Discourse and Pragmatics in Functional Grammar
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Discourse and Pragmatics in Functional Grammar

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The contents of this volume are a selection from the papers given at the Sixth International Conference on Functional Grammar (ICFG), which was held in York, at the University College of Ripon and York St John, from 18 to 22 August, 1994. Functional Grammar as understood in the ICFGs and in this volume is the linguistic model as proposed by Simon Dik, and to date most extensively described and discussed in Dik (1989). The indebtedness of the FG-community to Simon Dik, who died six months after the conference was held, is great indeed. The editors hope that this volume is a fitting tribute to his work.

At the previous ICFG, held in Antwerp in 1992 (cf. Devriendt—Goossens—van der Auwera 1996), it was universally agreed that the theme for the 1994 conference should be discourse and pragmatics. Up until then the FG literature and the ICFGs had concentrated on morpho-syntactic issues. With the introduction of the layered model (e.g. in Hengeveld 1989) pragmatics was given more prominence, but it was felt at the Antwerp conference that a further expansion of the model into discourse was required. Hence the theme of the 1994 conference in York, and the title of this volume.

What became apparent during the conference, and this is reflected only to some extent in the relevant papers selected here, was that there was by no means an agreed idea of how discourse should be integrated into the present FG model. Thus, Hengeveld and Kroon each propose a slightly different approach for FG, built on the existing clause-oriented layered structure. The papers by Steuten and Gulla, on the other hand, each propose the integration of FG with different existing discourse models. Moreover, during discussions throughout the conference, and especially at a plenary final session, the various possible approaches to discourse were hotly debated. Whereas Hengeveld and Kroon each propose in different ways to develop a layered discourse model mirroring the present sentence-oriented model, some delegates (e.g. Peter Harder and Maj-Britt Mosegaard Hansen) expressed serious reservations about this. The former wondered whether cognitive structures should be incorporated into the model, the latter felt that some of the proposals made were too akin to text grammar, which had already been shown to be outdated. This debate will no doubt continue to inform the development of FG for the foreseeable future.

The chapters in this volume are presented in four groups. The first three, by Hengeveld, Kroon and Connolly et al., offer an expansion of FG into a discourse-oriented model based on the existing layered structure. The second group, consisting of the chapters by Steuten, Reboul and Gulla, discuss various existing discourse frameworks (Discourse Analysis, Rhetorical Structure Theory, and Accessibility Theory and Relevance) and their potential contribution to FG. Vismans, Stanchev, Downing and Ziv each discuss one or more pragmatic functions in specific languages (Dutch, Bulgarian, Spanish and Hebrew). Finally, the chapters by Matras and Bearth deal with connectivity.
Hengeveld's chapter, which centres on narrative discourse, proposes a layered model of discourse in analogy with the layered clause model. In addition to such a hierarchical structure, discourse displays a relational structure with relations between the layers of one level and those of another level. Hengeveld arrives at a classification of cohesion phenomena based on this analysis.

Kroon's chapter, based on an analysis of discourse markers in Latin, suggests a hierarchical structure for discourse similar to that proposed by Hengeveld. However, in her discussion of the integration of the layered discourse model with the layered clause structure she rejects the idea that the highest unit in the clause structure (E, the illocution) coincides with the lowest unit in the discourse structure (a "continuum structure"). She suggests a modular structure, with sentence and discourse being separate modules that have certain strong relations.

Connolly et al. present a functionally oriented analysis of dialogues at both grammatical (i.e. clause) and discourse level. Their chapter is part of a larger project in which the specifications are worked out of an IT system supporting cooperative work between (groups of) people in different locations. For this purpose, the interactions between pairs of design students were studied. The chapter concludes that although FG supports the grammatical level fairly well, it still needs to work on the discourse level by defining, inter alia, a hierarchy of discourse units, a set of conversational categories (e.g. adjacency pairs), and a set of categories describing the progression of discourse (e.g. plans, goals and sub-goals).

Steuten's chapter is also written in a specific discourse context: business conversation. She attempts to bring together FG and Discourse Analysis. Whereas FG is concerned with utterances, discourse analysis does not see conversation as being organised in utterances. She suggests a number of possible solutions that FG should consider in order to address the issue.

Gulla presents a similar attempt at combining FG with an existing theory of discourse, in this case Rhetorical Structure Theory. The attempt has been successful insofar as it has been possible to develop a text generator capable of producing "paragraphs of coherent text" on the basis of the combination.

Reboul has written a critique of Ariel's Accessibility Theory in the light of Relevance. The connection with FG lies in the fact that both FG and Accessibility Theory see pragmatics as an integral part of grammar, and Reboul argues against this.

The chapters by Vismans and Stanchev have in common a concern with the relation between special positions and pragmatic functions. Vismans presents an overview of the interaction between constituent order and accentuation in the expression of Topic and Focus in Dutch. Stanchev writes about the assignment of Topic and Focus and the use of special positions in this connection in Bulgarian. In addition to the universal clause-initial position P1 (as well as Theme and Tail, P2 and P3), Dutch and Bulgarian appear to have a further pragmatic clause-final (Focus) position, which both Stanchev and Vismans label P0. Stanchev also defines a special pre-verbal and post-P1 position, labelled P4.

Downing's chapter presents a very thorough corpus-based study of Theme, expressed in Left-Dislocation (LD), in Spanish. In her conclusion she draws some parallels between the use of LD in Spanish, French and English, and argues that its use promotes the cohesion of discourse.
Ziv's data on Hebrew infinitivals seem at first puzzling in that they possess sentential and non-sentential properties, i.e. they can be used as constituents of a clause and as extra-clausal constituents. Ziv suggests that this shift in their use from Theme to Topic and/or Focus is an instance of grammaticalization.

The chapter by Matras is a discussion of co-ordinating conjunctions of the "and" and "but" types, and their function as discourse markers. Matras suggests a hierarchical ranking of the two types, and finds evidence for this in the fact that replacement of adversatives (the "but" type) in language contact situations is much more common than that of additives.

Bearth's study of Tura suggests that linkage clauses must be treated as discourse operators. This leads to the conclusion that further study of similar clause-operators may prove fruitful in the endeavours of FG practitioners to take discourse structure on board. This appears to take us back to Hengeveld's proposal.

The editors hope that this volume reflects the state of the art in FG in the mid-1990s. That this is to some extent a state of flux is in no doubt. This book should contribute to the continuing debate about the directions in which FG is to develop.

The editors/conference committee would like to express their thanks to:

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Cohesion in Functional Grammar

Kees Hengeveld

1.1. Introduction

Within Functional Grammar (see Dik 1989) research has so far mainly concentrated on various aspects of the structure of the individual utterance. The formal representations that are used within this theory therefore take the utterance as the highest level of analysis. Yet there is a variety of grammatical phenomena that can only be properly described with reference to structural units larger than the utterance. The existence of these phenomena creates the need for further developing Functional Grammar into a discourse grammar. In this paper I will claim that such a discourse grammar is organized along two axes: (i) the hierarchical axis, and (ii) the relational axis. The hierarchical axis concerns the segmentation of discourse into successively smaller units. The representation of this axis results in a layered description of discourse structure. The relational axis concerns the connections obtaining between layers of one and the same level. The representation of this axis results in a linear description of discourse structure. The complex network resulting from the combined operation of these two axes will then be used as a general framework for the description and classification of cohesion phenomena.

1.2. The hierarchical structure of discourse

1.2.1. Formal reflections of discourse structure

A general principle in Functional Grammar is that no new levels or functions be postulated unless there are grammatical phenomena that could not be described without postulating such additional levels or functions. It is therefore useful to first look at some straightforward cases of the encoding of hierarchical discourse structure. Consider the following Koryak narrative.

Koryak (Chukchi-Kamchatkan, Bögaras 1917: 43-45)

(1) Eṉa’s’an Amamqu’tinu vaŋvolai’ke. Amamqu’tinak Kulu’
    thus Eme’mqut’s-people lived by-Eme’mqut Kulu’

    gama’talen, ui’ña akmi’ńika gi’linat.
    was-married no childless they-were
Vcf'yuk  Ama'mqut  notaitifăn  ga'lqalin,  va'am-eche'ti
afterwards  Eme'mqut  to-the-country  went  river-up-stream

ga'llin,  vcf'yuk  ganyininiña'linau  i'nalka  oya'mtiwilu,
he-followed  afterwards  appeared-to-him  numerous  people

ya'nya.e"en  ña'witqatu,  li'gan  mimtelhiyalai'ke,  qla'wulu
partly  women  even  resplendent-with-light  men

ampalto'lu,  ña'wisqatu  ammani'ssalu.  Ama'mqut
all-in-jackets-of-broadcloth  women  all-in-calico  Eme'mqut

avi'ut  gala'lin,  gaqalei'pilin,  gaño'elen  vinya withdraw
in-haste  came,  fell-in-love  began  to-help

kaña'tila'k.  Avi'ut  Yu'qyaña'ut  gama'talen.  Ña'nyeu
fishing-with-dragnets  in-haste  Bumblebee-Woman  he-married  those

qagi'n  Yuqyamtila"nu.  I'nalka  kmi'ñu  gaitoi'vilenau.
indeed  Bumblebee-Men  numerous  children  she-brought-forth-them

Vcf'yuk  Kilu'  ña'nyen  gapkawfiivo'len  yayisqa'nñik.  Ga'lqalin
afterwards  Kilu'  that-one  could-not  sleep  she-went

va'amik  eche'ti,  vcf'yuk  galapitçoivo'len,  anke
to-the-river  upstream  afterwards  she-looked-around  there

gagetaño'lenau  kaña'tili.  Ama'mqut  anke  o'maka
she-saw  the-fishing-people  Eme'mqut  there  together

kaña'tiykin.  Gayo'solen  Kilu'nak.  Amamqu'tinin  ña'witqat
is-fishing  she-visited-them  by- Kilu'  Eme'mqut's  woman

gacaññisqu'lin,  ya'qam  ai'kipa  gapí'wyalin.
she-trampled-her-only  with-fly-eggs  she-scattered-herself-around.

Yuqya'nu  gana"linau,  imiñ  kaña'tili  yuqya'nu  gana"linau.
bumblebees  they.became  also  fishermen  bumblebees  became

Ama'mqut  niyaqño'víkin.  Gayai'tilen.  Acqo'c.
Eme'mqut  what-had-he-to-do  he-went-home  that's.all

'Eme'mqut  lived  with  his  people.  He  married  Kilu',  but  they  were  childless.  One  time  Eme'mqut  went  into  the  open  country.  He  followed  a  river  upstream.  Then  he  saw  numerous  people.  Some  of  them  were  women.
Their bodies were resplendent with the reflection of light. All the men wore jackets of broadcloth, all the women wore calico overcoats. Eme’mqut hurried to them. He fell in love, and began to help those people. They were fishing with dragnets. Very soon he married a Bumblebee-Woman. Those people were Bumblebee people. His new wife brought forth numerous children.

‘Then Kilu’ became restless, and could not sleep. She came to the river, and followed it up-stream. Then she looked around, and saw those fishermen. Eme’mqut was there with them pulling in the nets. Kilu’ approached them. She trampled to death Eme’mqut’s new wife, who scattered around a large quantity of fly-eggs. All the eggs became Bumblebees. The fishermen also turned to Bumblebees. Eme’mqut could do nothing, so he went home. That is all.’

After the introduction of the main participants in the first line, the story consists of two main episodes. One starts with Eme’mqut’s moving up the river, the second one with Kilu’’s moving up the river. Within each episode there is a change of scene, when first Eme’mqut and then Kilu’ arrive in the village of the Bumblebee people.

Each of the two main episodes and each of the two changes of scene are introduced by the first linguistic element that is of interest here: the word vcf’yuk. This particle-like element is glossed as ‘afterwards’, but translated in various ways as ‘one time’ or ‘then’, and so does not necessarily imply temporal sequencing. This element, which is probably best described as a paragraph marker, introduces thematically coherent parts of the narrative discourse, which might be called “discourse episodes” (see e.g. Wanders 1993) or “moves” (see e.g. Kroon 1995). I will use the latter term in what follows.

The second element that is of interest here is the last word, aggo ‘g, of the story. This particle-like element, which could be glossed as ‘that’s all’ or ‘the end’, is conventionally used to round off stories, as Bogoras’ (1917) collection amply illustrates. Thus, apart from grammatical elements marking the boundaries of individual moves, there are grammatical elements marking the boundaries of entire discourses.

There is a third, less visible, element of the text that is of relevance here: the particles just studied are typical of narrative discourse, but would not be used, or would be used differently, in, for example, discourse types such as dialogues. Thus, in order to account for these rather straightforward facts of Koryak, one should be able to represent three different units: (i) the discourse as a whole, (ii) the component parts of a discourse, i.e. moves, and (iii) the type of discourse involved.

1.2.2. A layered representation of discourse

In Figure 1 a proposal for the representation of the three units identified as relevant in the previous section is made. Figure 1 adds a third level of structure to the existing Functional Grammar utterance model. This level is called the Rhetorical level. It contains variables for the discourse as a whole (D), the type of discourse (T), and the moves (M) constituting the discourse.
The internal organization of the rhetorical level is identical to the one used at other levels: the discourse type is represented as a discourse frame, which structures the rhetorical level, i.e. defines the ways in which moves may be combined into a discourse of the type involved. Going up starting at the bottom of Figure 1, the representational level (e) is structured on the basis of a predicate frame (f) which determines the relations between arguments (x); the interpersonal level is structured on the basis of a illocutionary frame (F) which determines the relation between the main participants in a speech act, Speaker (S) and Addressee (A), and the content of that speech act (X); the rhetorical level (D) is structured on the basis of a discourse frame (T) which determines the relations between moves (M).

Each of the layers in Figure 1 can be defined both in terms of its designation and in terms of the unit of underlying representation, as shown in Table 1.

Table 1. Units of discourse structure

<table>
<thead>
<tr>
<th>Variable</th>
<th>Designation</th>
<th>Underlying unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Representational level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_n$</td>
<td>Individual</td>
<td>Term</td>
</tr>
<tr>
<td>$f_n$</td>
<td>Relation or Property</td>
<td>Predicate Frame</td>
</tr>
<tr>
<td>$c_n$</td>
<td>State of Affairs</td>
<td>Predication</td>
</tr>
<tr>
<td>Interpersonal level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$X_N$</td>
<td>Propositional Content</td>
<td>Proposition</td>
</tr>
<tr>
<td>$F_N$</td>
<td>Illocution</td>
<td>Illocutionary Frame</td>
</tr>
<tr>
<td>$E_N$</td>
<td>Speech Act</td>
<td>Utterance</td>
</tr>
<tr>
<td>Rhetorical level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$M_N$</td>
<td>Move</td>
<td>Paragraph</td>
</tr>
<tr>
<td>$T_N$</td>
<td>Discourse Type</td>
<td>Discourse Frame</td>
</tr>
<tr>
<td>$D_N$</td>
<td>Discourse</td>
<td>Text</td>
</tr>
</tbody>
</table>
1.2.3. Monologue and dialogue

The example from Koryak presented in section 1.2.1 concerns monological discourse, just as the other examples that will be used in this paper. The question now is whether this formal model would be sufficient to capture dialogical discourse as well. I will leave this question largely open for the moment, but there is at least one element of the existing model that will have to be adapted. This concerns the representation of speaker and addressee.

In the existing model speaker and addressee are represented at the interpersonal level as in (2), in which one finds absolute, fixed positions (S) and (A) for the main speech act participants:

(2) \((E_1: [(F_1; ILL (F_1)) (S) (A) (X_1)] (E_i))\)

In a representation of dialogue one needs to account for the changing roles of speech participants. The representation will have to show which participant is acting in which capacity at any point in time. This can be achieved by adopting the dynamic representation given in (3), where it is indicated that P(articipant)i is acting as the speaker, P2 as the addressee, where the roles of speaker and addressee are represented as functions of these participants.

(3) \((E_1: [(F_1; ILL (F_1)) (P_1) s (P_2) A (X_1)] (E_i))\)

Such a representation helps us account for a number of grammatical facts, only one of which will be illustrated here. Suppose the identities of P1 and P2 are stored in some discourse domain as in (4):

(4) \(P_1 = \) Juan García
\(P_2 = \) María López

Suppose furthermore that P1 and P2 engage in the conversation in (5), represented in (6). (For the abbreviations used in the glosses, see the end of the chapter.)

(5) \(P_1: \) ¿Está-s enferm-a?
COP-PRES.2.SG ill-F.SG
'Are you ill?'

\(P_2: \) No, estoy cansad-a
no COP-PRES.1.SG tired-F.SG
'No, I'm tired'

(6) \((E_1: [(F_1; INT (F_1)) (P_1) s (P_2) A (X_i); [(e_i: (f_i; enferm-a (F_1)) (P_2) o (e_i)) (X_i))] (E_i))\)
'Are you ill?'
In the representations in (6) it is shown that at the representational level in both cases $P_2$ is the subject. This, together with the information stored in (4), accounts for the fact that the feminine form is used for the adjectival predicates *enferma* 'ill' and *cansada* 'tired'. In (6) it is furthermore shown that in the first line $P_2$ is the addressee, whereas in the second line she is the speaker. This accounts for the shift in the personal reference of the verb, second person in the first case, first person in the second case. Thus, a dynamic representation helps us account for a number of agreement phenomena.

1.3. The relational structure of discourse

1.3.1. Introduction

As shown in section 1.2, the hierarchical axis of discourse structure involves relations between layers of a certain level and layers of the next higher or lower level. The relational axis concerns relations between layers of equal rank. Two main strategies can be identified here: (i) combining strategies, and (ii) chaining strategies. The main difference between combining strategies and chaining strategies is that in the first case a relation between layers of the same level obtains within the boundaries of the next higher level, whereas in the second case a relation between layers of the same level obtains across the boundaries of one or more next higher levels.

1.3.2. Combining strategies

Within the class of the quite familiar combining strategies two subtypes may be distinguished, as indicated in Figure 2.

\[
\begin{align*}
(\alpha_1), (\alpha_2) & \quad \text{Parataxis} \\
(\alpha_1; \ldots (\alpha_2) \ldots (\alpha_1)) & \quad \text{Hypotaxis}
\end{align*}
\]

*Figure 2. The relational structure of discourse 1: combining strategies*

In earlier work on subordination in the context of Functional Grammar (Hengeveld 1989; Bolkestein 1990; Dik—Hengeveld 1991), it has been demonstrated that there may be hypotactic relations up to the level of the speech act. The following sentences illustrate this point:
In (7) a predicate is subordinated to another one, i.e. two properties or relations are predicated of an argument shared by the two verbs. In (8) one event is described as causing another event, i.e. a predication is subordinated to another one. In (9) propositional content forms the basis for the inference of another propositional content, i.e. a proposition is subordinated to another one. In (10) one speech act serves to motivate the execution of another speech act, i.e. an utterance is subordinated to another one.

This series of examples may now be expanded by considering hypotactic relations between the higher layers of structure introduced in section 1.2.2, i.e. move (M) and discourse (D).

In the text fragment in (11) there are some examples of hypotactic relations between paragraphs. There are two embedded paragraphs, where embedding is shown by indentation: one introduced by but, another introduced by 'cause.

Dutch (Translated fragment from a Dutch television talk show, Redeker 1993)

(11) a. but we had a seamstress
b. and we were calling her Mietje.
c. But I think we were calling everyone Mietje back then
d. you know, I don't know why,
e. but anyway,
f. so that was also a Mietje.
g. And uh — she was from Belgium.
h. And there were — she was a Belgian refugee,
i. 'cause during during the war, during the First World War
j. all those refugees were coming from Belgium,
k. and they were coming to Zealand
l. and they were looking for work there.
m. And so SHE was our seamstress, (...) (Paragraph (M) combining)

At the level of discourse, too, there may be hypotactic relations, as when one (fragment of) discourse is reproduced within another via a quotative construction. Some examples of this type of embedding will show up in section 1.5.5.4.

A similar set of examples might be given for paratactic relations. Here it may suffice to refer to recent work on coordination in Functional Grammar in which it has been shown that paratactic relations apply up to the level of the speech act (Bakker...
1994; van Werkgem 1994), and to example (1) from Koryak, which illustrates the expression of paratactic relations between paragraphs via the paragraph marker *və'ynək*.

### 1.3.3. Chaining strategies

The main difference between combining strategies and chaining strategies is that in the first case a relation between layers of like rank obtains within the boundaries of the next higher level, whereas in the second case there is a relation between layers of like rank that obtains across the boundaries of one or more higher levels. For an example, consider the fragment in (11) again. Here one finds relations obtaining between units of the lowest, referential, level obtaining across the boundaries of the individual utterances, but within the boundaries of the main or embedded paragraphs, in the form of topic chains. Within the main paragraph the participant *a seamstress* is introduced in line a, which opens up a topic chain realized by *her* in line b, *that* in line f, *she* in line g, *she* in line h, and *SHE* in line m. In the second embedded paragraph *those refugees* in line j opens up a second topic chain, realized by *they* in line k and *they* in line l.

