that is   your boyfriend
         'That is your boyfriend, isn't it?'

   b. Bist du *wohl* still?   →   *Directive*
         are   you   quiet
         'Will you be quiet!'

Since the illocutionary effects in (45) are restricted to particular contexts, they cannot be directly attributed to the meaning of *wohl*. Below, it is shown that the illocutionary effects in (45ab) are conversational implicatures that arise whenever the literal meaning of a clause containing *wohl* is infelicitous in the context of the utterance. Instead of assuming that the speaker has made an infelicitous or irrelevant utterance, the hearer will apply some reasoning in order to save the utterance, in line with Grice's (1975) 'Principle of

Cooperativity'. The following is a brief sketch of how such a line of reasoning could look for the examples in (45a, b).

A possible context that would give rise for a question use of (44a) is a situation in which speaker A encounters an old friend B coming down the street and holding hands with a man. On meeting, A utters (45a), thus triggering the following line of thought on hearer B's side (with p = the proposition 'this is the hearer's boyfriend'):

(46) a. A has chosen *ASSERT (ASSUME (speaker, p))* instead of the stronger (since more informative) *ASSERT ($\varnothing$ (speaker, p))*.

b. If A knew that p, she would have chosen *ASSERT ($\varnothing$ (speaker, p))*. (maxim of quantity).

c. A is not sure whether or not p.

d. A can safely assume that I know whether or not p.

e. Therefore, A's utterance is uninformative, hence irrelevant.

f. A did not intend to make an irrelevant utterance. (principle of cooperativity)

$\Rightarrow$ A would like me to tell her whether or not p.

A similar line of reasoning on the hearer B's side, given in (47), accounts for the directive use of the interrogative clause in (45b).

(47) a. Speaker A literally asks me to answer his question whether or not I am quiet and indicates that I am uncertain about my currently being quiet.

b. It is impossible that I am not certain about a property that I myself can control, and A also knows this.

c. Besides, A has available to him all the necessary information to answer his question.

d. A's utterance is inappropriate and irrelevant.

e. A did not intend to make an irrelevant utterance. (principle of cooperativity)

$\Rightarrow$ A tells me to be quiet.   (*directive*)

As pointed out by Asbach-Schnitker (1977), interrogative directives such as (45b) have to meet two conditions. First, the question must make direct reference to a property of the hearer, i.e. they must contain a verb in 2nd person. Second, the property of the hearer must be under the control of the hearer. Only the satisfaction of both conditions makes such sentences infelicitous or inappropriate on their literal reading, thus triggering a

pragmatic reinterpretation by way of conversational implicature. Finally, it should be noted that this kind of explanation directly carries over to other pragmatic effects that are observable with *wohl*, e.g. certain effects of politeness and irony (see Zimmermann 2004).

I conclude that the analysis of *wohl* as a sentence-type modifier in Spec,ForceP accounts not only for its scopal properties, but also for its other characteristic properties, including certain illocutionary effects.

6   Open Issues

This section briefly addresses a number of open issues. In the interest of space, I will restrict myself to merely pointing out the relevant problems and possible ways to approach them. For a more detailed discussion of these issues, the reader is referred to Zimmermann 2004.

The first open issue concerns DP-internal occurrences of *wohl*. As shown in section 1.1 and illustrated again in (48), *wohl* can occur DP-internally.

(48) Peter ist in [$_{DP}$ das   *wohl* beste [$_{NP}$ Restaurant von   Berlin]] gegangen.
  Peter is in   the   best   restaurant of   Berlin   gone
  'Peter went to a restaurant that is arguably the best in Berlin.'

The paraphrase makes clear that *wohl* here does not take scope over the entire proposition, but only over the DP. The fact that Peter went to some restaurant is not in doubt in (48). This shows that *wohl* is not interpreted in Spec,ForceP of the matrix clause in (48), giving rise to the question in which position *wohl* is interpreted. A possible solution would be to assume that the functional architecture of at least some DPs contains a Force projection as well. This would be feasible if these DPs could be analysed as propositional expressions or phases (see Chomsky 2001), an assumption not altogether implausible given the often stressed structural parallels between CPs and DPs (see, e.g., Abney 1987). On this view, DP-internal *wohl* would be interpreted on the completion of the DP-phase (but see Matushansky 2003 for arguments against treatung DPs as phases).[7]

The second open issue concerns the co-occurrence of *wohl* and *wh*-expressions. Since Spec,ForceP is reserved for sentence-type modifiers such as *wohl*, the *wh*-expression in (49) must be located in another, lower position.