In a similar way, the chaining of events within a discourse as reflected in temporal and aspectual choices may be described in terms of relations obtaining between units of like rank across the boundaries of higher level units. A general representation for this type of relation is given in Figure 3, in which “α” represents a layer of any level, “|” represents a boundary of one or more next higher levels, and dots represent a potential relation obtaining between layers.

$$[(α_1) \ldots (α_{n-1})] \ldots [(α_n) \ldots (α_m)]$$

*Figure 3.* The relational structure of discourse 2: chaining strategies

### 1.4. Integration

In the preceding sections two axes of discourse organization have been described: (i) the hierarchical axis, along which an entire discourse is segmented into successively smaller units, and (ii) a relational axis, along which linear relations, both within and across hierarchical boundaries, are accounted for. These two axes may now be combined as in Figure 4, in which the hierarchical axis is represented vertically, and the relational axis horizontally. Solid lines represent a hierarchical connection, dotted lines a relational one.

For reasons of presentation, Figure 4 is simplified in two respects: (i) speech act participants are not represented, (ii) combining strategies are not represented, but may apply at all levels. Furthermore, the representation in Figure 4 will have to be supplemented by a discourse domain (see e.g. Kamp—Reyle 1993 and, in the context of Functional Grammar, Vet 1986) with a separate cell for each of the levels distinguished. The information contained within this discourse domain is necessary
for keeping track of the various types of relations, particularly those of the chaining type, that may obtain within a discourse.

1.5. Cohesion

1.5.1. Introduction

The two-dimensional model given in Figure 4, allows one to give a detailed classification of cohesion phenomena along four different classificatory parameters, which are listed in (12):

(12) *Classificatory parameters*

(i) Expression of cohesive relation
(ii) Level of cohesive relation
(iii) Nature of cohesive relation
(iv) Domain of cohesive relation

These parameters will be studied separately in the following sections.

*Figure 4. The hierarchical and linear structure of discourse*
1.5.2. **Expression of cohesive relation**

The most straightforward parameter concerns the expression of the cohesive relation. Cohesive relations may be described in terms of the linguistic means that are used to express them, such as e.g. lexical means, anaphora, gapping, verbal morphology, and the like. In fact, this is the basic parameter used for the description of cohesive relations in Systemic Functional Grammar (see e.g. Halliday 1985).

1.5.3. **Level of cohesive relation**

The model arrived at furthermore allows one to locate cohesive relations at each of the different hierarchical levels recognized. I will go briefly through Figure 4 again. At the term (x) level, phenomena such as topic chaining are accounted for; at the predicational (e) level one is primarily interested in phenomena such as the temporal chaining of events, and the foregrounding and backgrounding of events; at the propositional (X) level the expression of, for instance, argumentative relations is studied, as in the case of argumentative chains, in which a series of propositions leads up to a conclusion, formally marked by an inferential verb form; at the illocutionary (F) level one is interested in the sequencing of illocutionary acts, as when an answer fills the needs created by a question; at the utterance (E) level one may study, for instance, the ways in which one speech act motivates another; and at the level of the paragraph (M) one is interested in phenomena such as tail-head linkage. All these examples illustrate that a combined hierarchical-relational approach allows one to properly classify cohesion phenomena of a relational nature at the various hierarchical levels. From this observation it follows, as already suggested above, that the discourse representation model used should contain compartments for each of the hierarchical levels distinguished.

1.5.4. **Nature of cohesive relation**

The nature of the cohesive relation concerns the question whether the cohesive relation expressed is of the combining or the chaining type, as has been explained in section 2.

1.5.5. **Domain of cohesive relation**

1.5.5.1. Introduction

The last classificatory parameter is one that most clearly demonstrates the need for a combined hierarchical-relational approach to the structure of discourse. This parameter concerns the domain of application of a cohesive relation. To explain the nature of this parameter, let me start with an example familiar from sentence grammar. Grammatical phenomena such as reflexivization, negative raising or clitic raising have a restricted domain of application. Depending on the language involved, these domains may be defined as the predication, the proposition, or the single
utterance. That is, the domain of application of the rules of reflexivization and negative raising can be defined in terms of hierarchical notions and the presence of a higher-level boundary within the underlying structure will thus block the application of these rules.

In a similar way, the expression of cohesive relations may be restricted to application within a hierarchical unit of a certain level. This will be illustrated here by means of an analysis of so-called narrative verb forms. It is important to note before going into a detailed analysis that all of the constructions studied below are of the same type from the perspective of the three classificatory parameters discussed above: (i) in all cases the expression of the cohesive relation is via verbal morphology, (ii) in all cases the level of the cohesive relation is the predication, and (iii) in all cases the nature of the cohesive relation is of the chaining type.

1.5.5.2. Narrative convertives in Turkish

Turkish has a narrative converb in -ip, which is used to signal that the verb form carrying this ending is to be interpreted as if it were carrying the same inflectional endings as the next finite verb. Consider examples (13)-(14):

**Turkish** (Altaic, Ersen-Rasch 1980: 107)

(13) Reçete-yi *al-ip* eczane-ye gid-eyim
    prescription-ACC take-NARR chemist’s-DAT go-ADH.1.SG
    ‘Let me take the prescription and go to the chemist’s’

(14) Televizyon-u teyze-m-ler-e götü-üp bırak-ıniz
    tv.set-ACC aunt-l.SG.POSS-PL-DAT take-NARR leave-IMP.2.PL
    ‘Take the TV-set to my aunt’s family and leave it there’

In (13) the verb form *al-ip* ‘take-NARR’ is to be interpreted as an adhortative verb form with a first person singular subject, and in (14) the verb form is to be interpreted as an imperative verb form with a second person plural subject. In this construction type the two events which enter into the chaining relation should be temporally sequential, which explains the use of the term “narrative converb” for the verb form involved. The use of narrative convertives in Turkish is restricted: (i) in general it is just one converb that combines with a finite verb, (ii) the narrative converb necessarily shares its subject with the finite verb, unlike the construction types discussed below, (iii) the two events should be logically connected. From these facts one may conclude that the domain of application of narrative verb forms in Turkish is the hierarchical unit utterance.

1.5.5.3. Medial verb forms in Tauya

Tauya has a set of medial verb forms, which are used in all but the final clause in a series. The final clause itself is realized as a fully inflected finite verb. The two medial verb forms which are of interest here are those that are labelled “coordinate”.

These may be subdivided into same-subject medial verbs (the forms ending in -pa in the example below), which signal coreferentiality of the subject of the medial clause with the subject of the following clause, and different-subject medial verbs (the forms ending in -te in the example below), which signal that the subject of the medial clause is non-coreferential with the subject of the following clause. The fragment in (15) illustrates the use of these forms.

**Tauya** (Indo-Pacific, McDonald 1990: 218)

(15) Nono ø-imai-te-pa mai mene-a-te pai a?ate-pa
child 3.SG-carry-get-SS come.up stay-3.SG-DS pig hit-SS

nono wi nen-fe-pa yene wawi wi nen-fe-pa mene-pa

pig hit-CONJ put-SS dance-SS cut-3.PL-IND

'She carried the child and came up and stayed; and they hit [=killed] the pigs and showed them to the children, and they showed them the sacred flutes and stayed, and they hit [=killed] the pigs and put them, and they danced and cut [the pigs].'

All of the verb forms except for the last one are medial. Via the use of same- or different-subject forms maintenance and change of perspective is established. In this way, long chains of clauses may be formed which together constitute episodes within a larger narrative. Thus, the domain of application of medial verb forms in Tauya is the hierarchical unit *paragraph*.

1.5.5.4. The narrative construction in Krongo

Krongo has a narrative construction, illustrated in the text fragment in (16), which consists of an inflected form of the copula and an infinitival lexical verb. In narrative texts, only the verb in the first clause is realized as a non-narrative finite verb form. The remaining clauses use the narrative construction. The fragment in (16) shows only part of a narrative, but the narrative construction is used throughout the story. It may thus be concluded that the domain of application of the narrative construction is the hierarchical unit *text*.

**Krongo** (Kordofanian, Reh 1985:376) (C=Connective)

(16) M-àtûnà ittόŋ àttúmántaràá n-ánkwàŋ án-úudà.
F-PRF.find.TR rabbit hyena C.M-IMPF.go-TR INSTR-meat.

M-àa árdà-ànà. M-àa árdà-ànà
C.F-COP INF.ask-DTR C.F-COP INF.ask-DTR
nk-ättumäntaarä. η-άα iversary t-ikki äni äŋ
ABL-hyena.  C.M-COP hyena INF-say QUOT NEG

n-äkkä â?ãŋ k-äänâ-ŋ ü?üŋ ẽ. M-áañ ittõŋ
1/2-FUT 1.SG LOC-INF.give-TR DAT.2.SG NEG C.F-COP rabbit

Ittõŋ äni dâ-ŋ äãŋ ŋ-ätténâ.
INF-say QUOT IMP.SG.give-TR 1.SG C.M-IMPF.small

η-άα iversary t-ikki äni äŋ
C.M-COP hyena INF-refuse C.F-COP rabbit INF-walk

M-áα c-äänâ báràkôorâ. M-áα ótô-ŋ äniŋ
C.F.-COP go-DIR.H jackal C.F.-COP INF.say-TR 3.SG.DAT

äni iversary η-äkkä η-âllâ ûudâ.
QUOT hyena C.M-IMPF.go C.M-IMPF.carry meat

K-äänâwâ âŋŋã nó? η-άα báràkôorâ ótô-ŋ
PL-take 1.PL.INCL how C.M-COP jackal INF.say-TR

Ittõŋ äni öttýo n-âalâ â?ãŋ t-iini ûuni.
rabbit.DAT QUOT a.little 1/2-CONT 1.SG INF-make way

η-άα báràkôora ârûnô. η-άα câaw ãyô
C.M-COP jackal INF.leave C.M-COP INF.go INF.lay.down

k-tüümântaarâ kêtâ. η-άα evity câaw.
LOC-hyena before C.M-COP hyena INF.go

η-άα âuunô báràkôora η-άα ãyô,
C.M-COP INF.find.TR jackal C.M-COP INF.lay.down

η-άα t-âayô, η-άα ôçîrô-ŋ ikînî. η-άα
C.M-COP INF-die C.M-COP INF.look-TR teeth C.M-COP

t-ikki äni bilîŋ η-âayô. η-άα âçèlô-ŋ Ûîŋ.
INF-say QUOT maybe C.M-die. C.M-COP INF.touch-TR 3.SG

*A rabbit meets a hyena, who goes around with meat. (The rabbit) asks for it. He asks the hyena. The hyena says: "I won’t give it to you." The rabbit says: "Give me some." The hyena refuses. The rabbit walks to the jackal. He says to him: "The hyena goes around with meat. How are we going to take it?" The jackal says to the rabbit: "Just a moment, I’ll make a plan." He walks away and lays himself down before the hyena. The hyena arrives. She finds the dead jackal with his mouth open. She says:
"He seems to be dead." She touches him with her foot.'

As (16) illustrates, the chain of narrative verb forms is interrupted in the case of embedding of discourse within the narrative, in which case the reporting verb itself, which forms part of the main story line, uses the narrative construction, whereas within the quote, which is clearly separated from the main text by a quotative particle, non-narrative verb forms are used. Thus, Krongo also provides an example of the grammatical effects of the embedding of a discourse within another discourse (see 1.3.2).

1.5.5.5. Summary

In the preceding sections I have shown that a combined hierarchical-relational approach to the structure of discourse allows one to define the varying domains of application of similar construction types, in this case narrative constructions, across languages. Within the representational system sketched in Figure 4 these domains of application can now be defined in terms of the variables representing them. Thus, the narrative construction in Turkish obtains within the boundaries of (E), the one in Tauya within the boundaries of (M), and the one in Krongo within the boundaries of (D).

1.6. Conclusion

In this paper I have tried to show (i) that there are grammatical phenomena which require a further elaboration of Functional Grammar into a Functional Discourse Grammar, (ii) that such an extended grammatical model is organized along two axes of linguistic organization: the hierarchical axis and the relational axis, and (iii) that such a combined approach allows for a detailed classification of cohesion phenomena.

Notes

1. This paper has profited considerably from the insight presented in Kroon (1995).
2. The chains created by means of medial verb forms are labelled "sentential paragraph" in De Vries (1993).
Abbreviations used in glosses

1 First Person IMPF Imperfective
2 Second Person INCL Inclusive
3 Third Person IND Indicative
ABL Ablative INF Infinitive
ACC Accusative INSTR Instrument
ADH Adhortative LOC Locative
C Connective M Masculine
CONJ Conjunction NARR Narrative
CONT Continuative NEG Negative
COP Copula PL Plural
DAT Dative POSS Possessive
DIR Direction PRES Present
DS Different Subject PRF Perfective
DTR Detransitivizer QUOT Quotative
F Feminine SG Singular
FUT Future SS Same Subject
H High Tone TR Transitivizer
IMP Imperative

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Discourse markers, discourse structure
and Functional Grammar

Caroline Kroon

2.1. Introduction

One of the more recent trends in Functional Grammar research concerns attempts to transform the current, sentence-oriented FG model into a more discourse-oriented model, or even into a full-fledged formal FG model of discourse (cf. Hengeveld, this volume). The necessity of such an undertaking emerges from the existence of a considerable number of linguistic phenomena that cannot be adequately accounted for in a model that restricts itself to the grammatical sentence. One of these phenomena is formed by the category of expressions that is usually referred to by the name of discourse markers.

The label "discourse markers" applies to a heterogeneous group of expressions (for the greater part, particles), which have in common that they indicate, in one way or other, how a unit of text is integrated into the verbal or non-verbal discourse context. They signal, for instance, how the speaker or author intends a message to relate to the foregoing or following discourse, or to (a particular aspect of) the communicative situation. As such, discourse markers may form a useful starting point for attempts to gain more insight into the various types of structures that in general underlie coherent discourse. Examples of discourse markers in English are, for instance, well, y'know, because, but and so.

In the present paper I will give an account of discourse structure as it emerges from an elaborate study of the functions of a number of Latin discourse markers. For details of this study I refer to Kroon (1995). I will first give an overview of the various concepts that are, in my opinion, relevant to the issue of discourse structure (at least as far as the functions of Latin discourse markers are concerned), and then briefly discuss them in the light of the question whether and how they can be integrated into the current FG model, or at least made compatible with it. As to the latter point, it will appear of crucial importance whether or not the concept of discourse act (i.e. the smallest unit of discourse structure) can be equated with the highest level identified in the FG layered clause structure (i.e. the speech act, in the underlying representation indicated by E, cf. Dik 1989 and Hengeveld 1990). I will finally adduce the Latin discourse marker at (which is a partial equivalent of English but) to illustrate the kind of problems FG might be confronted with in its development from sentence grammar to discourse grammar.
2.2. Latin connective particles and the structure of discourse

The particular subset of Latin discourse markers I investigated, and their conventional English translations, are given in (1):

(1) Latin “coordinating conjunctions” and their standard translations:
    nam; enim ‘for’
    igitur; ergo ‘so’
    autem; vero; at ‘but’

The items involved have traditionally been described (and would also have to be described in the current FG sentence model) in terms of clause combining, as the coordinating counterparts of subordinating conjunctions: nam and enim are for instance considered to express causal relations between independent clauses, igitur and ergo as expressing consecutive relations between independent clauses, and autem, vero and at as expressing adversative relations between independent clauses.

This traditional, semantic-syntactic account of Latin connective particles, which is summarized in the diagram in (2), leaves us, however, with a number of problems.

(2) Traditional account of Latin connective particles

<table>
<thead>
<tr>
<th>semantic</th>
<th>syntactic</th>
<th>coordinating</th>
<th>subordinating</th>
</tr>
</thead>
<tbody>
<tr>
<td>causal</td>
<td>nam; enim (<em>for</em>)</td>
<td>e.g. quia (<em>because</em>)</td>
<td></td>
</tr>
<tr>
<td>consecutive</td>
<td>igitur; ergo (<em>so</em>)</td>
<td>e.g. ut (<em>so that</em>)</td>
<td></td>
</tr>
<tr>
<td>adversative</td>
<td>autem; vero; at (<em>but</em>)</td>
<td>e.g. etsi (<em>although</em>)</td>
<td></td>
</tr>
</tbody>
</table>

For one thing, all of the so-called coordinating conjunctions mentioned in (1) appear to have “deviant” uses, that is, uses in which the particle concerned cannot reasonably be regarded as indicating a causal, consecutive or adversative relation between two adjacent main clauses. Moreover, within a semantic-syntactic account as illustrated in the diagram in 2, it is not possible to give an explanation for observed differences in distribution between alleged synonyms, that is, between items that end up in the same semantic-syntactic category (such as e.g. nam and enim).

These problems, which mutatis mutandis hold also for semantic-syntactic accounts of connective particles in other languages than Latin, can be solved if one approaches connective particles from a more discourse-oriented viewpoint. This has been done quite successfully for English connective particles by Schiffrin (1987), and for French connective particles by the Geneva school of Roulet and
others (see e.g. Roulet et al. 1985). Essential assumptions underlying such a discourse approach are: (i) that connective particles are somehow involved in marking the coherence structure of a discourse, and (ii) that discourse structure is a complex system of hierarchical and linear relationships between various types of units, rather than a monolithic sequence of grammatical clauses.

The discourse-pragmatic framework I use for the description and subcategorization of Latin connective particles (cf. Kroon 1995), which is inspired to a high degree by the Geneva discourse model, is based on a number of interrelated concepts. These concepts are summarized in (3):

(3) Concepts needed in a description of (Latin) discourse markers:

(i) units of discourse
(ii) hierarchical structure: acts, moves, and exchanges
(iii) relational structure (relations between units of equal rank)
   (a) list relations ("coordination" of discourse units of equal rank)
   (b) central-subsidiary relations ("subordination" of discourse units of equal rank)
   (c) interactional relations (relations between the constituent moves of an exchange)
(iv) extratextual relations
(v) thematic structure

2.2.1. Units of discourse

The first concept involved, discourse unit, concerns the constituents that are involved in discourse structure. Unlike constituents involved in grammatical sentence structure, discourse units are defined in communicative (and often also in thematic) terms, rather than in formal terms. This means that they are defined in terms of the linguistic action structure of the discourse (and sometimes also in terms of thematic structure, see below).

2.2.2. Hierarchical structure: acts, moves and exchanges

The communicative units that make up the discourse do not follow one another in an uninterrupted monolithic sequence, but are usually ordered in a hierarchical manner (concept (ii)). Following Sinclair and Coulthard (1975), whose distinctions have been taken over in many later discourse and conversation studies, these communicative units could be called, in increasing order of complexity, act, move, exchange, transaction and interaction. Interactions usually exist of one or more transactions. Every transaction between interlocutors may be said to consist of one or more exchanges. Every exchange can be analyzed into a restricted number of (initiating and reactive) moves. Every move, finally, is composed of one or more acts. For our present purposes especially the notions act, move and exchange are of interest.

Example (4) serves as an illustration. It shows the hierarchical-structural analysis of a rather straightforward stretch of discourse in its constituent communicative
Hierarchical structure:

A: I've got an extra ticket for the Santa Fe Chamber Orchestra tonight
   Are you interested?

B: Yes, wonderful

Acts (or discourse acts, as I prefer to call them) can be defined as the smallest identifiable units of communicative behaviour. In contrast to the higher order units called moves they do not necessarily further the communication in terms of approaching a conversational goal. This appears for instance from the fact that acts often need other, subsidiary discourse acts to call forth the intended reaction from the addressee.

The higher-rank unit called move is defined as the minimal free unit of discourse that is able to enter into an exchange structure. Unlike the act, a move is defined not only in terms of communicative unity, but also in terms of thematic unity. A move often consists of a central discourse act (which is the most important act in view of the speaker’s intentions and goals) and one or more subsidiary acts, which cohere also thematically with the central act. In example (4) the move by speaker A consists of a central discourse act (“are you interested?”), and a preceding subsidiary discourse act (“I’ve got an extra ticket for the Santa Fe Chamber Orchestra tonight”). The reactive move by speaker B (“yes, wonderful”), might perhaps be regarded as formed by a central act only (in which case move and discourse act coincide), although it could be defended equally well that the element yes is a discourse act on its own.

An exchange, finally, consists of at least one initiating move by speaker A and one reactive move by speaker B, to which in Conversation Analysis the term adjacency pair is applied.

I mention here, without further discussion, one complicating factor for analyses of the hierarchical structure of a discourse, namely that communicative units may also be embedded into one another. For instance, exchanges may be embedded in moves, and smaller, subsidiary moves may be embedded in larger moves (for the latter type of structure see also example (5) below). This feature of embedding makes the entire system recursive, and hence more adequate to deal with more complex structures.

2.2.3. **Relational structure**

The third concept that is relevant to the issue of discourse structure can be called *relational structure*. Relational structure differs from hierarchical structure in that
it involves relations between units of equal rank (cf. also Hengeveld, this volume).

There are at least three types of such relationships. The first type concerns coordination (or parataxis) of discourse units of equal rank. Acts may be coordinated with other acts, moves with other moves, and so on. In order to distinguish discourse coordination from grammatical coordination I use the term list relation.

In addition to "discourse coordination" we may, likewise, also distinguish "discourse subordination". That is, discourse units may be subsidiary with regard to more central discourse units of equal rank (central and subsidiary in terms of the conversational goals of the speaker, that is). In (4), for instance, the first discourse act of speaker A is subsidiary with regard to the second discourse act. The more specific rhetorical relation involved between the two acts in example (4) could for instance be called "preparation" or "introduction". More precisely we could say that the first discourse act of speaker A has the rhetorical function "preparation" or "introduction" with regard to the second discourse act.

It is to be noted that central-subsidiary relations obtain not only on a local text level between discourse acts, but also on a more global text level between successive moves in an extended monologue. A hypothetical example of such a structure is represented in (5):

(5)

```
  central act
     |      |
     |      |
     |      | central move_1
     |      |
  subsidiary act_1
     |      |
     |      |
     |      | extended monologue
     |      |
  subsidiary act_2
     |      |
     |      |
     |      |
  subsidiary act_3
     |      |
     |      |
     |      |
     |      |
     |      |
```

What we see in (5) is a structure in which a virtually complete move_1 (which happens to be internally complex), instead of being taken up by a reactive move by another speaker, is expanded by an additional unit of information. This additional move_2 (which, in turn, may be internally complex itself) has a subsidiary status with regard to the central move which captures the central discourse theme. The rhetorical relation involved is usually rather vague in such cases (e.g. "afterthought" or "supplement").

A typical marker of central-subsidiary relations in Latin is the particle nam. It does not only indicate central-subsidiary relations between acts, but also between moves within an extended monologue. This can be illustrated with examples (6) and (7). In (6) nam indicates a rhetorical central-subsidiary relation between two consecutive discourse acts (e.g. to be called "explanation" or "elaboration").
(6) Is pagus appellabatur Tigurinus; nam omnis civitas Helvetia in quattuor pagos divisa est
'The name of the canton was the Tigurine; for the whole state of Helvetia is divided into four cantons', Caes. Gal. 1.12.4

In (7), on the other hand, nam indicates a rhetorical central-subsidiary relation between two moves, the first move consisting of at least two discourse acts (viz. Phoenices ... condidere and eaeque ... fuere), the latter presumably of only one discourse act (nam ... dicere). The second move, which is introduced by nam, is added as a kind of afterthought, and clearly has a subsidiary status with regard to the preceding move. It is to be noted that the unit introduced by nam is related to the entire preceding move and not just to one (viz. the latter) of its component acts.

(7) Phoenices ... Hipponem Hadrumetum Leptim aliasque urbis in ora maritima condidere; eaeque brevi multum auctae, pars originibus suis praesidio, aliae decori fuere. Nam de Carthagine silere melius puto quam parum dicere
'the Phoenicians ... founded Hippo, Hadrumetum, Leptis, and other cities on the coast. These soon became very powerful and were in some cases a defence and in others a glory to the mother city. For about Carthago (nam de Carthagine) it is better, I think, to be silent rather than say too little', Sal. Jug. 19.2

Another Latin particle that is typically involved in marking rhetorical central-subsidiary relations between communicative units is igitur. Igitur has traditionally been described in terms of consecutive clause combining (cf. the diagram in 2). In a sense, nam and igitur are complementary means: whereas nam signals that the upcoming discourse unit has a subsidiary role with regard to a preceding unit, igitur indicates that the upcoming discourse unit has a central status with regard to a preceding unit, the latter of which has a preparatory (or otherwise subsidiary) function. This particular discourse function of igitur is illustrated in examples (8) and (9). In (8) igitur signals a local central-subsidiary relation between two discourse acts: the first sentence functions as a justification or motivation for the request uttered in the second sentence, which counts as communicatively more central.

(8) (beginning of a letter) Et mihi discendi et tibi docendi facultatem otium praebet. Igitur perquam velim scire, esse phantasmata et habere propriam figuram ... putes ... an ...
'The present recess from business affords you to give, and me to receive, instruction. So, I am extremely desirous to know your sentiments concerning spectres, whether you believe they actually exist and have their own proper shapes ..., or ...', Plin. Ep. 7.27.1

Like nam, igitur does not only occur between acts, but also between moves within an extended monologue. This can be illustrated with (9), in which igitur signals a
more global central-subsidiary relation between two extensive moves within a more
encompassing monological stretch of discourse.

(9) Ut *igitur* ante meridiem discesserunt paulumque requierunt ...  
    ‘So, after they had separated before noon to take a brief siesta, ...’, Cic. de Orat. 3.17)

The 16 paragraphs that precede the segment cited here function as a preliminary to
the narrative proper that the author Cicero restarts in section 17 of his third book
on oratory. *Igitur* forms an explicit signal for this transition.

The last type of relational structure distinguished in (3) above (concept (iii-c)), is
called *interactional relation*. It concerns relations between the constituent moves of
an exchange. In example (4), for instance, we can distinguish an invitation-
acceptance relation between the initiating move of speaker A and the reactive move
by speaker B. We can also say that the initiating move of speaker A has the
*interactional function* of “invitation”, the reactive move of speaker B the
*interactional function* of “acceptance”.

It should be emphasized that interactional functions differ crucially from rhetorical
functions: interactional functions are assigned at the interactional level of discourse,
and indicate the function of a move in the interactional exchange. Rhetorical
functions, on the other hand, are assigned on what I call the presentational (or, with
another term, rhetorical) level of discourse, and concern the internal structure of a
complex move. Interactional relations obtain, so to speak, on a higher level of the
hierarchical discourse structure than rhetorical relations. The initiating move in
example (4) may now be visualized as in (10):

(10) Interactional functions and rhetorical functions

    A: I've got an extra ticket for the Santa Fe Chamber Orchestra tonight.  
       Are you interested?

    Speaker A:  move\textsubscript{Invitation}  \downarrow
                  \textsubscript{Preparation} \downarrow
                  interactional     rhetorical
                  function          function

Furthermore it is to be noted that the concept of *illocutionary force* or
*illocutionary function*, as it is used in the FG sentence model, differs from both the
interactional function and the rhetorical function. Whereas an illocutionary function
is determined by the lexical and grammatical properties of the isolated, individual
utterance, the interactional and rhetorical functions are defined in terms of the
relation that exists between a particular discourse unit and the wider verbal and
non-verbal discourse context.

Thus, in (4), the subsidiary act\textsubscript{1} and the central act\textsubscript{2} both have their own
illocutionary function (e.g. to be called assertion and question). The more specific
communicative intention of the speaker, which is taken up on the level of the
exchange by the corresponding move of speaker B, is however captured by the
interactional function of the entire move. It is true that for the final interpretation of
the interactional function of the move within the exchange the illocutionary
function of the central act is commonly a more important factor than the
illocutionary function of the subsidiary act(s). However, the interactional function
of the move and the illocutionary function of the speech act constituting the central
discourse act are not necessarily identical, as is proved by example (4), in which
the specific interpretation of the interactional function of the move is co-determined
by, and dependent on, the presence of the subsidiary act.

Other support for the usefulness of distinguishing between illocutionary function
and interactional function is provided by examples such as (11):

(11) A: The roof of my house needs repairing, but I have no time to do it
myself.
B: My neighbour is an excellent roofer. Besides he’s out of work at the
moment.
A: Okay, I’ll give him a call.

In this example B’s move consists of two subsidiary acts, both of which have the
illocutionary function of an assertion. The function of the entire move (the
interactional function), however, is suggestion or advice, as is proved by the
occurrence of the assenting discourse marker okay in the final reactive move by A.7
Distinguishing between illocutionary function, rhetorical function, and interactional
function may also solve the problem of how to account for so-called bi-clausal
speech acts, a problem that has been adduced in the context of FG by Bolkestein
(1992). In sentences such as (12) we can assign the interactional function of
“threat” to the entire move. This move consists of a subsidiary discourse act (“touch one drop”) and a central act (“I’ll kill you”), which maintain a rhetorical
relation of some kind ( provisionally called “relevance condition” here). Besides
both acts can be said to have an illocutionary function: the first act is a specific type
of directive, the second a specific type of commissive.

(12) touch one drop and I’ll kill you
interactional function: threat
rhetorical relation: relevance condition
illocutionary functions: directive and commissive

2.2.4. Extratextual relations

There are two more discourse concepts that turn out to be relevant for an adequate
account of the Latin particles mentioned in (1). The first is the concept of
extratextual relation ( concept (iv) in (3) above). This concept accounts for the fact
that coherence relations in discourse do not only obtain between two verbally
expressed units of text, but also between units of text and some extratextual
element, for instance some aspect of the non-verbal interactional situation in which
the text is embedded. This extratextual type of relationship is relevant for an
different account of, for instance, the Latin discourse markers *enim* and *vero*,
mentioned in the diagram in (2) in the categories “causal coordinating” and
“adversative coordinating”, respectively. For lack of space I will leave out details

2.2.5. Thematic structure

The last concept I consider relevant to the issue of discourse structure and its
marking is the concept of thematic structure (concept (v) in (3) above), which is to
be distinguished, as I stated above, from the linguistic action structure of a
discourse. Thematic structure concerns the hierarchical segmentation of a discourse
into thematically coherent units, which are based on the continuity of particular
information units across sentence boundaries (better known as thematic or topical
chains). I will not elaborate on this type of discourse structure, which is at least as
complicated as the linguistic action structure. The distinction between both types
of structure is for instance useful to account for intuitively felt differences between
the Latin *but*-equivalents *autem* and *at*. *At* is primarily a marker of protests and
objections, that is, of challenging or problematising reactive moves. In other
words, *at* is a marker of a particular type of interactional relation between the
constituent moves of an exchange. *At* can therefore be said to pertain to the
linguistic action structure of a discourse. Example (13) serves as an illustration of
the characteristic discourse function of *at*:

(13) eloquere # at pudet
    ‘Go on, tell me # But I’m ashamed to’, Pl. *Cas.* 911

The Latin *but*-equivalent *autem*, on the other hand, functions primarily as a marker
of thematic (or topical) discontinuity, and hence pertain to the thematic structure
of a discourse. By way of illustration I give, in (14), an example in which *autem*
signals an interruption of a thematic chain that is based on continuity of the time of
action:

(14) Itinerum primum laborem ... accipite quam facilem sibi iste et
    iucundum...reddiderit. Primum temporibus hibernis ... (extensive
description). Cum *autem* ver esse coeperat ...
    ‘To speak first of the laborious duty of making journeys, ... let me tell
    you how easy and agreeable he made it for himself. To begin with, during
    the winter he ... (extensive description). When spring began, *on the other
    hand, ...*, Cic. *Ver.* 5.26-27)

The traditional description of the Latin *but*-equivalents *at* and *autem* in terms of
adversative clause combining, as is indicated in the diagram in (2), conceals the
fact that we are dealing here with markers of radically different aspects of discourse
structure.
2.2.6 Summary

Summarizing so far, we can say that the description and classification of connective particles such as those listed in (1) may profit from a linguistic approach in which discourse structure is taken into account. The rather unsatisfactory picture given in (2) can be replaced by a much more sophisticated system of Latin markers, a simplified version of which is given in (15):

(15) Revised account of Latin so-called coordinating conjunctions

<table>
<thead>
<tr>
<th>intratextual</th>
<th>extratextual</th>
</tr>
</thead>
<tbody>
<tr>
<td>thematic structure</td>
<td>linguistic action structure</td>
</tr>
<tr>
<td>presentational level</td>
<td>interactional level</td>
</tr>
<tr>
<td>(&quot;rhetorical relations&quot;)</td>
<td>(&quot;interactional relations&quot;)</td>
</tr>
</tbody>
</table>

| so-called adversative | so-called causal | so-called consecutive |
| autem | nam | igitur |
| at | enim | ergo |

2.3. Discourse structure and FG

Now that we have illustrated the necessity for distinguishing a number of discourse concepts, the question may be raised how the concepts involved might be integrated in the current FG model. This is a highly complicated matter about which I want to make some very general statements only. So much is clear, that there is a high degree of analogy between the concepts involved in the layered clause structure and the concepts I sketched above as being involved in discourse structure: both are hierarchical systems in which the concepts of units, functions and relations play an important role.
For the connection of both systems there are in essence two options. The first option (cf. Hengeveld, this volume) consists in an integration of the current layered clause model into a wider hierarchical discourse model, by adding one, and probably more higher levels ("upward layering"). The result is a continuum of successively larger units, in which, for instance, a communicative exchange consists of a number of moves, which, in turn, consist of one or more speech acts, in which a speaker transmits a propositional content to an addressee, in which reference is made to a state of affairs, etc. (I will not go into details, cf. Hengeveld, this volume):

(16) Option 1: continuum ("upward layering")

```
T
Exchange
T
Move
T
Speech act
T
Propositional Content
T
State of affairs
```

The viability of such a solution depends crucially on the question whether the highest unit of the layered clause structure (called speech act and represented by E) fully coincides with the lowest unit of a layered discourse structure, for which I use the term discourse act. My provisional answer would be that there is no such full equivalence. That is, a speech act E with the form of a grammatical clause, does not constitute the smallest unit of discourse structure, at least not as E is defined in the current FG-model (cf. Dik 1989 and Hengeveld 1990).

In my opinion a discourse act should be defined as the smallest identifiable unit of discourse whose specific communicative function is largely determined by its position within a larger communicative structure. A speech act, by contrast, is defined in Functional Grammar in strictly intrasentential terms, that is, its specific illocutionary features are determined by the lexical and grammatical properties of the isolated clause. Whereas every illocutionary act may adopt, when used in actual discourse, the role of a discourse act, it is, conversely, not the case that every discourse act has the form of a full-blown illocutionary act in the sense of E, that is, of a main or subordinate clause that is provided with an illocutionary function. In my opinion, the status of discourse act can for instance be assigned also to extraclausal phenomena such as Theme and Tail constituents, as seems to be hinted at also by Hannay (1994). Theme and Tail constituents, which are notoriously difficult to account for in sentence models, clearly fulfil the roles of discourse acts which maintain a rhetorical relation of orientation or elaboration with regard to, what Hannay calls, the "core" of the sentence. They function, in other words, as subsidiary discourse acts with regard to a central discourse act. Examples
are (17a) and (17b), which (according to Dik 1989 and Hengeveld 1990) each consist of only one E, but host, in my opinion, two separate discourse acts:

(17)  
   a. That man, he is a liar  
   b. He is a liar, that man

It is to be noted that descriptions like this require a view of the FG-sentence as a stretch of discourse rather than as a grammatical unit.

A possible criterion for assigning discourse act status to Theme constituents and other dislocated elements (and hence support for the view that discourse act and illocutionary/speech act are essentially different concepts) is provided by Roulet (1991) on the basis of Berrendonner (1990). This criterion derives from the observation that in a sequence of two independent clauses, which inherently constitute two independent discourse acts, it is possible to resume an NP from the first clause, not only by means of an anaphoric pronoun, but also by means of a definite expression (more or less functioning as a restart), whereas this is not possible in a complex clause in which one clause is embedded in the other (that is, in a complex clause in which there is obviously no combination of two independent communicative acts which maintain a rhetorical relation). This is illustrated in (18a) and (18b). Application of this criterion to sequences with a Theme constituent appears to confirm the hypothesis that Theme constituents have the status of a discourse act, as is illustrated in (18c):

(18)  
   a. My neighbour died. He/The poor guy didn’t have any family  
      (2 discourse acts in an elaboration relation)  
   b. My neighbour didn’t know that he/*the poor guy was incurably ill  
      (1 discourse act)  
   c. My neighbour, he/the poor guy is incurably ill  
      (2 discourse acts in an orientation relation)

The criterion can also be applied to other sequences, such as combinations of main and subordinate clauses. This is illustrated in the French examples (19) and (20), cited from Roulet (1991: 64-65):

(19)  
   a. Pour que ma voisine puisse faire vivre sa famille, elle/la pauvre femme est obligée de faire des ménages (2 discourse acts)  
   b. Ma voisine est obligée de faire des ménages pour qu’elle/*la pauvre femme puisse faire vivre sa famille (1 discourse act)

(20)  
   a. Quand mon voisin en a assez de la solitude, il/le pauvre homme vient me rendre visite (2 discourse acts)  
   b. Mon voisin vient me rendre visite, quand il/ le pauvre homme en a assez de la solitude (2 discourse acts)

Although more linguistic criteria might be needed, my provisional conclusion would be that discourse act and illocutionary/speech act (as the latter is defined in
the FG clause model) are conceptually different items which belong to different systems of structure: the first to a discourse system, the second to a sentence system. A continuum solution as sketched in (16) would therefore be difficult to uphold.

A second problem for a continuum solution as indicated in (16) might be the mechanism of recursivity, which I briefly mentioned earlier. Recursivity in discourse structure obtains for instance when an exchange is embedded in an ongoing move, as is illustrated in (21):

(21) Recursivity

A: Today I got a call from the software company. Did I mention them to you?
B: Sure, the company where they had this vacancy.
A: They offered me the job.

As yet it is not clear to me how structures like this, in which an exchange functions as a constituent element of a complex move, could be accounted for in an FG discourse model that is based on unidirectional upward layering, in which moves can only be formed by speech acts and not by higher level discourse units.

A final, related problem I want to mention can be illustrated with the Latin particle _at_, a partial equivalent of English _but_. As illustrated in (13), _at_ is a typical marker of interactional relations between the constituent moves of an exchange, more specifically of protests and objections. It is therefore predominantly used in dialogical contexts, after a change of speaker. Interestingly, however, the particle occurs also in one highly specific type of monological environment, namely in the "apodosis" of a quotative conditional (an _if ... but_-construction, so to speak). An example is (22):

(22) _si tu in legione bellator clues, at ego in culina clueo_  
     lit.: "if you are known as a hero in the army, _but_ that's what I am in the kitchen" = 'you may be a well known hero in the army, that's what I am in the kitchen', Pl. *Truc.* 615

In order to account for the use of the "conversational" particle _at_, the conditional clause in (22) has to be described as containing (in an indirect, quotative way) the words of an "embedded voice" against which the speaker himself raises, in the main clause, an objection. Thus, what we have here, is an exchange structure within the limits of a grammatical sentence. The remarkable _si ... at_-constellation might form support for the view that the communicative, linguistic action structure of a discourse may be quite independent from its grammatical structure: in terms of communicative structure so-called "apodotical" _at_ can be said to connect two alternating moves within an interactional exchange; in terms of grammatical...
structure, however, we are dealing with a connection between a subordinate and a main clause, which are uttered by one single person. In other words, the use of at in pseudo-apodotical clauses seems to demonstrate that grammatical sentences may have an internal communicative structure. This observation would form a major complication for discourse grammars that take the grammatical clause or sentence as a starting point on the basis of which larger communicative structures (such as moves and exchanges) are built.

An as yet more feasible alternative for the continuum solution sketched in (16) might therefore be a modular approach, in which discourse structure and sentence structure are treated as separate, but strongly interrelated and analogous systems, a solution that has also been proposed by Roulet (1991) in the context of comparable issues in the Geneva discourse model. This second option is illustrated in (23):

(23) Option 2: separate modules

```
<table>
<thead>
<tr>
<th>discourse structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>exchange &gt; move &gt; discourse act</td>
</tr>
</tbody>
</table>
```

```
<table>
<thead>
<tr>
<th>sentence structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>speech act &gt; propositional content &gt; state of affairs</td>
</tr>
</tbody>
</table>
```

The essence of the figure in (23) is that there is a discourse module (which, in turn, may be part of a wider theory of verbal interaction), and a sentence module, the connection between which is made via the smallest unit in the discourse module (the discourse act) and the largest unit in the sentence module (the speech act). Within such a view the main challenge for FG would be (in addition to developing a layered discourse model analogous to the layered clause model) to describe, as precisely as possible, the “division of labour” between both modules, and to give an adequate detailed account of the nature of the connection between both types of structure.

Notes

1. I wish to express my thanks to Machtelt Bolkestein, Harm Pinkster and, especially, Rödie Risselada for their helpful comments and criticism on
earlier drafts of this paper.

2. In Sinclair and Coulthard's original model, which is based exclusively on classroom interaction, the largest unit is called “Lesson”. The distinctions have been taken over in e.g. Edmondson (1981) and in the Geneva discourse model put forward in Roulet et al. (1985).

3. The definition is adapted from Edmondson (1981: 6).

4. In the latter case wonderful can be considered an expressive subsidiary comment.

5. By rhetorical relation I mean the type of functional relationship that obtains between the constituent discourse units of a monological stretch of text and which reflects the language user's options of organization and presentation. The term is derived from Rhetorical Structure Theory (cf. e.g. Mann and Thompson 1989) and can be applied to both list relations and central-subsidiary relations.

6. For the moment I will leave open the question whether a rhetorical function should be assigned to both central and subsidiary act, or to only one of them (notably the subsidiary act).

7. A comparable line of reasoning can be found in Butler (1982: 115-120).

8. Hannay does not use the concept of discourse act in his argumentation. Another instance of a "non-clausal" type of discourse act is the apposition.


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Roulet, E.

Roulet, E.—Auchlin, A.—Moeschler, J.—Rubattel, C.—Schelling, M.

Schiffrin, D.

Sinclair, J.M.—Coulthard, R.M.
A functionally oriented analysis of spoken dialogue between individuals linked by a computer network

J.H. Connolly¹, A.A. Clarke², S.W. Garner³ and H.K. Palmén⁴

3.1. Introduction

One of the major tests of a Functional Linguistic Theory such as FG is that it should provide a suitable framework for the analysis and description of real-life verbal communication. The aim of the present paper is to consider the adequacy of current FG for that purpose, with reference to a corpus of data obtained from a recent scientific study of human interaction in the context of computer-based Information Technology (IT).