(49) Wen hat Peter *wohl* eingeladen?
  who   has Peter   invited

---

[7] Another alternative would be to allow for constituents of any syntactic and semantic type to be associated with an evaluation function. On this view, the restriction of *wohl* to VP and DP in the overt syntax would follow from its categorial status as adverb alone (see section 1.1).

Given that *wh*-expressions are inevitably focused expressions, a natural landing site for the overtly moved *wh*-expression in (49) would be the specifier of Foc(us)P in Rizzi's (1997) expanded left periphery. Notice that, on such an analysis, the finite verb in questions cannot be assumed to be in $Force^0$ like the interrogative complemetizer *ob* 'if' in embedded questions. Rather, the finite verb in (49) must be in a lower position, e.g. in the head of FinP (see Grewendorf 2002: 241). A tentative LF-structure for (49) is given in (50). Notice that *wohl* does not intervene between the *wh*-expression and the trace bound by it in (50).

(50) $[_{ForceP}$ wohl $_i$ int $[_{FocP}$ wen$_j$ Foc $[_{FinP}$ hat Peter t$_i$ t$_j$ eingeladen]]]

The structure in (50) also paves the way to a solution for a related problem. In connection with the intervention effects of *wohl* with variable binding in section 3.1, it was mentioned that these intervention effects do not show up in restrictive relative clauses, which also involve variable binding. As a result, *wohl* (unlike the discourse particle *ja*) is licit in restrictive relative clauses, as shown in (51a). Assuming that the relative pronoun in (51a) moves to the same position as the *wh*-expression in (50), namely to SpecFocP, we get (51b) as the LF-structure of the relative clause.

(51) a. Die Frau   wählte den Mann, *der wohl am   reichsten war*.
          the woman chose the man who   at-the richest   was
          'The woman chose that man that seemed to be the richest.'

   b. $[_{ForceP}$ **wohl$_i$** decl$[_{FocP}$ **der$_j$** Foc $[_{FinP}$ **t$_j$** t$_i$ am reichsten war]]]

In (51b), *wohl* does not intervene between the raised relative pronoun and the trace bound by it. For semantic consequences of this line of reasoning see Zimmermann 2004.

A final point to be addressed concerns the question of whether the analysis proposed for *wohl* should be extended to other discourse particles such as *ja*. There is preliminary evidence that it should not. Unlike *wohl*, the particle *ja* (discussed in Jacobs 1991, Kratzer 1999, and many others) does not modify the strength of the commitment to the proposition expressed. Rather, it adds a surplus meaning to the effect that the speaker indicates that he has good reason to believe that the hearer is aware of the state-of-affairs described by the proposition. In short, the particle *ja* seems to behave more like elements that trigger conventional implicatures (see section 4). The different status of *ja* is confirmed by the fact that *ja* obligatorily takes syntactic and semantic scope over *wohl* when the two particles co-occur.

(52) Heute ist *ja wohl* Müllers   letzter Arbeitstag.
 today is   Müller's last   day.at.work
 = Speaker assumes that today is Müller's last day at work and expresses his expectation that the hearer should entertain the same assumption on the base of evidence available to him.

At least from a semantic point of view, then, *ja* should not be treated as a sentence-type modifier like *wohl*, but rather as an expression modifying the illocutionary operator ASSERT (see Jacobs 1991).

7   Conclusion

In this article, I have presented an analysis of the discourse particle *wohl* as a modifier of sentence-type operators. Since the information pertaining to the sentence type is encoded in a high functional projection in the left periphery of the clause, namely in ForceP, *wohl* must covertly move to SpecForceP. The semantic function of *wohl* is to indicate a weakened commitment to the proposition expressed by the clause.

The analysis presented captures the semantic contribution of *wohl* in declaratives and interrogatives. It accounts for the observable distributional restrictions on *wohl* and captures the peculiar scopal behaviour of *wohl* by means of a fully compositional procedure. Furthermore, it paves the way for a unified analysis of *wohl* and its counterparts in other languages where these occur in a peripheral position in overt syntax. Finally, the analysis spells out in more detail the semantic content of ForceP, a functional projection normally motivated on purely syntactic grounds.

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