The specific branch of IT with which we are concerned is the emerging field of Computer Supported Cooperative Work (CSCW); see for example Wilson (1991), Diaper and Sanger (1993). The field of CSCW is concerned (inter alia) with the question of how computing systems may be designed to support groups of two or more individuals who are working in cooperation with one another to accomplish some common task. As is well known, most existing software is designed essentially for the use of single individuals, and is therefore not necessarily suitable as a basis for CSCW. Consequently, there is a need for the provision of systems engineered with the specific aim of supporting multi-user cooperative work. Such systems are often referred to under the heading of “groupware”.

Of course, before high-quality groupware can be provided, it has first to be designed! Hence the question arises of what the design requirements of CSCW systems might be. The aim of our investigation was to address this issue in relation to one particular application domain, namely the design of industrial products through the cooperative activity of a pair of professional practitioners situated in separate geographical locations. Being physically remote from each other, these cooperating designers would be unable to communicate face-to-face, but would need to rely on electronic media to support their communicative interaction. This raised the problem of specifying what their exact communicational requirements would be — a question that would need to be answered in detail before an appropriate groupware-based system could be designed to support their work.

It is upon this specific question that our investigation was focused. The stated purpose of the research was that of “establishing the communicational requirements of IT systems that support humans cooperating remotely”, and the investigation thus became known as the ROCOCO (RemOte COperation and COmmunication) Project; see Scrivener et al. (1993a). It involved observing and recording various pairs of (student) product designers under different experimental conditions (see below) and then conducting a detailed analysis of their communicative activities in the context of their cooperative task.

A crucial part of the study consisted in a functionally oriented linguistic analysis
of the dialogue between the designers in each pair. This functionally oriented analysis, together with the results which it yielded, constitutes the basis of the present paper, and further details will be presented below. The specific contribution of FG to the analysis will then be assessed, and some conclusions drawn.

Before proceeding, however, two points are worth noting. Firstly, the questions of whether, to what extent and in what manner FG might be extended to encompass a discourse level is an issue of much current interest in the FG community. It is hoped, therefore, that this paper may be seen as a contribution to that debate. Secondly, although FG has been applied to a variety of computational domains — see for example Bakker (1990, 1994a, 1994b), Bakker, Van der Korst and Van Schaaik (1988), Connolly and Dik (1989) and all the chapters therein, Dik (1987, 1992, 1994), Kwee (1987, 1988, 1994a, 1994b), Marshall (1993), van der Korst (1987), Weigand (1990) — the ROCOCO project represents its earliest application to CSCW. It is thus hoped that the present paper will also be viewed as a further step in the development of FG as vehicle for the advancement of linguistically oriented IT.

3.2. The data and their acquisition

For the purposes of our experimental study it was necessary to provide a suitable technological infrastructure. This consisted of two workstations, situated in separate laboratories, but linked via a computer network. Each workstation was equipped with two large screens, a stylus and tablet for drawing, a microphone-and-headphone set, and a video camera directed at the user. One of the screens at each workstation was dedicated to supporting the design task, while the other was available for the display of the video image of the person sitting at the other workstation. The presence of the microphone-and-headphone sets made it possible for the designers to talk to each other while carrying out their cooperative work.

An important software component of the technological infrastructure developed for this project was the “ROCOCO Sketchpad”; see Scrivener et al. (1993b). This was manifested in the form of a large window, displayed simultaneously on the design-task screen of both workstations. Either designer was able to sketch and (if necessary) write in this window, using different colours if desired. In addition, both designers had available a “telepointer”, manifested by a small arrow on the screen and controlled by means of a mouse, enabling them to direct attention towards any part of the shared drawing surface contained within the window.

Each pair of designers was given a specific “brief” (i.e. a description of the task that they were expected to attempt to complete in the hour allotted to them for this purpose). For example, they might be asked to design a machine for sweeping up fallen leaves from gardens. All their words and relevant actions were recorded, partly with the aid of additional video cameras situated above and behind each designer. The spoken and/or written dialogue was subsequently transcribed, and thus became available for use as the corpus on which this paper is based. Various forms of analysis were applied to the transcript (see below), sometimes using the full transcripts, but more usually based on a random 10-minute sample of each of the tran-
scripts involved. Because the overall aim of the ROCOCO Project was to establish the communication requirements of cooperating designers, our experiments involved comparing their performance under different conditions. In all, 20 pairs of designers took part, and these were divided into four equal groups. One group worked with the technological infrastructure exactly as described above (known as the “full configuration”), with both the audio and video links switched on; one group worked with an audio link but no video link (this having been switched off); one group employed a video link but no audio link; and the remaining group had neither a video nor an audio link. The ROCOCO Sketchpad was, however, available in all cases.

For the purposes of the present paper, we shall be concerned only with the data stemming from the two conditions in which the audio link was switched on and spoken communication therefore possible. The data in question were subjected to:

(1) a. A pragmatically-directed discourse-level analysis.
   b. A pragmatically-directed grammatical-level analysis.

We shall now consider these in turn.

3.3. Discourse-level analysis

The discourse-level analysis may classified under four headings, as follows.

3.3.1. Hierarchical analysis

An attempt was made to analyse each transcript in terms of the hierarchical structure proposed by Coulthard (1977: ch. 5), namely discourse, transaction, exchange, move and act. The identification of moves and acts was relatively unproblematic. Exchanges, too, could be identified, though by no means every sequence of moves lent itself readily to analysis in such terms. However, there seemed little justification for dividing any of the transcripts into more than one transaction. Nor did it prove possible to identify any other useful hierarchical unit intermediate between discourse and exchange or move, even though every transcript represented a dialogue of approximately an hour in duration. Nevertheless, the division of each transcript into acts, moves and (where possible) exchanges was undoubtedly worthwhile, as it provided a basis for further and more detailed analysis.

3.3.2. Analysis of acts

With the exception of a small number of incomplete utterances which did not contain sufficient material to enable them to be analysed unambiguously, each act was analysed in four different ways, as follows.
3.3.2.1. Speech act categories

The first mode of analysis involved the use of Speech Act categories. Now, in FG (see Dik 1989: 46-50, 59-60), speech acts are classified in terms of traditional functional categories such as "declarative", "interrogative" and "imperative", which are manifested through illocutionary operators within the underlying representation of the clause. However, we sought a more detailed analysis than is offered by this system, and having no reason in the present context to demand that the categories should have regular grammatical reflexes of any kind, settled upon a set of categories based mainly on Searle (1976), but incorporating the modifications suggested by Hancher (1979):

(2) a. Representative (Rep)
   b. Directive (Dir).
   c. Commissive (Com).
      i. Unilateral (Uni).
      ii. Bilateral (Bi).
   d. Commissive-directive (Com-dir).
   e. Expressive (Exp).
   f. Declarational (Dec):
      i. Ordinary (Ord):
         a. Unilateral (Uni).
         b. Cooperative (Co).
      ii. Representative-declarational (Rep-dec):
         a. Unilateral (Uni).
         b. Cooperative (Co).

Representative speech acts (e.g. asserting) commit the speaker to the truth of the expressed proposition. Directives (e.g. requesting) attempt to cause the addressee to do something. Commissives commit the speaker to seek some future course of action. If unilateral (e.g. promising) they commit only the speaker, but if bilateral (e.g. contracting) they commit both parties. Commissive-directives (e.g. offering) commit the speaker to some future course of action and at the same time attempt to cause the addressee to do something. Expressives (e.g. thanking) make manifest a psychological state. Declarational speech acts bring about immediate changes in the institutional state of affairs. The ordinary type create a new state of affairs, and are subdivided into unilateral and cooperative. If unilateral (e.g. nominating someone without that person's consent) they do not involve the cooperation of the other party; otherwise they are cooperative (e.g. nominating someone with that person's consent). As for the representative-declarational type, these establish an official view on an existing state of affairs. Again they may be unilateral (e.g. ruling that a goal has been scored in football) or cooperative (e.g. returning a verdict).

As can be seen from Table 1, over 50% of the acts in the data turned out to be representatives, and the majority of the remainder were directives. Interestingly, no explicitly cooperative acts were attested, presumably as the situation did not call for any declarational utterances, of which the cooperative acts constitute subtypes.
Table 1. Frequency-of-occurrence of the different types of speech act. (Based on a full analysis of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th></th>
<th>Rep</th>
<th>Dir</th>
<th>Com</th>
<th>Com</th>
<th>Exp</th>
<th>Dec</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unidir</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full</td>
<td>2346</td>
<td>1038</td>
<td>239</td>
<td>138</td>
<td>221</td>
<td>251</td>
<td>0</td>
</tr>
<tr>
<td>Config.</td>
<td>55</td>
<td>25</td>
<td>6</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Audio</td>
<td>1974</td>
<td>766</td>
<td>289</td>
<td>185</td>
<td>391</td>
<td>282</td>
<td>0</td>
</tr>
<tr>
<td>Only</td>
<td>5</td>
<td>20</td>
<td>7</td>
<td>5</td>
<td>10</td>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>Pooled</td>
<td>4320</td>
<td>1804</td>
<td>528</td>
<td>323</td>
<td>612</td>
<td>533</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td>22</td>
<td>7</td>
<td>4</td>
<td>8</td>
<td>7</td>
<td>0</td>
</tr>
</tbody>
</table>

3.3.2.2. Phatic communication and metacommunication

The second type of analysis dealt with aspects of communicative function which are not brought to the fore by means of Speech Act categories, but are identified as important by Jakobson (1960) and others. Certain of the acts had a phatic function, whether confirmatory (indicating that the listener is following the thread of the conversation) or social (for example, talking about the weather). Other acts bore a metalinguistic function (referring to the linguistic communication itself) or what we termed a "metavisual" function (referring to some visual aspect of the communication process; e.g. "I'm having trouble drawing straight lines again"). Where appropriate, therefore, acts were allocated to one or other of the following categories:

(3) a. Phatic:
   i. Social.
   ii. Confirmatory.

b. Metacommunicative:
   i. Metalinguistic.
   ii. Metavisual.

As is clear from Table 2, all four types were reasonably common, especially the confirmatory sort.
Table 2. Frequency-of-occurrence of phatic and metacommunicative acts. (Based on a full analysis of the 10 dialogues.)

<table>
<thead>
<tr>
<th>Phatic</th>
<th>Metacommunicative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>Confirmatory</td>
</tr>
<tr>
<td>Full Config.</td>
<td>345</td>
</tr>
<tr>
<td>Audio Only</td>
<td>217</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>562</td>
</tr>
</tbody>
</table>

Table 3. Frequency-of-occurrence of different types of content of acts. (Based on a full analysis of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th>Detailed</th>
<th>Strategic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief</td>
<td>Environment</td>
</tr>
<tr>
<td>Full Config.</td>
<td>3118</td>
</tr>
<tr>
<td>Audio Only</td>
<td>2602</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>5720</td>
</tr>
</tbody>
</table>
3.3.2.3. Basic content

The third form of analysis consisted of a very general classification of the content of each act, using the following categories.

(4) Relating to:
   a. The brief:
      i. Detailed level.
      ii. Strategic level.
   b. The environment.
   c. The participants themselves.
   d. Other matters.

As Table 3 shows, the majority of acts were devoted to the details of the brief.

3.3.2.4. Occurrence of concrete third-person deixis

In face-to-face communication, deictic expressions may readily be used to refer to physical entities present in the environment besides the participants themselves. This kind of usage may be termed:

(5) Concrete third-person deixis.

However, in remote communication (i.e. where the participants are not located in the same place), the successful use of concrete third-person deixis may be less feasible, and may perhaps be avoided. The fourth mode of analysis was designed to test

Table 4. Frequency-of-occurrence of instances of concrete third-person deixis. (Based on a full analysis of the 10 dialogues.)

<table>
<thead>
<tr>
<th></th>
<th>Instances of Concrete Third-person Deixis</th>
<th>Total Number of Acts</th>
<th>Instances per Act</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Config.</td>
<td>2808</td>
<td>4233</td>
<td>0.66</td>
</tr>
<tr>
<td>Audio Only</td>
<td>4070</td>
<td>3887</td>
<td>1.05</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>6878</td>
<td>8120</td>
<td>0.85</td>
</tr>
</tbody>
</table>
this hypothesis by identifying such deixis if and when it occurred. As it turned out, however, concrete third-person deixis was a very common occurrence (see Table 4).

3.3.3. Conversational analysis

As is well known, conversation is normally structured in terms of alternating turns, and the present corpus was no exception. With reference to the hierarchical organisation of discourse, these turns are here equated with moves. In the light of these observations, the dialogues were further analysed in two ways.

3.3.3.1. Competition for the floor

Firstly, note was made of occasions where both speakers found themselves in competition for the floor, for example when both were speaking at once or when one interrupted the other. Such occasions were recorded under the heading of:

(6) Competition points.

As can be seen from Table 5, these competition points were fairly frequent.

Table 5. Frequency-of-occurrence of competition points. (Based on a full analysis of the 10 dialogues.)

<table>
<thead>
<tr>
<th></th>
<th>Competition Points</th>
<th>Total Number of Turns</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Config.</td>
<td>305</td>
<td>713</td>
</tr>
<tr>
<td>Audio Only</td>
<td>335</td>
<td>620</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>690</td>
<td>1333</td>
</tr>
</tbody>
</table>

3.3.3.2. Adjacency pairs

Secondly, exchanges analysable in terms of adjacency pairs were noted, using a set of categories inspired mainly by the work of Schegloff and Sacks (1974), Atkinson and Drew (1979), Dore (1979) and Levinson (1983: ch. 6):
A functionally oriented analysis of spoken dialogue

(7) a. i. Pre-request.
   ii. Go-ahead or Rebuff.
b. i. Request.
   ii. Compliance or Refusal.
c. i. Offer or Invitation or Suggestion.
   ii. Acceptance or Refusal.
d. i. Assessment.
   ii. Agreement or Disagreement.
e. i. Blame.
   ii. Denial or Admission.
f. i. Attention-gainer.
   ii. Acknowledgement.
g. i. Clarification.
   ii. Comprehension or Puzzlement.
h. i. Statement.
   ii. Acknowledgement.
j. i. Question.
   ii. Expected Answer or Unexpected Answer.

It was also recognised, of course, that this last-mentioned pair can sometimes be extended into a triad:

(8) i. Question.
   ii. Expected Answer or Unexpected Answer.
   iii. Feedback.

As can be seen from Table 6, the overwhelming majority of adjacency pairs in the data were either Statement followed by Acknowledgement or Question followed by Expected Answer. On the other hand, the triad in (8) was not attested at all.

3.3.4. Discourse progression

It is known from the work of Lawson (1980) that design strategies can be either “problem focussed” or “solution focussed”. However, it is widely believed in the design community that people engaged in design activity of many types progress by exploiting both strategies to a greater or lesser extent. The authors are unaware of any other research which exploits discourse analysis for the purpose of illuminating progression, and this has implications for the wider applicability of the work within design research.

It was anticipated that the dialogue of a pair of cooperating designers would display an orientation towards solution or problem. Similarly, it was recognised that some of the discourse would be concerned with the actual process of carrying out the task, particularly in the potentially unfamiliar context of CSCW. In the light of this, each act was, as far as possible, classified in terms of the following three categories:
Table 6. Frequency-of-occurrence of attested adjacency pairs. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th></th>
<th>Request + Compliance</th>
<th>Offer/ Invitation/ Suggestion + Acceptance</th>
<th>Statement + Acknowledgement</th>
<th>Question + Expected Answer</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>1</td>
<td>6</td>
<td>58</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td><strong>Audio Only</strong></td>
<td>3</td>
<td>5</td>
<td>114</td>
<td>103</td>
<td>225</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>51</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td><strong>Pooled Total</strong></td>
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<td>18</td>
<td>245</td>
<td>183</td>
<td>451</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>4</td>
<td>54</td>
<td>41</td>
<td></td>
</tr>
</tbody>
</table>

(9) a. Problem-oriented.
b. Solution-oriented.

These categories are illustrated in the following extract:

Speaker A: You’ve got to think about how we’re going to fill the thing up.  
(Problem-oriented.)
It’s got to be a screw-top lid, hasn’t it, you reckon, because then you can screw it up tight and that keeps it hot or cold.  
(Solution-oriented.)

Speaker B: But you just like, you just screw all of this off.  
(Solution-oriented.)

Speaker A: Yeah.  
(Solution-oriented.)

Speaker B: So, you know, I’m just trying to think of a good example.  
(Process-oriented.)

For the purpose of the analysis the data were subdivided into twelve 5-minute blocks of time. The number of each type of act occurring in each block was counted. The results reveal a consistent production of speech acts throughout each experiment. (See Table 7 and Fig 1 for a typical case.) The pairs appear to adopt a solution-oriented approach (with three to four times the level of this category of act...
Table 7. Frequency-of-occurrence of problem-oriented, solution-oriented and process-oriented acts in the dialogue between the designers in one of the pairs. (For this purpose the dialogue has been divided into 5-minute sections.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th>Section</th>
<th>Problem-oriented</th>
<th>Solution-oriented</th>
<th>Process-oriented</th>
<th>Unclassified</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>33</td>
<td>29</td>
<td>18</td>
<td>15</td>
<td>95</td>
</tr>
<tr>
<td></td>
<td>35</td>
<td>31</td>
<td>19</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>46</td>
<td>13</td>
<td>9</td>
<td>78</td>
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<td></td>
<td>13</td>
<td>59</td>
<td>17</td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>10</td>
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<td>7</td>
<td>11</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>15</td>
<td>58</td>
<td>11</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>17</td>
<td>51</td>
<td>3</td>
<td>3</td>
<td>74</td>
</tr>
<tr>
<td></td>
<td>23</td>
<td>69</td>
<td>4</td>
<td>4</td>
<td></td>
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<tr>
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<td>10</td>
<td>38</td>
<td>8</td>
<td>6</td>
<td>62</td>
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<tr>
<td></td>
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<td>61</td>
<td>13</td>
<td>10</td>
<td></td>
</tr>
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<td>10</td>
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<td>14</td>
<td>57</td>
<td>4</td>
<td>20</td>
<td>95</td>
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<td>15</td>
<td>60</td>
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<td>28</td>
<td>37</td>
<td>19</td>
<td>26</td>
<td>110</td>
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<td></td>
<td>25</td>
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<td>17</td>
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<td>7</td>
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<tr>
<td>10</td>
<td>8</td>
<td>65</td>
<td>7</td>
<td>14</td>
<td>94</td>
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<td></td>
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<td>22</td>
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<tr>
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<td>0</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>12</td>
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<td></td>
<td>0</td>
<td>58</td>
<td>8</td>
<td>33</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1. Frequency-of-occurrence of problem-oriented, solution-oriented and process-oriented acts in the dialogue between the designers in one of the pairs in Phase Two. (For this purpose the dialogue has been divided into 5 minute sections).

compared to acts in the problem-oriented category), but interestingly, the proportion remains broadly constant over the one-hour period. This appears to support the notion that design activity progresses via iterative cycles rather than displaying linear progression from problem analysis to solution proposal. The relatively low level of process-oriented discourse found would appear to indicate that the subjects had little need to negotiate or discuss the process of collaboration in these two configurations.

It may be recalled that dissatisfaction was expressed above in relation to the absence of an intermediate hierarchical term between discourse and move that would be satisfactory in the present context. It is interesting that the cyclic element in the discourse progression (just noted) helps explain the lack of a suitable hierarchical term, as it suggests that the discourse simply is not split up into a sequence of discrete transactions.

3.4. Grammatical-level analysis

The grammatical-level analysis was directed at an examination of the internal structure of clauses (viewed as overt linguistic expressions rather than in terms of their underlying representations) occurring within the corpus. This analysis, which was applied to a sample of the main clauses within each transcript, concentrated on two main subjects: (i) constituent ordering and (ii) the internal composition of gram-
3.4.1. Constituent ordering

The analysis of constituent-order syntax was divided into two parts. The first was concerned with the major elements of the clause (i.e. the subject, verbal element and object(s) or complement), and the second with adverbial satellites.

3.4.1.1. Major constituents

A useful approach to the analysis of the ordering of major elements of the clause is to employ as a basis the well-known distinction between marked and unmarked patterns; see further Connolly (1991: 16-19) and references cited therein. Since it rapidly became clear that the number of marked patterns was rather small, it was decided that it would be sufficient to classify clauses in terms of a simple two-term categorisation system:

(10) a. Unmarked Order.
    b. Marked Order.

It turned out that the overwhelming majority of clauses in the sample exhibited an unmarked order (see Table 8).

Table 8. Frequency-of-occurrence of marked and unmarked orderings of major elements within main clauses. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th></th>
<th>Unmarked</th>
<th>Marked</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Config.</td>
<td>1098</td>
<td>10</td>
<td>1108</td>
</tr>
<tr>
<td>Audio Only</td>
<td>957</td>
<td>18</td>
<td>975</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>2055</td>
<td>28</td>
<td>2083</td>
</tr>
</tbody>
</table>
3.4.1.2. Adverbial satellites

The adverbial satellites were classified in three different ways:

(11) a. According to their semantic functions, using as far as possible the system described in Dik (1989: ch. 9), but supplementing this with further categories where necessary, along the lines of Connolly (1991: 71-72).

b. According to their internal structure:
   (i) Single Word.
   (ii) Phrasal Unit, containing two or more words but no subordinate clauses.
   (iii) Clausal Unit, either consisting of or containing at least one subordinate clause.

c. According to their position, using the classification system of Leech and Svartvik (1975: 197-198):
   i. Front-position (preceding the first major element).
   ii. Mid-position (preceded and followed by at least one major element).
   iii. End-position (following the last major element).

The results are shown in Tables 9-11, and will be summarised in a moment. Before doing so, however, we must note the following points. Firstly, these tables exclude the minority of adverbials that could not be unambiguously assigned to one or other of the three positions identified above. In addition, the tables exclude all interrogative adverbials, which invariably occupied front position. Also excluded are all instances of adverbials such as conjuncts which are relatively peripheral to the structure of the clause. Moreover, the tables include only adverbials whose semantic class was represented in at least 50 occurrences in the total sample. These were the adverbials of attitude (Att), condition (Cd), direction (Dir), location (Loc), manner (Mr) and time (Tm).

Within the terms of these constraints, we see from the tables concerned that one-word adverbials of direction, location and manner showed a preference for end-position, while those of condition and time most frequently occupied front-position, and those of attitude preferred mid-position. Phrasal-unit adverbials, however, showed a strong tendency towards end-position, except for those of the "attitude" category, which again favoured mid-position. The same tendency towards end-position was displayed by clausal-unit adverbials of direction, location and manner, while front-position was favoured by those of condition, and those of time were, overall, distributed almost equally between front-position and end-position. Thus both structural type and semantic function constituted important factors in the placement of adverbials.
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Table 9. Frequency-of-occurrence of single-word adverbial satellites of selected semantic categories within main clauses. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the next "Total" row vertically beneath.

<table>
<thead>
<tr>
<th>Position</th>
<th>Att</th>
<th>Cd</th>
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<th>Loc</th>
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<th>Tm</th>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Config.</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Mid</td>
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<td>0</td>
<td>4</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>55</td>
<td>0</td>
<td>0</td>
<td>36</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>End</td>
<td>14</td>
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<td>3</td>
<td>33</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
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<td>89</td>
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<td>37</td>
<td>11</td>
<td>46</td>
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<td>88</td>
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</table>
Table 10. Frequency-of-occurrence of phrasal-unit adverbial satellites of selected semantic categories within main clauses. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the next “Total” row vertically beneath.

<table>
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<th>Position</th>
<th>Att</th>
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<th>Dir</th>
<th>Loc</th>
<th>Mr</th>
<th>Tm</th>
</tr>
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</tr>
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<td></td>
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<td>98</td>
<td>100</td>
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</tr>
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<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>End</td>
<td>0</td>
<td>0</td>
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<td>56</td>
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<td>92</td>
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<td>35</td>
<td>58</td>
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<td>13</td>
</tr>
<tr>
<td>Pooled Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Front</td>
<td>1</td>
<td>0</td>
<td>33</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Mid</td>
<td>2</td>
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<td></td>
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<tr>
<td>End</td>
<td>0</td>
<td>1</td>
<td>72</td>
<td>107</td>
<td>73</td>
<td>17</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>100</td>
<td>97</td>
<td>96</td>
<td>97</td>
<td>94</td>
</tr>
<tr>
<td>Total</td>
<td>3</td>
<td>1</td>
<td>74</td>
<td>111</td>
<td>75</td>
<td>18</td>
</tr>
</tbody>
</table>
Table 11. Frequency-of-occurrence of clausal-unit adverbial satellites of selected semantic categories within main clauses. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the next "Total" row vertically beneath.

<table>
<thead>
<tr>
<th>Position</th>
<th>Att</th>
<th>Cd</th>
<th>Dir</th>
<th>Loc</th>
<th>Mr</th>
<th>Tm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Front</td>
<td>0</td>
<td>43</td>
<td>0</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>72</td>
<td>0</td>
<td>0</td>
<td>44</td>
</tr>
<tr>
<td></td>
<td>Mid</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
<tr>
<td></td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>End</td>
<td>0</td>
<td>13</td>
<td>1</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>28</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Full</td>
<td>Total</td>
<td>0</td>
<td>47</td>
<td>1</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>83</td>
<td>2</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Audio</td>
<td>0</td>
<td>30</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Only</td>
<td>0</td>
<td>83</td>
<td>0</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Front</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
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<td>0</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mid</td>
<td>0</td>
<td>6</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>17</td>
<td>100</td>
<td>100</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>End</td>
<td>0</td>
<td>36</td>
<td>1</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>83</td>
<td>2</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>0</td>
<td>64</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>77</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
<td>Pooled</td>
<td>Front</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Mid</td>
<td>0</td>
<td>19</td>
<td>2</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0</td>
<td>23</td>
<td>100</td>
<td>100</td>
<td>80</td>
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<tr>
<td></td>
<td>End</td>
<td>0</td>
<td>83</td>
<td>2</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>23</td>
<td>8</td>
<td>15</td>
<td>23</td>
</tr>
</tbody>
</table>
3.4.2. The internal composition of grammatically incomplete clauses

Those clauses which did not exhibit complete well-formed structures were classified as belonging to one or other of the following categories:

(12) a. Elliptical.
b. False Starts.
c. Other.

As Table 12a shows, some 70% of elliptical clauses had their verbal element omitted completely, and in a further 11% (overall) the verbal element was incomplete. In those clauses where the verbal element was present at least in part, it was only preverbal elements that were omitted in the majority of instances (59% overall; see Table 13a). In the case of false starts, however, the verbal element was present in full in more than half the clauses concerned (53% overall; see Table 12b) and completely omitted in only 37% of instances overall. In clauses where the verbal element was present at least in part, not surprisingly it was usually only postverbal elements that were omitted (amounting to 85% of cases overall; see Table 13b).

Table 12a. Frequency-of-occurrence of the inclusion and omission of the verbal element in elliptical main clauses. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.
Table 12b. Frequency-of-occurrence of the inclusion and omission of the verbal element in main clauses categorised as false starts. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th>Verbal Element</th>
<th>Included</th>
<th>Omitted</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Complete</td>
<td>Incomplete</td>
<td>Sub-total</td>
</tr>
<tr>
<td>Full Config.</td>
<td>96</td>
<td>14</td>
<td>110</td>
</tr>
<tr>
<td>Audio Only</td>
<td>72</td>
<td>17</td>
<td>89</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>168</td>
<td>31</td>
<td>199</td>
</tr>
</tbody>
</table>

Table 13a. Frequency-of-occurrence of the omission of pre-verbal and post-verbal elements from elliptical main clauses in which the verbal element is included in whole or in part. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th>Only Preverbal Elements Omitted</th>
<th>Only Postverbal Elements Omitted</th>
<th>Remainder</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Config.</td>
<td>48</td>
<td>32</td>
<td>7</td>
</tr>
<tr>
<td>Audio Only</td>
<td>47</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>95</td>
<td>47</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>59</td>
<td>29</td>
<td>12</td>
</tr>
</tbody>
</table>
Table 13b. Frequency-of-occurrence of the omission of pre-verbal and post-verbal elements from main clauses categorised as false starts, in which the verbal element is included in whole or in part. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th></th>
<th>Only Preverbal Elements Omitted</th>
<th>Only Postverbal Elements Omitted</th>
<th>Remainder</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Config.</td>
<td>7</td>
<td>95</td>
<td>8</td>
<td>110</td>
</tr>
<tr>
<td>Audio Only</td>
<td>2</td>
<td>75</td>
<td>12</td>
<td>89</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>9</td>
<td>170</td>
<td>20</td>
<td>199</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>85</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

In order to investigate the distribution of the pragmatic functions of topic and focus in elliptical and false-start clauses, the clauses concerned were then categorised in accordance with the two-term systems presented in (13) and (14):

(13)  a. Topic Material Present.
      b. Topic Material Absent.

(14)  a. Focus Material Present.
      b. Focus Material Absent.

In elliptical clauses (see Table 14a) topic material was absent in no fewer than 89% of cases overall. Focus material, on the other hand, was omitted in 27% of instances only. (Some clauses exhibited omission of both topic and focus material, with the result that these two percentages do not sum to 100.) In false-start clauses (see Table 14b), on the other hand, topic material was omitted in only 33% of cases, whereas the omission of focus material characterised no fewer than 93% of instances (quoting overall figures, as usual).
A functionally oriented analysis of spoken dialogue 53

Table 14a. Frequency-of-occurrence of the omission of topic and focus material from elliptical main clauses. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th></th>
<th>Topic Material Omitted</th>
<th>Focus Material Omitted</th>
<th>Total Elliptical Clauses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Config.</td>
<td>257</td>
<td>77</td>
<td>290</td>
</tr>
<tr>
<td>Audio Only</td>
<td>233</td>
<td>69</td>
<td>259</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>490</td>
<td>146</td>
<td>549</td>
</tr>
</tbody>
</table>

Table 14b. Frequency-of-occurrence of the omission of topic and focus material from main clauses categorised as false starts. (Based on a 10-minute sample from each of the 10 dialogues.) The numbers in italics represent percentages of the sum contained in the rightmost column of the rows concerned.

<table>
<thead>
<tr>
<th></th>
<th>Topic Material Omitted</th>
<th>Focus Material Omitted</th>
<th>Total Elliptical Clauses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full Config.</td>
<td>61</td>
<td>151</td>
<td>167</td>
</tr>
<tr>
<td>Audio Only</td>
<td>43</td>
<td>144</td>
<td>149</td>
</tr>
<tr>
<td>Pooled Total</td>
<td>104</td>
<td>295</td>
<td>316</td>
</tr>
</tbody>
</table>
3.5. Conclusions

It was felt that the choice of analytical categories employed in the research just described was such as to lead to reasonably interesting and worthwhile results, which cast light on the electronically-mediated communication between persons engaged in a cooperative design task. However, as will have been noted, although the analysis was clearly of a functional linguistic character, by no means all of the categories employed were derived from FG. We may therefore ask whether more might reasonably have been expected of FG in this respect.

Let us consider the discourse-level analysis first of all. A hierarchy of units at this level must surely be recognised by any descriptive framework that accommodates for supra-sentential patterns. Thus, if FG is to be extended to embrace a fully fledged discourse level, it will need to recognise such a hierarchy (cf. Hengeveld, this volume), though the question of whether we yet have an adequate set of units is rather doubtful, and merits further research.

Beyond the establishment of a suitable hierarchy, the possible incorporation of additional functional categories represents a further issue. Regarding the detailed analysis of acts, the categories here used for the analysis of overall content and the occurrence of concrete third-person deixis are clearly highly specific to the present investigation and would not be expected to be built into a general linguistic framework. On the other hand, Searle/Hancher-style speech act categories are widely applicable, and it is at least arguable that they, or something comparable, should be incorporated. If (though this is controversial at the present time — see, for instance, Kroon, this volume) discourse acts are regarded as co-extensive with clauses, then the relevant categories could simply be appended to the existing FG speech act functions, yielding labels such as

(16) DeclarativeRepresentative

along much the same lines as the compound labels such as

(17) GoalObject

which are applied to terms within predications.

With regard to the conversational analysis, one would not, of course, expect unpredictable phenomena such as competition points to come within the purview of a grammar. However, it would not be unreasonable for the adjacency-pair functions (which are of fairly general applicability) to be incorporated, together with appropriate constraints and co-indexing facilities. A suitable notation would, in that case, need to be developed. However, we are not concerned with notational issues here. A more substantive issue would be the choice of an adequate set of categories, and this is again a question that would require a good deal of further investigation.

The categories used for the discourse-progression analysis in this investigation are plainly context-specific. However, a more general set of categories for describing the progression of discourse would be well worth having, given the current lack of such a categorisation system. It may well be that an approach based on viewing dis-
A functionally oriented analysis of spoken dialogue

The question of whether we attempt to incorporate speech act and adjacency pair functions into the generative mechanism is influenced strongly by the stance we take on a more general issue. On the one hand, we could decide to keep the range of recognised categories to the minimum compatible with generating linguistic expressions (up to and including the discourse level if required) and to recognise the existence of an additional pool of categories available for documentary purposes. This is essentially the standard FG position as regards the generation of clauses, at least. Alternatively, we could take the point of view that this is taking the principle of economy of scientific description too far, and that the generative mechanism should include a comprehensive set of functional labels, in order to provide a full account of the broad range of functionally-relevant elements in the language. This is more like the position adopted in Connolly (1991: 46-49), where it is argued that it is beneficial to include syntactic functions beyond merely subject and object as part of the characterisation of terms. At present there remains a lack of consensus on this issue. What is clear, however, is that the question will need to be discussed in relation to the discourse level in particular.

As far as the grammatical-level analysis is concerned, categories such as "false start" are clearly not going to be part of the generative mechanism unless the latter comes to be construed in an extremely performance-oriented manner, in flagrant conflict with the well-known views of Chomsky and most, if not all, other generative linguists. With regard to ellipsis, however, the issue is less clear-cut, and the generation of elliptical constructions in FG will need to be further clarified before this particular question is settled.

The categories of topic and focus used in our investigation are already provided by FG, together with various subdivisions, though we did not employ the latter, as their inclusion might have made it difficult for us to "see the wood for the trees" within the present investigation.

The analysis of constituent ordering was also based completely on existing FG categories. The application of the marked/unmarked distinction was of central significance here; and although not particularly prominent in the previous FG literature on constituent ordering, this was shown in Connolly (1991: ch. 3) to be readily assimilable into the FG generative mechanism.

It seems, then, that FG already supports the grammatical-level analysis of dialogue fairly well, at least as far as the present investigation has evidenced. At discourse-level, on the other hand, it may well be felt that FG is in need of significant further development before it can be regarded as fully adequate.

Acknowledgements

The ROCOCO Project was funded by S.E.R.C. grant GR/F35814. We are pleased to acknowledge the part played in this project by Stephen A.R. Scrivener (principal investigator), Sean M. Clark, André Schappo and Michael G. Smyth. Our thanks are also due to those who acted as our experimental subjects.
Notes

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4. Department of Psychology, University of Portsmouth, UK. Formerly at the Department of Computer Studies, Loughborough University, UK.

References

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Bakker, D.

Bakker, D.
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Bakker, D.—van der Korst, B—van Schaaik, G.

Connolly J.H.

Connolly, J.H.—Dik, S.C. (eds.)

Coulthard, M.

Diaper, D.—Sanger, C. (eds.)
Dik, S.C.

Dik, S.C.

Dik, S.C.

Dik, S.C.

Dore, J.

Hancher, M.

Jakobson, R.

Korst, B. van der

Kwee, T.L.

Kwee, T.L.

Kwee, T.L.


Business conversations from a conversation analytical and a Functional Grammar perspective

Ans A.G. Steuten

4.1. Introduction

In recent years we have observed a growing number of organizational modelling approaches that locate the core of business processes in the communication between workers of an organization. These communication centered approaches view organizations as socially constructed entities with specific purposes and consider communication as the vehicle by which organizational behaviour takes place. The basic idea for communication centered business analysis was initiated by the research work of Flores and Ludlow (1980). Both researchers analysed office work and concluded that this work could be described as a continuous process of communication in which commitments are created and processed between the workers in an office. By means of communication the actors participating in an organization influence each other's behaviour. Following the exchange of information they make plans for future actions and reach agreement on results of performed actions. This point of view, also known as communication for action (Winograd—Flores 1986), is based on the language-philosophical theory of human communication. This theory starts from the assumption that the minimal unit of human communication is the performance of certain kinds of language acts (Searle 1969) or communicative acts (Habermas 1981). A series of communicative acts, connected with each other, with the purpose of defining a goal and reaching that goal is called a conversation.

In this paper we discuss a particular kind of communication. We focus on the analysis of business conversations. By a business conversation is understood a conversation that directly serves the performance of business activities. The starting point for the discussion is a communication centered business analysis method called DEMO (Dietz 1990, 1994a, 1994b). DEMO is an acronym for Dynamic Essential Modelling of Organizations and its focus is on the modelling of essential transactions that take place in businesses. Essential transactions are defined as a pattern of communication by which new facts are created that directly relate to the primary process of the business. This method, which is dealt with in section 2, provides a so-called essential model of an organization. An essential model consists of four partial models: the communication model, the process model, the action model and the fact model. In this paper we only pay attention to the communication model (CM). This is a specification of the distinct transaction types that are carried through in an organization, the actors participating in them and the relevant conversations. According to DEMO, business conversations have a specific pattern. To reveal this pattern and to explain what actually happens in business conversa-
tions a so-called ideal form of notation is used. The difference between the actual realization of business communication and the idealized description is considerable. The following extract from the recordings of a telephone call is taken from a larger case study in a Dutch hotel. It is an example of the actual realization of a business conversation, namely the conversation of a Hotel (H) (an employee of the reservation department) with a client (C) involved in the performance of a transaction of the type reservation.

1 H: Good morning, you are speaking to Ann of the
2 reservation department.
3 C: Hello, good morning.
4 H: Good morning.
5 C: You are speaking to Miss Goldman.
6 H: Yes, for what please?
7 C: Could you tell me, are you the hotel next to the
8 conference centre?
9 H: Yes, we are right next door.
10 C: And that is the Euro Centre?
11 H: That's correct, yes.
12 C: Okay, have you any rooms for the 12th, 13th
13 and 14th of September?
14 H: For how many rooms would it be?
15 C: For one person.
16 H: Okay, let me just check please!
17 C: Yes.
18 H: Yes, it still would be possible the 12th, for
19 two nights, and the name of the guest please?

.......... 56 H: Okay, very good it sounds, one single room for two
57 nights and we.
58 C: Three nights.
59 H: Oh, sorry, yes.
60 C: The 12th, 13th and 14th.
61 H: All right, and we'll confirm it to you by post.
62 C: Right, okay.
63 H: Thank you.
64 C: Just a minute, one minute, can you give
65 H: Yes
66 C: the price of the room please?
67 H: Yes, it is a standard room, single room is Dfl 250,- and
68 it is excluded breakfast for Dfl 25,- per day.
69 C: Okay right, thank you very much.
70 H: Thank you, Miss Goldman, bye-bye.

The starting point for the analyst who wants to draw up a CM of an organization is the actual communication. S/he needs to determine transactions in the actual reali-
The main task for the analyst is to extract from the actual realization the specific pattern of business conversations as described in the ideal form of notation. In this analysis several elements play an important role. These elements are: the participants in the transaction, the propositional content of the transaction, the illocutions of the performative conversations (see section 2 for a description of performative conversations). The analyst needs to build an image of these elements which finds expression in the actual communication. Therefore it is necessary to distinguish these elements in the conversation, in particular in the uttered speech acts.

We will discuss two different approaches to business conversations. Both approaches are useful for the analyst who wants to draw up a CM of an organization. First we take a look at business conversations from a conversation analytical perspective. We pay attention to the techniques and patterns used by people in conversations. This is of interest because we can recognize these patterns in the idealized description too. The conversation analytical perspective can be perceived as an instrument for the analysis of the patterns of the actual communication involved in a transaction. Our second perspective is a functional linguistic one. The purpose of this part is to analyze to what extent Functional Grammar (FG) can be used for a formal representation of the conversations which are relevant for the execution of transactions within an organization. Finally we discuss the implications of conversation analytical research for the FG model, in particular for the Underlying Clause Structure (UCS). Although we talk about business conversations we find evidence in the literature that daily conversations usually work in the same way too. However we do not have empirical evidence for these findings. Before discussing the two different approaches to business conversations, we start by considering the DEMO method in more detail.

4.2. Dynamic Essential Modelling of Organizations

4.2.1. Business transactions

DEMO is a method for the analysis of the activities and the communication necessary to coordinate activities within an organization. An organization is a purposeful social system in which the communication is of a rational kind, aimed at coordinating the execution of tasks. According to DEMO an organization can be perceived as a subject system with a corresponding object world. The subject-object distinction separates the activities or actions of an organization from the things which are operated upon: subjects are the active elements and objects are the passive elements.

The notion of an essential transaction is one of the core concepts in DEMO. A transaction is the unit of activity of a subject system. It is a pattern of action and communication. The behaviour of an organization consists of the continuous performance of transactions between actors. The word "essential" refers to the important notion that the execution of essential actions may be supported to a large extent by computers but can never be taken over by them (Dietz 1994a).
We can distinguish three phases in an essential transaction:

- **Inception:** During this phase agreement is reached between actor A and actor B about the future execution of an action by actor B. This so-called actagenic conversation is initiated by actor A and the result is an agendum (singular of agenda) for actor B.
  
  Actor A: Directive act for the performance of an action by actor B. (SA1) (Speech Act 1)
  
  Actor B: Commissive act as to the performance of the action by actor B. (SA2)

- **Execution:** Material action or a decision by actor B.

- **Conclusion:** During this phase actor A and B reach agreement about the results of the execution by actor B. The result of this so-called factagenic conversation is a new fact.
  
  Actor B: Statutive act that the directed action is executed. (SA3)
  
  Actor A: Acceptive act when s/he agrees with the proposed fact. (SA4)

Actagenic and factagenic conversations are *performative* conversations. In a performative conversation new things (an agendum or a new fact) are created. Besides performative conversations we distinguish *informative* conversations:

Actor A: Question about a proposition P. (SA5)

Actor B: Answer. (SA6)

However, in these conversations the world is not changed; the outcome is not the creation of an agendum or a new fact. In this conversation only knowledge of existing facts is distributed. This includes the deduction or calculation of (modified) knowledge from existing knowledge.

The selection of the speech acts in DEMO is based on Habermas' taxonomy of speech acts. Habermas' taxonomy differs from the classification which is made by Searle. The coordination of communicative action according to Searle is brought about by illocutionary effects. The speaker intends to produce a certain illocutionary effect in the hearer by means of getting the hearer to recognize his intention to produce that effect. According to Habermas the coordination of communicative action is based on the possibility of negotiating about three validity claims raised during communication: the claim to truth, the claim to justice and the claim to sincerity. Speaker and hearer are able to question these claims to reach mutual agreement. Habermas' classification of speech acts is based on the dominant claim put forward by the speaker.

The four illocutionary types of the performative conversations as distinguished in DEMO fall in the category of the "regulativa" of Habermas' taxonomy (for an extended description of this taxonomy and for a discussion of the difference between Searle's classification and Habermas' classification see Dietz—Widdershoven 1991). Business conversations are concerned with the intersubjective world (the
The speaker in these conversations refers to a common social world, in such a way that he/she tries to establish an interpersonal relation which is considered to be legitimate. The effect of these conversations is a change of state in some intersubjective world. The dominant claim of the speech acts expressed in business conversations is the claim to justice.

4.2.2. Idealized description of business conversations

Business conversations directly serve the activities and have a specific pattern according to DEMO. The plan or the agreement for the execution of the essential action is created by means of the combination of a directive and a commissive speech act. A new fact, the result of the execution, is created by means of the combination of a statutive and an acceptive speech act. These four speech acts with the propositional content indicate what actually happens in business conversations. For a more formal explanation of the relationship between the performative conversations the ideal form of notation is used. In this ideal form the actors, the illocution and the proposition are explicitly formulated, separated by colons.

For an example of the idealized description and business conversations in reality, we consider the ideal form and the actual realization of the actagenic and factagenic conversations involved in the performance of a transaction of the type reservation.

**Actagenic conversation of the transaction reservation**

A: I request: A reservation of some type of room for some period is made for some person. (SA1)

B: I promise: A reservation of some type of room for some period is made for some person. (SA2)

The expression of the actagenic conversation in the actual conversation is more implicit:

12 C: Okay, have you any rooms for the 12th, 13th and 14th of September? (SA1)
18 H: Yes, it still would be possible the 12th, for two nights, and the name of the guest please? (SA2)

**Factagenic conversation of the transaction reservation**

B: I declare: A reservation of some type of room for some period is made for some person. (SA3)

A: I accept: A reservation of some type of room for some period is made for some person. (SA4)

The expression of the factagenic conversation in the actual conversation is:

56 H: Okay very good it sounds, one single room for two nights and we. (SA3)
61 H: All right, and we'll confirm it to you by post. (SA3)
The following sentences are the explicit notation of an informative conversation:

A: I ask: The reservation is made for a fixed number of rooms. (SA5)
B: I assert: The reservation is made for a fixed number of rooms. (SA6)

An example of an informative conversation in the actual realization:

14 H: For how many rooms would it be? (SA5)
15 C: For one person. (SA6)

The theme or propositional content of the transaction in the actual realization of the business conversation is presented in section 4. This theme must be detected in the actual conversation.

4.3. Conversation Analytical perspective

The techniques and patterns used by participants in daily conversations form the basis for other types of interaction. People do not use a totally new or different system for communicating in a formal, in a controlled or in a task oriented context. To fit these other circumstances they adapt their system of conversational interaction (Nofsinger 1991).

An important property of a conversation is that it is organized into single speaker turns, with regular transitions between speakers. Participants take turns at talk, normally with one party at a time, then the next, and so on. The transition from one to the next is coordinated so as to achieve minimal gaps (pauses) and minimal overlap. In the following sections we consider three main concepts in Conversation Analysis (CA) research: adjacency pairs, presequences and insertion sequences.

4.3.1. Adjacency pairs

One of the central concepts in CA is that of adjacency pairs (see also Connolly et al., this volume). This concept links the apparatus for turn transfer and next speaker selection with the production of the next turn in an action sequence (Drew 1994). An adjacency pair has the following characteristics:

- It is a sequence of two communicative actions.
- The two actions often occur adjacent to each other.
- One action is a first pair part and the other action is a second pair part. They are sequentially ordered.
- They are categorized or type connected. For example: a request is the first part of a request-granting/rejection pair. The response to a request must be granting or rejecting the request.
When a first pair part occurs a second part is relevant in the next turn and participants expect it to be there. The orientation of the participants to the normative character of adjacency pairs is evident. When a response to a first pair part is not forthcoming, different accounts may be provided. In some adjacency pairs the initial actions get only one type of response: greetings and questions. Other pairs allow for alternative actions as responses, for example: request-granting/rejection, offer-acceptance/rejection, assessment-agreement/disagreement (for the adjacency pair categories see Drew 1994). There is a preference organization associated with the selection of the second pair part. For example in case of a request, granting is a preferred action and rejections are dispreferred. Preference here refers to the findings in CA research: these alternative actions are performed in systematically distinctive ways. Preferred actions are normally produced without hesitation, not delaying, right at the start of the response. They are produced in short turns and they are not mitigated. Dispreferred actions are normally produced in a mitigated way, delayed by other components and they are often accompanied by accounts, explanations and the like.

In the pattern of a transaction we recognize the request-granting adjacency pair in the actagenic conversation. The factagenic conversation can be perceived as an assessment-agreement pair.

The following extract from the recordings of the telephone call gives an illustration of a preferred second pair part of the request-granting/rejection pair:

12 C: Okay, have you any rooms for the 12th, 13th
13 and 14th of September?
14 H: For how many rooms would it be?
15 C: For one person.
16 H: Okay, let me just check please!
17 C: Yes.
18 H: Yes, it still would be possible the 12th, for
19 two nights, and the name of the guest please?

Line 12-13 is the first pair part of a request-granting/rejection pair expressed by the client. In line 18-19 the hotel responds with a preferred action: “Yes, it still would be possible the 12th, for two nights .......”.

4.3.2. Presequences

Checking out the situation before performing some action is a common tactic in conversations. Participants routinely inquire after the status of other participants, or after the status of certain elements of the situation prior to making a request, an invitation, or another action that tries to involve someone’s cooperation. In cases where such a preliminary action is itself the first pair part of an adjacency pair and is followed by a second pair part, the resulting structure is a presequence. The presequence precedes and projects some other conversational action. From the first pair part the recipient can project what sort of action might follow the presequence. Because of this it is possible for the recipient of the pre (the first part of a presequence)
to influence the outcome of the conversation by the selection of the second pair part by him/her.

The following parts of the extract from the recordings mentioned before are examples of presequences:

7  C: Could you tell me, are you the hotel next to the
8          conference centre?
9  H: Yes, we are right next door.
10 C: And that is the Euro Centre?
11 H: That’s correct, yes.

These question-answer pairs can be perceived as presequences leading to a request for the reservation of a hotel room in line 12-13 (see the extract on page 60).

4.3.3. Insertion sequences

The production of the first part of an adjacency pair sets up constraints that the speaker, who is selected for the next turn, should follow directly by producing the second part. This constraint might appear to be violated in cases where one first pair part is responded to by the next speaker producing another first pair part. In responding in that way the recipient may put a question which is for instance preliminary to dealing with a request. S/he is checking out information which s/he may need in order to decide whether or not to grant the request. This question itself is the first part of an adjacency pair and the answer is the second part.

Recipients can cope with different problems by inserting a question just after the first pair part if:

- The propositional content which is meant by the speaker is not clear.
- The actual illocutionary meaning of the speaker is not clear.
- It is not clear where the action is leading up to.

The majority of informative conversations in business conversations may be perceived as insertion sequences. The information obtained by means of informative conversation is necessary for a successful execution of the transaction.

The following parts of the extract from the recordings mentioned before are examples of insertion sequences:

14  H: For how many rooms would it be?
15  C: For one person.
16  H: Okay, let me just check please!
17  C: Yes.

This part is a response to the first part of a request-granting/rejection pair in line 12-13. Before producing a second pair part in reply to the request, the hotel needs some clarification because the speaker’s propositional content is not clear. The hotel inserts a question in line 14. This question itself is the first part of an adja-
cency pair and the answer in line 15 is the second pair part. Line 16-17 seems to be another adjacency pair which is necessary before producing the second pair part of the request-granting/rejection pair. Line 16 can be perceived as a request of the hotel to hold on a minute. The client is granting this request in line 17. The request-granting/rejection pair is closed in line 18-19 by granting the request for the reservation of a single room for 12th, 13th and 14th of September (see the extract on page 60).

4.4. Formalization of business conversations in Functional Grammar

4.4.1. Identification of the pattern of business conversations

The actual realization of business conversations differs from the idealized description of the actagenic and factagenic conversations. In the idealized description the illocution and the proposition of the speech acts are expressed explicitly. The propositional content is the result, the new fact achieved by the execution of the transaction, and is identical in the actagenic and factagenic conversation. The actual communication is much more implicit; the propositional content of the directive and the illocutionary act of directing will become clear in the course of the actagenic part of the conversation. The first step for the analyst who wants to draw up a CM of an organization is the determination of essential transactions. The starting point for this assessment is the actual communication. The task for the analyst is to extract the idealized description of business conversations from the actual communication. In the idealized description of business conversations several elements play a role. These elements find expression in the actual communication. The analyst needs to build an image of these elements to trace the performative conversations and the propositional content of the transaction. The following elements play a role in this analysis:

Participants: The initiator and executor of the transaction.
Theme: The negotiation theme of the conversations or the propositional content of the transaction.
Illocution: The illocutions of the actagenic (Directive, Commissive) and factagenic (Statutive, Acceptive) conversations.
Referents: The entities (for example: room, period, hotel, client) which are involved in the transaction.

In our functional linguistic approach to business conversations we focus on a formal representation of these conversations. We want to represent the illocution and the proposition of an utterance, in particular the speech acts of the performative conversations and the propositional content of the transaction. The representation of utterances is based on a multi-layered hierarchical clause model (Hengeveld, 1989). The general format of this model is as follows:
The structure as a whole gives a representation of the speech act \((E_i)\). Within this speech act a propositional content \((X_i)\) is processed. This propositional content contains a description of a SoA (State of Affairs) \((\epsilon_i)\) which involves several individuals \((x_i)...(x_n)\). The highest level of this structure is the interpersonal level. It is structured on the basis of an abstract illocutionary frame:

\[
(\text{ILL} (S) (A) (X_i))
\]

This illocutionary frame stresses the relational nature of speech acts and has the Speaker \((S)\), the Addressee \((A)\) and the propositional content \((X_i)\) as its arguments. The lowest level is called the representational level which is structured on the basis of a predicate frame, which has one or more individuals \((x_i)...(x_n)\) as its arguments.

The linguistic expressions in business conversations can be represented by means of the Underlying Clause Structure (UCS). We refer to the different elements through the variables in the UCS. This is of interest because on the one hand this enables us to represent the entities involved in the conversations. On the other hand we are able to refer to these entities. However, there is one important point we need to notice. The representation in the UCS is on the level of sentences. Consequently, the following variables represent the elements in the UCS on the sentence level:

- **Participants**: represented by the variables \(C, H\)
- **Theme**: represented by the variable \(X\)
- **Illocution**: represented by ILL
- **Referents**: variable \(x\) represents an individual, variable \(e\) a State of Affairs (SoA)

**4.4.2. An example of the formal representation**

The formal representation will be illustrated with some parts of the extract from the recordings mentioned before. Firstly we consider the request from the client for a room for the 12th, 13th and 14th of September (see page 60, line 12-13 of the extract). This is the first part of the actagenic conversation (SA1). Actually the client asks for the availability of a room for the 12th, 13th and 14th of September. If there is a room available for that period the client wants to have this room at his/her disposal. The indeterminate interrogative can be perceived as a request to make a reservation. Secondly we consider the first part of the factagenic conversation: the statutive speech act (SA3). The hotel (more exactly an employee of the reservation department on behalf of the hotel) states that she made a reservation for one single
room for the 12th, 13th and 14th of September for the client (Miss Goldman).

The following elements play a main role in the transaction and are given beforehand:

- Type of transaction: Reservation
- Initiator: Client (C)
- Executor: Hotel (H)
- Negotiation theme: The reservation of some type of room for some period for some person (X_i). The X_i is the variable for the entire propositional content of the transaction.

12 C: Have you any rooms for the 12th, 13th and 14th of 13 September? (SA1)

E_i: [INT (C)(H) [Indet X_i:Fut e_i: have_v (H)_{post} (imx: room (x_i))_{go} (dmx_i: September 12, 13, 14 (x_i))_{temp} (e_i)](X_i)](E_i)]

H = Po = Controller.
The Positioner H is the controlling entity.

61 H: All right, and we’ll confirm it to you by post. (SA3)

E_j: [EXCL (H)(C) All right (E_j)]

E_k: [DECL (H)(C) [X_j:Fut e_j: confirm_v (H)_{Ag} (XI)_{go} (C)_{Rec} (d1x_k: post (x_k))_{Instrument} (e_j)](X_j)](E_k)]

The confirmation has to do with the entire propositional content (X_i) of the transaction: the reservation of some type of room for some period for some person. In this case: the reservation of one single room for the 12th, 13th and 14th of September for Miss Goldman.

4.4.3. The representation of the elements of a transaction

The elements of the transaction find expression in business conversations. We are able to represent the linguistic expressions in these conversations by means of the UCS.

At first the illocutionary frame enables us to represent the speaker and the addressee, in our case the participants in a transaction: the initiator (Client) and the executor (Hotel). In addition to this we are able to specify the semantic functions of the entities and therefore these functions of the participants. There is a connection between the semantic function at the level of sentences and the semantic function at the level of conversations with respect to the initiator and the executor of a transaction. The executor is the one who performs the action; s/he is the controller. Besides, the representation of the participants the illocutionary frame enables us to represent the entities which are involved in the conversations. These entities con-
tribute to the theme of the transaction. This theme will be built up in the course of
the conversation. We represent this theme which contains the entire propositional
content of the transaction in the UCS with the variable $X_i$.

The main difficulty in the formalization is the representation of the illocutions.
The representation of the illocution in the UCS enables us to pay attention to and
account for those properties of utterances which express the illocutionary intentions
of the speaker with respect to the propositional content. However, the actual illocu-
tionary force that an utterance has in a given context (as intended by the speaker and
interpreted by the addressee) is determined by contextual and situational factors as
well. The following questions arise:

1. Is the illocutionary force completely coded in the linguistic expression of
   one sentence?
2. Is it necessary to use a pragmatic theory of verbal interaction to analyse
   how the expressed illocution in a specific context relates to the intention of
   the speaker and the interpretation by the addressee?

The answer to both questions depends on the consideration of which properties of
utterances should be taken into account as contributing to the expression of the
illocutionary force. In FG the grammatically coded illocutionary force in the ling-
guistic expression takes a central position: only the illocutionary force which is
somehow formally coded is to be represented in the UCS of the sentence. This ap-
proach considers sentence types that are found in all languages (declarative, impera-
tive and interrogative) as basic illocutions distinguished in natural languages.
Only these “basic” illocutions have been grammaticalized but all possible illocu-
tionary forces can be expressed lexically. The basic illocutions are treated as illocu-
tionary operators of type $p_4$. In fact the representation of illocution goes back to
Searle (Hengeveld 1988) and can be represented as:

\[ \text{ILL (proposition)} \]

ILL represents an illocutionary operator which operates on the proposition. ILL
accounts for the formal and semantic properties of a linguistic expression which
express its illocutionary force. Several proposals with respect to the representation
of illocutions have discussed various ways of expressing more than just the basic
illocutions (Dik 1989; Hengeveld 1988, 1990; Vet 1990). Two distinct types of
process are mentioned, namely “illocutionary conversion” (mainly discussed by
Dik 1989) and “modification” (discussed most extensively by Hengeveld). An ex-
ample of grammatical illocutionary conversion is the expression *please* or the ex-
pression *will you* in combination with an imperative sentence. The Dutch particle
*even* is an example of a modifier of a request illocution and can be used both in
imperative sentences and in *can you* requests. Expressions like for example *can you*
and *will you* are conventionally used for a request illocution and therefore we repre-
sent them in the UCS.

Risselada (1993) proposes a non-illocutionary approach to sentence type. Accord-
ing to her the illocutionary force is expressed by means of combinations of linguis-
tic properties that together reflect one or more of the characteristic feature(s) of the speech act type involved. These characteristic features have to do with the "orientation" of the speech act involved and "what the speech act is about" as well as the commitments and systematic perlocutionary effects that are conventionally related with them.

Although we are able to represent the participants, the entities and a main part of the illocutions involved in the performative conversations, there is an important insufficiency in the representation in the UCS. For the formalization of the actagenic and factagenic conversations the representation at the level of sentences does not fit. It is necessary to establish the connection between different linguistic expressions in the formal representation of single sentences. This can be done by the indexation of variables which represent the elements in the UCS (see page 68). For an example we consider the first sentence represented in the last section:

12 C: Have you any rooms for the 12th, 13th and 14th of 13 September? (SA1)

E_{12}: \langle \text{INT} (C)(H) [\text{Indet} X_1] [\text{Fut} e: \text{have}_v (H)_{\text{to}} (\text{imx}_2: \text{room} (x_2))_{\text{to}} (\text{dmx}_3: \text{September} 12, 13, 14 (x_3)_{\text{temp}(e)})] (X_1) (E_{12}) \rangle

4.5. Conclusions

Functional Grammar can be used to represent the utterances expressed in business conversations in the UCS. This enables us to distinguish the elements which play an important role in the ideal form of notation of business conversations and therefore in the transaction. However, from the conversation analytical perspective of business conversations we conclude that communication is not organized into single sentences or utterances. The most convincing example is an adjacency pair. This is a sequence of two communicative actions: the production of the initial action projects and requires that the recipient should produce in his/her adjacent next turn a specific second complementary action. Conversation is a collaborative activity: the response of a participant is based on the analysis and understanding of the prior turn of another participant.

Consequently the representation of the performative conversations in business conversations needs to exhibit the connection between the linguistic expressions. The indexation of variables is one solution in this shortcoming. Another possibility to stress the relational notion between separate expressions is the representation of speech acts at a higher functional level by means of a layered representation of discourse (Hengeveld, this volume). The result is an integrated model for the representation of the grammatical structure and the formal reflections of discourse structure of a discourse. For an adequate solution of this problem further research is necessary.

The representation of the illocution is another difficulty in the formalization. For instance in the business conversation (see page 60) the expression of the statutive
and acceptive speech acts is rather indirect. For the interpretation of the actual illocutionary force as intended by the speaker it is necessary to perceive the context and the communicative situation as well. According to our opinion a representation of the illocutionary force should take into account different linguistic elements, both properties of the proposition and the illocutionary domain. Further research on this topic is also necessary.

Notes

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Combining Functional Grammar and Rhetorical Structure Theory for discourse representation

Jon Atle Gulla

5.1. Introduction

In information systems engineering, conceptual models are constructed as part of the problem analysis and requirements determination process. These models describe the functionality of information systems without going into the details of how the systems are to be implemented or how the users are to interact with them. The importance of formal conceptual modelling languages has been stressed, though the languages — which are given detailed syntactic and semantic definitions — can often lead to models that are quite complex and difficult to interpret. As the people involved in the development of an information system have different backgrounds and skills as well, it is usually not feasible to find a simple formalism that is suitable for all of them. Yet, user participation in conceptual modelling is encouraged, and powerful strategies for enhancing the comprehensibility of conceptual models are then needed.

Presenting conceptual model information in natural language has been suggested as a solution to this (e.g. Cheung—Holden 1991; Rolland—Proix 1992). A natural language approach is difficult, though, since the models are designed to allow automatic reasoning and efficient and effective representation. Single model elements are not necessarily difficult to present in natural language, but in general the user needs a whole paragraph of text to understand a certain phenomenon, and this makes the task considerably more difficult. On the one hand, we have to coordinate clauses to form coherent text segments. As the structures of the models reflect properties of the system being modelled rather than linguistic considerations, we have to rearrange the elements using linguistic theories about cohesion and coherence. On the other hand, not all elements are relevant to a particular user, and the natural language generator must be able to discriminate between elements without sacrificing the coherence of the final text.

In this paper, we show how Functional Grammar (FG) and Rhetorical Structure Theory (RST) can be combined to represent and explain properties of these conceptual models. The conceptual models represented as predications in Functional Grammar. The set of predications, which describes some phenomenon or system at a chosen abstraction level, follows the structures of the original conceptual model, but introduces linguistic formalisms for the representation of single model elements. However, even though these predications refer to many of the same objects and events and form a complete system description, they are not arranged to form coherent textual presentations of the system.
Rhetorical Structure Theory provides the mechanisms for constructing hierarchical and rhetorical text structures. A number of RST relations are defined, and these identify the possible rhetorical relationships between parts of a model. Combining these relations with Functional Grammar, we can represent text structures as hierarchical structures of relations, where the bottom-level relations refer to FG predications and higher-level ones relate larger pieces of text to each other. Functional Grammar, then, represents information at the clause level, whereas the addition of relations makes it possible to extend the FG formalism to represent discourses.

Our experiments show that predications in Functional Grammar form a suitable knowledge representation language for conceptual modelling. Since they can be given a formal basis, they can unambiguously represent model information, and they allow computer-supported reasoning and manipulation. The combination of FG and RST yields a system for discourse representation that is quite straightforward to implement. Although there are still problematic aspects of RST, the theory seems to be a good candidate for extending Functional Grammar to discourse representations. The exact interface between these two theories has to be worked out in more detail, though, and more work has to be put into the formalization of RST relations.

In Section 2, we briefly discuss the relationship between conceptual models and our discourse representations. Section 3 introduces Rhetorical Structure Theory, and Section 4 explains how the theory can be combined with FG for representing discourses. Section 5 draws some lines to other generation systems, whereas Section 6 is devoted to conclusions and some further work.

### 5.2. Conceptual models and discourse representations

A conceptual model describes an information system and is used both by customers and developers. From a customer's point of view, it documents his needs and wishes without going into detail about how the system is to be implemented. Developers use it as a directive for the subsequent design and implementation phases, and the final computerized information system is verified against the model at the end of the project.

As noted by Weigand (1992), Functional Grammar forms a suitable representation language for conceptual models. Using simple predicate frames, one can easily specify database structures corresponding to Entity Relationship models. For more complex model information, it is questionable whether predicate frames are enough, and Dignum has instead defined a conceptual modelling language (CPL) based on the predication level of FG (Dignum et al. 1987). A firm logical basis for this language has also been provided.

In our system, we also use FG's predicate frames and predications to specify static and dynamic aspects of information systems. For example, the fact that a process P1.2 verifies withdrawal amounts in some conceptual model, is represented in FG as follows:

\[
(\text{verify}_V (x_1: \text{P1.2}, x_2: \text{withdrawal amount})_{\text{CPL}})
\]
Ag and Go are semantic functions and stand for Agent and Goal, respectively. More complicated information is specified by means of extended predications, though they all lack information about syntactic and pragmatic functions. In some cases, we have to include mathematical or logical expressions as terms, and these terms are then separated from ordinary terms by quotes. The predication

\[
(\text{produce}_v(x_1: P1.2)_{\text{Ag}} (x_2: \text{`Balance_notification AND} \\
(\text{Accepted_withdrawal XOR} \\
\text{Withdrawal_rejection}'))_{\text{Go}})
\]

means that ‘process P1.2 produces Balance_notification and either Accepted_withdrawal or Withdrawal_rejection’.

When using FG for representing source model elements, the representations must capture the structural relationships between parts of the model. This is done by adding a reference to each representation, where the reference is taken from a general model of information system structures. In Table 1 the reference is “generate(p1.2, )”, whereas the element’s real content is specified as the value of PREDICATION. VIEWS and USER are necessary for generating user-tailored descriptions of the model, but will not be discussed here (see Gulla 1993).

**Table 1.** A conceptual model element

<table>
<thead>
<tr>
<th>generate(p1.2, )</th>
</tr>
</thead>
</table>
| **PREDICATION** | \( (\text{produce}_v(x_1: P1.2)_{\text{Ag}} (x_2: \text{`Balance_notification AND} \\
|\text{Accepted_withdrawal XOR} \\
|\text{Withdrawal_rejection}'))_{\text{Go}}) \)  
| **VIEWS** |  
| COMPUTATIONAL | yes  
| BEHAVIOURAL | no  
| USER | yes  

Now, a textual description based on conceptual models like these does not include the whole model. Only a small subset of the model is used, and a number of discourse strategies determines which elements are relevant in a particular setting. Moreover, the description is not just a collection of predications — there must also be some kind of structure between them that ensures the coherence of the text. Functional Grammar defines a few semantic roles that might be useful at a discourse level (like “Purpose” and “Cause”), but in general it seems to be desirable to combine it with additional mechanisms for constructing FG-oriented discourse representations. In our generation system, discourse strategies not only select the appropriate elements from the model, they also build a text structure by introducing relations from RST that tie predications together and form larger text segments. At an intermediate level, then, we have a discourse representation which combines FG
and RST. When the final text is realized, syntactic and pragmatic information is added and a number of inter-clause rules and intra-clause rules for text realization are invoked. The whole process is illustrated in Figure 1.

5.3. Rhetorical Structure Theory

A "text structure", also called a "discourse structure", describes how text segments are related to each other to achieve some higher-level goal. Essentially, these structures are text-oriented notions, in that the relationships between segments are completely determined from the contents of the segments alone (Blass 1989). In Figure 2, there is a simple text structure in which two rhetorical relations ("evidence" and "elaboration") relate three clauses to each other. Note here that the same structure may be given various realizations in natural language. From a conceptual modelling point of view, the research on text structures have given some important results:
Combining FG and RST for discourse representation

Every coherent text has some sort of structure. The structure ties the segments of the text together, so that the text as a whole is perceived as a natural unit (Cawsey 1990; Paris 1991). Although not universally the case, many well-structured discourses also tend to be comprised of a strictly hierarchical structure (Cawsey 1989).

The rhetorical relations used to structure a text in a given domain fall into a fixed set of relation types. The number of relation types and the nature of these types may differ from one domain to the other, but within a limited and well-structured domain it has still proved satisfactory to consider a closed set of relations (Hovy 1990).

In many domains it is possible to characterize the texts in terms of a small number of discourse structures. For example, when analyzing descriptions of data base structures, McKeown (1985) found only four types of discourse structure: "identification structure", "constituency structure", "attributive structure", and "contrastive structure".

A particular theory for constructing and representing text structures is *Rhetorical Structure Theory* (RST) by Mann and Thompson (1987). It stems from intensive studies of naturally occurring patterns of text and makes use of about 30 relations to account for different kinds of text structure. The theory is both descriptive and constructive in nature, showing promising results in text analysis as well as in text generation. It is based on the assumption that texts are hierarchically structured, and that most coherent pieces of text have a central part and zero or more subsidiary parts linked to the central one by relations.

In RST, a text structure is analyzed as a tree of instantiated schemas. A schema indicates how a particular text segment is decomposed into one or more other segments, and is defined in terms of a relation. In such a schema, there is a nucleus, which is the central part of the relation, and a number of satellites that are linked to the nucleus by relations. In most cases there is only one satellite, but there may also be cases where several satellites are related to one single nucleus. In Figure 3 it is shown how these schemas are depicted.
A schema is associated with the definition of a relation. These definitions determine when the corresponding schema may be applied and consists of four fields: (1) constraints on the nucleus, (2) constraints on the satellite, (3) constraints on the combination of nucleus and satellite, and (4) the effect.

Consider the instance of the “evidence” relation in Figure 2. Informally, the definition of the “evidence” relation may be stated as follows (Mann—Thompson 1987):

1. Constraints on the nucleus (the claim): The reader possibly does not already believe the claim.
2. Constraints on the satellite (the evidence): The reader either already believes the satellite or will find it credible.
3. Constraints on the combination of nucleus and satellite: As the reader understands the evidence, her belief in the claim will increase.
4. The effect: The reader believes the claim.

In order to use the relation to describe the text in Figure 2, then, it is assumed that the reader does not fully accept that the car is French. Moreover, she will believe it to be a Renault when told, which will increase her conviction that the car really is French.

An important aspect of RST is its attempt to list all the relation types that might occur in ordinary coherent texts. The number of relations and their corresponding definitions are still subject to changes, and more specialized relations have been suggested for specific domains. A distinguishing feature of these RST relations is the asymmetric nature of their relations. When using nuclei and satellites it is assumed that one part of the relation is more prominent than others, and that this part is most essential to the meaning of the text. Without the nucleus of the evidence relation, for example, the satellite is a non-sequitur. Also, the satellite part of a relation instance may be more easily replaced than the nucleus part (Moore—Swartout 1991). In addition to this, it is assumed that the prominent part is predictable from the relation itself, so no references to the contents of the parts or the relation’s context may be necessary.

A problem with this asymmetry is the treatment of paratactic constructions. These constructions are complex and involve the coordination of simpler units linked by some junctional devices (e.g. “and”, “or” and “but”). It is not always possible to discriminate between parts of paratactic constructions, deeming one part more prominent than the others. The solution chosen in RST, then, is to en-
code relations involving paratactic constructions as “multi-nuclear” relations, letting all their parts be marked as nuclei. In the work of Mann and Thompson, three such multi-nuclear relations are identified: “sequence”, “contrast” and “list”. Both Scott and de Souza (1990) and Rösner and Stede (1992) have found it useful to include a forth one, “alternative”, which is used for disjunctive constructions.

In text generation, RST relations have mostly been used to encode strategies for forming coherent pieces of text. This is also the way we have used RST (Gulla et al. 1994), but one should also note that attempts have been made to exploit the theory as part of a general knowledge representation language (Mann—Thompson 1987). In the work of Harrius (1990), the domain knowledge of an expert critiquing system AREST is represented as conceptual graphs (Sowa 1984) extended with RST relations.

Among the problematic issues in RST are the following:

- So far, it has been impossible to agree on the ontology of rhetorical relations. When RST is used on a particular domain, only a subset of the relations are needed and these are often specializations of the original RST relations (e.g. McKeeown 1985, Paris—McKeown 1987, Rösner—Stede 1992). For our project, we have also seen it useful to introduce more specialized relations, e.g. “dynamics” and “duration” in Figure 4.
- The minimal unit in RST analyses is usually considered to be a clause. However, as the multi-lingual project TECHDOC (Rösner—Stede 1992) shows, a clause structure in one language can be realized as for example a prepositional phrase in another, and in these cases there is no clear criterion for separating out minimal units of the text.
- RST structures seem to be most suitable for micro-structures of text. When larger structures are to be constructed (macro-structures), the relationships between them appear to be more governed by schematic standards or communicative goals and effects (Hovy 1990; Rösner—Stede 1992).
- An RST structure may fail to capture more complex dependencies among text segments. Sometimes, there may be a whole net of possible relationships among segments, and a reduction of this net to a strictly hierarchical structure may seem rather unnatural. Such a reduction may also lead to a loss of information, and it will be more difficult to find a satisfactory realization of the structure in natural language.
- Lastly, formalizing the definitions of RST relations is still a huge problem. We have defined them in terms of structures of information systems, but this is clearly a domain-dependent solution and a more general approach to formalization is necessary in the long run.

Today, RST is a well established theory for text generation systems (Dale et al. 92; Hovy 1990). Depending on the scope or the domain of these systems, however, the theory is often domain-tailored and accompanied by other theories for the construction of larger structures of text (e.g. Horacek 1990; Linden—Cumming—Martin 1992; Rösner—Stede 1992).
5.4. Combining FG and RST

In principle, FG and RST can be combined by adding an RST structure on top of clauses represented in FG. This leads to a hierarchical discourse structure, in which leaf nodes are FG-represented clauses and non-leaf nodes are rhetorical relations from RST. The clauses are partially specified predications and will typically focus on semantic rather than syntactic or pragmatic aspects. Syntactic and pragmatic functions may also be included, but these may depend on the rhetorical relationships among clauses and their assignments may be postponed until the structure is linearized and realized in natural language.

In Table 2, FG and RST are combined to represent the structure from Figure 2. The pragmatic functions Top (Topic) and Foc (Focus) are here added, though there are still no syntactic functions present. As an RST structure may be given different realizations in natural language, it is often practical to assign syntactic functions as part of the realization of RST relations.

Table 2. Using FG and RST to represent structure from Figure 2.

However, the interface between FG and RST is not always clear-cut, due to FG’s extensive use of restrictors and semantic functions:

- In FG, a term may be further specified by adding a number of restrictors. An adjective may serve as a restrictor, as well as more complicated constructions like relative clauses. Using these restrictors, one can combine clauses that refer to the same entity and form one single complex clause. So, the “elaboration” structure in Figure 2, which includes two FG predications, might be replaced by this slightly more complicated predication:

  \[(\text{Past } e_j; \text{make}_v (x_j; \text{Renault}_N)_{\text{AgFoc}} (d[s] x_i; \text{car}_N)_{\text{GoTop}})\]

  The restrictor \text{new}_A makes the clause more informative, but hides the rhetorical relationship that connected the two previously specified predications.

- Along the same lines, there are semantic functions in FG that may replace certain rhetorical relations from RST. Functions like “cause” and
“circumstance” introduce subordinate sentences and correspond roughly to the RST relations “non-volitional/volitional cause” and “circumstance”. With the use of “reason” (Reas), we may in fact represent the whole structure from Table 2 as

\[
\begin{align*}
(Pres e_i: French_A(d[s] x_i: car_N)_{\text{TOP}}) \\
(Past e_j: makev(x_j: Renault_N)_{AgTop} (d[s] x_i: car_N: new_A)_{GoTo} Reas)
\end{align*}
\]

In general, these two problems concern the granularity of predications. RST does not impose any requirements to the leaf nodes, though it seems impractical to allow two ways of specifying the same kind of structural information. The strategy adopted in our project is to indicate by an RST relation every rhetorical relationship that is either reflected in general structures of information systems or is relevant for user-tailoring the text. This makes most relationships explicit in discourse structures, but also complicates the realization of these structures into fluent text.

Table 3. One of the lexical entries for “evidence”.

```
lex(relation, evidence, 
    [cohesive_device : [because],
    coh_device_type : none,
    segment_order : pre,
    coh_device_pos : infix,
    min_depth : 0,
    max_depth : 0,
    points : 3.0],
    none).
```

In the lexicon, a rhetorical relation is associated with a number of realization patterns. These patterns specify, among other things, cohesive devices to insert into the text and strategies for linearizing hierarchical text structures into sentences. To take an example, one of the realization patterns of “evidence” is shown in Table 3. Specifying `segment_order` as “pre” means that the realization of `nucleus` is to precede the realization of `satellite`. The rhetorical relation itself is to be marked in the text by inserting the cohesive device “because”. Since `coh_device_pos` is “infix”, the device is to be put into the text between the realizations of nucleus and satellite. The other attributes here are used to calculate some kind of measure for text quality, and are vital for choosing among alternative realization patterns. For the “evidence” relation, there are also patterns defined that insert “since”, “therefore,” or no cohesive device at all. If we ignore the satellite part of “elaboration” in Table 2 and choose to use the pattern in Table 3, we get the following realization of the structure:

The car is French because it is made by Renault.
Of course, textual model descriptions are usually not as simple as the one represented in Table 2. Describing the dynamic properties of some process P₁.2, we will typically get an RST structure like the one in Figure 4. For simplicity, we have here left out the leaf nodes which are FG predications. When such a structure is to be realized in natural language, its rhetorical relations are traversed recursively. For each relation encountered, a realization pattern is chosen, a cohesive device (if any is specified) is inserted, and a recursive realization of nucleus and satellite is triggered. The final result is divided into sentences, and full stop marks and commas are added. When a leaf node is reached, the FG predication is first attempted pronominalized using rules not very different from Kalita's (1989) focus rules. The predications are completed with syntactic and pragmatic information, and are sent to a single-sentence generator. At all these stages, there are alternative realizations, and the complete text with the most "readable" sentence lengths and with most variation is chosen. A more detailed presentation of the implemented text generator is found in Aune (1994). When the RST structure in Figure 4 is linearized and cohesive devices are inserted, the following text is produced by the generator:

[P₁.2 is a process]_; [it verifies withdrawal amounts]_b. Dynamically, if [Withdrawal triggers P₁.2]_c, [P₁.2 must generate Balance_notification and either Withdrawal_rejection or Accepted_withdrawal]_b. [It must receive Withdrawal and conditionally Modified_amount]_e, until [either Withdrawal_rejection or Accepted_withdrawal terminates P₁.2]_f.

Brackets and indices are here included to indicate the correspondence with the RST structure.

Figure 4. RST structure for a description of process P₁.2
5.5. Evaluation and related work

A prototypical text generator supporting FG and RST has been implemented in Prolog. Until now, we have focused mainly on the construction of discourse representations from complete conceptual models. In particular, we have looked into how we can vary the content and structure of these representations according to properties of the intended reader. Our approach is somewhat similar to the ones found in EES (Moore—Swartout 1991), EDGE (Cawsey 1989), and MDC (Maybury 1991), though our user-tailoring mechanism is more in line with ROMPER (McCoy 1989).

As far as the text realization part is concerned, our treatment of RST relations is inspired by the TECHDOC project (Rösner—Stede 1992). We have defined a number of RST relations and associated each of them with one or several realization patterns. A problematic issue now is to combine RST-related predications to form new and more compact predications using restrictors and optional arguments (satellites) in FG. A unique feature of our system is that RST is combined with FG. Since FG provides a general knowledge representation language, this combined approach to discourse representations also opens the way for automatic reasoning and manipulation in knowledge-based systems. We can use the same formalism for representing system properties as for presenting textual descriptions, and we thus have a nice integration of representational abilities and linguistic orientation.

The realization of FG predications into natural language is so far rather simple. It does not offer the same linguistic coverage as some other single-sentence FG-oriented generators (e.g. Bakker 1989; Samuelsdorff 1989), though it seems to be sufficient for most constructions found in conceptual models.

5.6. Conclusions

We have presented a text generator in which FG and RST are combined for discourse representation. The generator forms a central part of an explanation component that is to be included in a CASE environment called PPP (Gulla—Lindland—Willumsen 1991). In this environment, the explanation component assists users in validating conceptual models of existing or future information systems. It responds to questions about the content of the conceptual model, but can also explain the fundamental structural concepts underlying it or justify results from executing the model. As the component is tried out on various conceptual models, we expect to refine the generator and come up with an even better understanding of the relationship between FG and RST. Particularly, we would like more general definitions of our rhetorical relations, and a more comprehensive generator for FG predications. It is clear that rhetorical relations may affect both the assignment of grammatical features and the realization of optional semantic functions in FG, but it is a very challenging task to work out these relationship on a general basis.
Still, our experiences with combining FG and RST are quite promising. There seem to be no conceptual barriers to this combination, and it has been fairly easy to write a multi-sentence generator that combines the two and produces paragraphs of coherent text.

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What (if anything) is accessibility? A relevance-oriented criticism of Ariel’s Accessibility Theory of referring expressions

Anne Reboul

6.1. Introduction

This paper is not directly related to Functional Grammar inasmuch as it does not discuss a theory which has been developed inside Functional Grammar. Yet, the theory which it discusses, Accessibility Theory, partially supports what appears to be one of the major tenets of Functional Grammar, that is the thesis that Pragmatics, which deals with the use of language, should be integrated into Grammar. This, in my opinion, neglects the fact that the use of language cannot be entirely dealt with at the level of the sentence and ignores the problems of the relations between language and reality, which, obviously, cannot be a matter of grammar. This is especially true of referring expressions, which are the subject of Accessibility Theory.

In her book, Accessing Noun Phrase Antecedents, Ariel (1990) defends the thesis that to account for the use of referring expressions it is necessary to have a theory of accessibility, and proceeds to outline such a theory. This paper challenges her analysis on three main counts:

(i) According to Ariel, referring expressions are linguistically marked to indicate the accessibility of their antecedents. I argue that she fails to prove this point.

(ii) Furthermore, I argue that within Relevance Theory one can account for the use of referring expressions, if one considers both the semantic content of such expressions and the relationship between their semantic content and their referring ability. If this is right, a linguistic marking of accessibility is not merely unnecessary; it would also violate Grice’s modified principle of Occam’s razor.

(iii) Ariel pays lip service to the fact that accessibility should be considered a complex notion and defined in such a way that what is marked is not accessibility of the antecedent to the hearer simpliciter, but what the speaker believes to be the accessibility of the antecedent to the hearer. She also seems to accept that accessibility should be defined so as to take account of point of view. However, the notion of accessibility which she actually uses is simple and one-dimensional, based only on the criterion of distance.
I begin with a summary of Ariel’s book, which outlines her main thesis, the relationship which she proposes between Relevance Theory and Accessibility Theory, her scale of accessibility and her method for constructing such a scale. I then show that her arguments for constructing such a scale are not as satisfying as they appear to be and that accounting for the use of referring expressions does not necessarily require the use of such an Accessibility Theory. Finally, I show that the notion of accessibility which Ariel uses throughout her book is far from convincing, firstly because it neglects the referring ability of noun phrases and secondly because it fails to account for the use of referring expressions by not taking adequate account of the question of point of view.

6.2. Accessibility Theory: the linguistic marking of accessibility

Ariel begins with the observation (by now generally accepted, one would hope) that utterances can only be interpreted relative to a context. She adopts Relevance Theory to account both for the notion of context and the relationship between the utterance and the context. As is well known, relevance is defined relative to contextual effects and to processing effort and, roughly speaking, accessibility concerns the effort side. Ariel’s hypothesis is that, in order to minimalise processing effort, it can be useful to indicate conventionally where the hearer should go to find the propositions which will constitute the context. She rejects the hypothesis that what is linguistically encoded should be a “geographical” area where one would find the relevant proposition; rather, according to her, what is encoded is the degree of accessibility of the antecedent of the referring expression. Thus, she considers that the dividing line between reference and anaphora should be abandoned and that all referring expressions should be considered anaphoric to a large extent, regardless of whether they do or do not refer.¹

It is important to realise that Ariel’s account is not devised as an alternative to Relevance Theory. Rather, she says quite explicitly and forcefully that it is devised to be a complement to Relevance Theory, enabling it to account fully for the use and choice of referring expressions. She draws a parallel between her Accessibility Theory and Blakemore’s account of connectives (see Blakemore 1987), according to which such expressions indicate linguistically how the utterance in which they occur can best achieve optimal relevance. Ariel conceives her own Accessibility Theory as another such complement to Relevance Theory.²

Ariel’s main goal is to indicate which degree of accessibility each type of referring expression conventionally encodes. To achieve this, she lists four factors which play a role in the accessibility of the antecedent:

(i) The distance between the antecedent and the noun phrase.
(ii) The competition which occurs when several preceding noun phrases could be the antecedent.
(iii) Saliency.
(iv) Unity (the fact that the antecedent occurs in the same frame/world/point of view/segment of paragraph).
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In her book, Ariel uses the only quantifiable criterion of the four, i.e. distance. She counts the occurrences of a given type of noun-phrase in the same sentence/the following sentence/the same paragraph/another paragraph as the antecedent, using a relatively small corpus of written fiction and non-fiction (journalism) texts. Perhaps unsurprisingly, she winds up with the following scale of accessibility:

(1) Accessibility Marking Scale

Low Accessibility

a. Full name + modifier
b. Full ("namy") name
c. Long definite description
d. Short definite description
e. Last name
f. First name
g. Distal demonstrative + modifier
h. Proximal demonstrative + modifier
i. Distal demonstrative (+ NP)
j. Proximal demonstrative (+ NP)
k. Stressed pronoun + gesture
l. Stressed pronoun
m. Unstressed pronoun
n. Cliticized pronoun
o. Extremely High Accessibility Markers (gaps, including pro, PRO and \(wh\) traces, reflexives, and Agreement)

High Accessibility

Ariel’s way of looking at referring expressions means that some noun phrases are left out of the preceding accessibility scale, namely first and second person pronouns and indefinite descriptions. I will return to this problem below.

6.3. Criticising the linguistic marking of accessibility

The main thesis of Accessibility Theory is that accessibility is linguistically marked: it is part of the semantic content of each type of referring expression that the antecedent of the expression is to be found at such and such a degree of accessibility. This linguistic marking of accessibility is precisely the feature of Accessibility Theory which, according to Ariel, makes it a natural complement of Relevance Theory. She also defends the thesis that the accessibility scale is, \(mutatis mutandis\), linguistically universal and that its universality is to be accounted for in terms of its non-arbitrariness. The actual degree of accessibility encoded by each type of referring expression is not arbitrary, but depends on three factors: informativity, rigidity and attenuation.\(^4\) It could be thought that the thesis of the universality of the accessibility scale contradicts the thesis of linguistic marking, which presumes that the degree of accessibility encoded by this or that referring expression is arbitrary to a degree. In fact, Ariel claims that the two theses are not incon-
sistent. The degree of accessibility marked by a given referring expression is, on the whole, not arbitrary but explicable through the three criteria of informativity, rigidity and attenuation, while on a smaller scale some degree of arbitrariness is manifest. This is true of the difference in accessibility between definite descriptions and the corresponding demonstrative noun phrases, between distal and proximal demonstratives and between stressed and unstressed pronouns. What is more, according to Ariel, Relevance Theory would always favour the choice of a proper name to any other referring expression.\(^5\)

I believe that the thesis of the universality of the accessibility scale and the thesis of the conventional (and hence arbitrary) marking of degrees of accessibility are inconsistent and, what is more, the supposed arbitrariness of some details in the accessibility scale stems from a misguided view of what informativeness consists in. To show this, I will examine the three pairs of referring expressions for which Ariel claims that the criterion of informativity should not work, i.e. definite descriptions and corresponding demonstrative noun phrases, distal and proximal demonstratives, stressed and unstressed pronouns.

6.4. Definite descriptions and corresponding demonstrative noun phrases, distal and proximal demonstratives, stressed and unstressed pronouns

Consider the following examples:\(^4\)

\[(2)\]
\[
\begin{align*}
a &. \quad \text{A plane crashed yesterday in New York.} \text{ This plane flew every day from Miami to New York.} \\
b &. \quad \text{?A plane crashed in New York yesterday.} \text{ The plane flew every day from Miami to New York.}
\end{align*}
\]

Just as Accessibility Theory predicts, (2b) is not quite as good as (2a). Yet, according to Ariel, the definite description \textit{the plane} and the demonstrative noun phrase \textit{this plane} give exactly the same information. Thus, it is not a difference in informativity together with Relevance Theory which accounts for the fact that the demonstrative noun phrase is better in (2) than the definite description. It would not account either for the (related) fact that demonstrative noun phrases encode a higher degree of accessibility than definite descriptions do.

Let us move on to distal and proximal demonstratives and examine the following examples.

\[(3)\]
\[
\begin{align*}
a &. \quad \text{A plane crashed yesterday in New York.} \text{ This plane flew every day from Miami to New York.} \\
b &. \quad \text{?A plane crashed yesterday in New York.} \text{ That plane flew every day from Miami to New York.}
\end{align*}
\]
Once again, (3a) is better than (3b) and this is predicted by Accessibility Theory. Once again, the two demonstrative noun phrases give, according to Ariel, the same amount of information. Thus, there is a difference in the degree of accessibility encoded by distal and proximal demonstratives and this difference cannot be accounted for on the basis of informativity and Relevance Theory.

Let us now consider the last pair of referring expressions indicated by Ariel in which some degree of arbitrariness is manifest as far as the degree of accessibility encoded is concerned:

(4) a. Jane; kissed Mary; and then she; kissed Harry.
   b. Jane; kissed Mary; and then SHE; kissed Harry.

(5) a. Jane; kissed Mary; and then Harry kissed her.
   b. Jane; kissed Mary; and then Harry kissed HER.

(4a) and (4b), as well as (5a) and (5b), differ only in that the pronoun is not stressed in the (a) versions, whereas it is stressed in the (b) versions. This difference does have an interpretive effect as the unstressed pronoun is interpreted as coreferential with Jane in (4a) and with Mary in (5a), whereas the stressed pronoun is interpreted as coreferential with Mary in (4b) and with Jane in (5b). It should be noted that the coreference established in the stressed version is not the "natural" one, which occurs in the unstressed versions. Thus, stressed pronouns seem to mark a less accessible, because less natural, antecedent than do unstressed pronouns. As pronouns, whether stressed or unstressed give the same and rather limited amount of information, this difference between stressed and unstressed pronouns cannot be accounted for on the basis of informativity plus Relevance Theory.

6.5. Informativity and Ariel's argument

Such is the case made by Ariel for the linguistic marking of accessibility. It should be plain by now that this case is based on the same type of argument for each pair of referring expressions. The argument has the following form:

First premise:
Two different linguistic forms indicate differing degrees of accessibility.

Second premise:
These two different linguistic forms transmit exactly the same information.

Conclusion:
The difference in accessibility is linked arbitrarily to linguistic form.

To criticise Ariel's argument, it must be shown either that her conclusion does not follow from the two premises, or that one at least of her hypotheses does not
apply to the examples of referring expressions which she uses. The conclusion seems to follow quite well from the premises, so the only option left is to contest one or both of the premises. There does not seem to be any doubt of the fact, reflected in the first premise, that definite descriptions and demonstrative noun phrases, distal and proximal demonstratives are different linguistic forms, though some people might contest that stressed and unstressed pronouns are different linguistic forms. Whoever is right about this last point, I do not intend to contest the first premise. On the other hand, I do not believe that the second premise is valid as it stands, and to show why not I return to the three pairs of referring expressions.

Thus, we return to the difference in informativity between definite descriptions and demonstrative noun phrases. How can the plane and this plane be said to transmit the same information? The common factor between the two referring expressions is the noun plane, which, according to most theories about reference, stipulates the conditions which a thing in the world must satisfy in order to be the referent of the expression; note that this is truth-conditional information. Thus Ariel establishes identity of information on the basis of truth-conditional information alone and does not seem to take into account the — possibly non-truth-conditional — information provided by the determiner. It appears, then, that the second premise of Ariel's argument must be modified to take into account the restricted information which she takes into account. It would then become:

Second premise:
These two different linguistic forms transmit exactly the same truth-conditional information.

Does this, then, prove Ariel's conclusion? I think that she needs a further premise, but I shall come to this later on.

Let us now examine distal and proximal demonstratives. Do this plane and that plane transmit the same information? The answer is exactly the same here as for definite descriptions and demonstrative noun phrases, and Ariel's second premise must be modified just as before.

Stressed and unstressed pronouns raise a new difficulty, linked to the question of whether or not they should be considered as linguistic forms (rather than, let us say, pragmatic forms). It should be clear that if they are not considered linguistic forms, the problem of the validity of Ariel's argument does not arise because, on her account, it is the linguistic form which linguistically encodes the accessibility of the antecedent. So, let us take the hypothesis that stressed and unstressed pronouns are in fact two different linguistic forms. What could be said now of Ariel's second premise as far as stressed and unstressed pronouns are concerned? It appears, now as before, that the second premise should be amended to account for the fact that only truth-conditional information is taken into account.7

Thus, as we have just seen, the notion of informativity used by Ariel concerns only truth-conditional information. Is her argument, with the amended second premise, valid? Or, in other words, do the two premises entail the conclusion?
As far as I can see, this would be true only if a further and third premise were added:

**Third premise:**
No non-truth-conditional information, apart from accessibility, is conventionally transmitted by these two linguistic forms.

With the addition of this third premise, Ariel’s conclusion does indeed follow. But such an addition is fatal to her argument, as it amounts to begging the question: if the only possible non-truth-conditional information linked to referring expressions is to be the degree of accessibility, then, to be sure, the choice of a given referring expression, when another one had exactly the same (truth-conditional) informativity, can only be explained by the degree of accessibility of the chosen expression. But such a premise says no more than what the conclusion says.

To be sure, showing that an argument is question-begging is far from showing that its conclusion is not true; it does, nonetheless, weaken seriously Ariel’s position and surely the burden of proof is on her side. It seems, however, that it might be easy to show that she does not take into account non-truth-conditional information which might not be directly linked to degree of accessibility. This information, typically provided by the determiner in complex noun phrases, is related, in my opinion, to the referring ability of referring expressions.

### 6.6. Non-truth-conditional information in referring expressions

Ariel provides a wealth of quotations which illustrate her blindness as far as the referring ability of referring expressions is concerned: “Since it is naïve to assume that referring expressions directly refer to physical entities (be they linguistic or other kinds of objects), we must assume that in all cases an addressee looks for antecedents which are themselves mental representations” (Ariel 1990: 6) and “I am suggesting doing away with the referential-anaphoric distinction” (ibid.: 7). There is nothing intrinsically scandalous in what she says in either of the two quotations above. Unfortunately, her way of looking at antecedents as “mental representations” as well as her repudiation of the anaphoric/referential distinction leads her to view all referring expressions, whatever the context of their use, as anaphoric in the most trivial sense and leads her also to view antecedents as things mentioned in the linguistic context, i.e. ultimately as linguistic entities.

In other words, whether Ariel is right or not about the naïvety relative to direct reference, she goes as far as possible in the opposite direction and chooses to ignore the fact that referring expressions can indeed refer, and do so fairly frequently. Having chosen to ignore this, her account of referring expressions leaves aside quite a few expressions which should most certainly be included in any account of referring expressions, such as indefinite descriptions and indexicals (most notably the first and second person pronouns); it also ignores the non-truth-conditional indications in referring expressions which have to do with choosing the right referent.
This is particularly evident in her comparison of distal and proximal demonstratives. According to Ariel, distal demonstratives encode a lower degree of accessibility than proximal demonstratives and this difference in the degree of accessibility encoded does not follow from the information transmitted by either form. If we confine ourselves to the purely pronominal forms of demonstratives, *this* and *that*, what kind of information do they transmit? It should be remembered, as Ariel does not seem to do, that demonstratives are a highly referential kind of referring expression; in other words, though they can be and frequently are used to refer to entities already mentioned, i.e. anaphorically, they are also quite often used to refer to things present in the physical situation in which the communication takes place. The first thing to note is that they do not convey any kind of truth-conditional information: the only information which they seem to transmit has to do with the relative distance between the speaker and the object designated. There does not seem to be any doubt that, though the difference between distal and proximal demonstratives is much more complex than most accounts say, it has a spatial content which closely parallels that between *here* and *there*. This is certainly true when they are used in a demonstrative way and it certainly cannot be equated with accessibility, though, as I hope to show later, it can explain their respective places in Ariel’s accessibility scale. On the other hand, it seems rather doubtful whether their respective places on the accessibility scale could explain their indication of relative distance from the speaker.

6.7. What (if anything) is accessibility?

What has just been said demonstrates not only that Ariel has not shown conclusively that accessibility is linguistically marked in referring expressions, but also that there exists non-truth-conditional information provided by referring expressions which her account does not take into account. It also shows that if any kind of accessibility is indicated, directly or indirectly, by referring expressions, it cannot be the simple and monolithic notion which she actually uses. It is interesting to note, by the way, that Ariel herself does notice some facts which should have encouraged her to take more things into account, as in the following sentence: “Note that in English, for example, *that* requires identifiability by both speaker and addressee, whereas *this* sometimes refers to objects accessible only to the speaker” (ibid.: 53). Ariel does not seem to see in her very short discussion of this fact that it argues for a rather different notion of accessibility, one that is oriented more towards reference than anaphora. I would like to add to this fact a second one, which directly bears on one kind of referring expression which Ariel does not even mention, i.e. indefinite descriptions.

It is generally said that indefinite descriptions are not in fact referring expressions at all; in other words, they do not refer. One thing which it is very hard to find in the literature is an explanation of what this claim amounts to. Does it mean that there is no object corresponding to the indefinite description? Or does it mean that the speaker has no particular object in mind, but that any object satisfying the description would be good enough (which is why, until Heim (1982) proposed an al-
ternative account, indefinite descriptions were analysed as existential quantifiers plus predicates? The first hypothesis is self-evidently absurd, as a glance at example (6) shows:

(6) a. I was told that a man came around yesterday and asked for me.

The speaker certainly does not mean to indicate the non-existence of the man. Rather, he does not know who the man is. Note that neither does he imply that the man is unknown to his hearer. He could very well go on to say:

(6) b. Did/do you see/know him by any chance?

This would seem to indicate that indefinite descriptions indicate that the reference of the description is unknown to the speaker, or, in more Russellian terms, that he is not acquainted with it. However, there are examples where, obviously, this would not be true:

(7) I’m looking for a Siamese cat with a squint.

If the speaker asks this in a pet-shop, (7) complies well enough with the above analysis, but if he asks this in the middle of the countryside, he is probably looking for his favourite animal, he has a specific object in mind and the analysis above does not apply. In this case, the object designated by the indefinite description is known to the speaker but is certainly not known to the hearer. It could be said, in favour of Ariel’s Accessibility Theory, that indefinite descriptions do indeed indicate a degree of accessibility, namely zero accessibility. But still the kind of accessibility indicated is evidently not the anaphoric kind which Ariel, avowedly or not, is preoccupied with. Rather, it is a much more reference-oriented one.

It should be noticed that these two examples of what are reference-oriented rather than anaphora-oriented facts also encourage a notion of accessibility which would take into account not only the distance between the referring expression and its antecedent but also the knowledge of the speaker and what is mutually manifest to both speaker and hearer. What is indicated in both the choice of that rather than this and in the choice of an indefinite description is not only the knowledge which the speaker has of the referent but what he takes to be mutually manifest about it.

This discussion leads to a third dimension of accessibility, that is, point of view. There has been a large amount of linguistic and non-linguistic work on the notion of point of view, concentrating mainly on its use in literature. A very suggestive one in view of what Ariel has to say on point of view and accessibility, is Cantrall’s book, Viewpoint, reflexives and the nature of noun phrases (Cantrall 1974). According to Ariel’s accessibility scale, reflexives rate among the markers of highest accessibility, on a par with gaps, pro and agreement, and they mark higher accessibility than do non-reflexive pronouns. Thus, we should expect that I, you, he/she/it will indicate lower accessibility than do myself, yourself, himself/herself/itself. Still, according to Ariel, point of view consists mainly in using higher accessibility than the accessibility scale should allow in a given situation,
thus indicating empathy with the person whose point of view is represented in the sentence. If this is true, point of view is primarily a derived pragmatic fact, which must be seen as coming from the violation of the linguistically marked accessibility scale. In this case, where the choice of reflexives over simple pronouns indicates point of view, point of view could only appear when both linguistic forms are grammatical.

Some of Cantrall's examples, where both the simple and the reflexive pronoun are possible, seem to justify the thesis that point of view is a matter of choosing a marker of higher rather than lower accessibility:

(8) a. There is a picture of me on the mantle.
   b. There is a picture of myself on the mantle.

Cantrall comments on them in the following way: "[(8a)] is used where the addressee is in view of the mantle or likely to be, and [(8b)] is being used to describe a scene which the addressee is never likely to see" (Cantrall 1974: 94). This reduces point of view, here, to the simplest kind, namely perception and visual identification: in (8a), the point of view is or may be that of the hearer, while in (8b), it can only be that of the speaker, as the hearer, according to Cantrall, is never supposed to be in a position to identify the picture.

How does Cantrall's interpretation of examples (8) match Ariel's account of point of view? The answer is simple: it does not. Indeed, according to Ariel, point of view is the result of choosing a marker of higher accessibility when a marker of lower accessibility should have been used. Her whole account of accessibility makes it hearer-oriented. However, reflexives, and most particularly first and second person reflexives, are difficult to assess in this way. When the speaker uses a first person reflexive, he probably indicates higher accessibility to himself; when the speaker uses a second person reflexive, he probably indicates higher accessibility to his hearer; and when the speaker uses a third person reflexive, he probably indicates higher accessibility to a third party, and to neither his hearer nor himself. Thus, (8a) uses the form most accessible to the hearer (given the intended referent), i.e. the simple pronoun, while (8b) uses the form most accessible to the speaker. This does confirm Cantrall's interpretation of (8a) and (8b), but it certainly does not tally with Ariel's account of point of view.

What is worse, Cantrall has quite a few examples where both forms are not available and where the impossible one seems to be ruled out by considerations of point of view:

(9) a. Sam said that his daughter believes that this is a picture of him.
   b. *Sam said that his daughter believes that this is a picture of himself.12

In this case, the simple pronoun and the reflexive pronoun are not both possible: only the former can occur in (9). This indicates that the variation between simple and reflexive pronoun is not entirely free, but it certainly does not indicate that something other than point of view occurs in this sentence. In (9), as in (8), point
of view reduces to identification and (11a) attributes identification to Sam’s daughter, thus precluding the reflexive. As Cantrall says in the last paragraph of his book, “All of reference including both simple and reflexive pronouns must be described under one rule, that divided viewpoint is a condition underlying many types of syntactic phenomena” (ibid.: 175-176). It should also be noted that Kuno (1987) made much the same point more recently and extended it beyond the problem with the choice between simple and reflexive pronouns. I will not develop this point here. Let me just say that there is no way of reconciling Ariel’s pragmatic analysis of point of view with the views of Cantrall or Kuno; to have the kind of account which she urges, the choice between several linguistic forms should always be possible, which it is not, and point of view should always reduce to the choice of a marker of higher rather than lower accessibility to the hearer, which it does not. By the way, it should be noted that examples such as (8) and (9) are in some ways very much like examples such as (6) and (7), where what is in question is the relative ability of the speaker and/or the hearer to identify the referent. This shows how crucial the notion of mutual manifestness, rather than the very simple notion of accessibility used by Ariel, is to the choice of referring expression, as well as the importance of the fact that they are referring. Of what importance would the question of who actually makes the identification be if all referring expressions were used in a more or less anaphoric way and if “direct” reference was a naïve myth?

6.8. What is accessibility, according to Ariel

Let us go back to Ariel’s notion of accessibility and let us examine the criteria she uses in constructing her accessibility scale and the justification she gives for the universality of her accessibility scale. She uses seven criteria in her book, which, however, are the responses to two quite different endeavours:

(i) trying to determine, or describe, the degree of accessibility encoded by such and such a type of referring expression;
(ii) trying to explain the relation between this or that type of referring expression and this or that degree of accessibility.

I will call the criteria answering the first attempt descriptive and the criteria or principles answering to the second preoccupation explicative. The descriptive criteria are the following: distance, competition, saliency, unity; the explicative criteria or principles are: informativity, rigidity, attenuation. It should be noted that the descriptive criteria are rather redundant, unity depending on distance and saliency depending both on distance and unity. Apart from saliency, they also are strongly dependent on a discourse analysis perspective, as what distance measures is the occurrence of the referring expression and its antecedent in the same sentence/two sentences in a sequence/the same paragraph/etc. In other words, it is an anaphoric account of referring expressions. We will concentrate here on the descriptive criteria and what they indicate of the notion of accessibility actually used by Ariel.
Ariel says at different points in her book that the notion of accessibility should be based on the Relevance-theoretic notion of mutual manifestness\textsuperscript{14} and that it should somehow include point of view. In fact, as we have just seen, Ariel accounts for point of view in a derived and unsatisfying way. What is certain, however, is that Ariel’s notion of accessibility is not really related to mutual manifestness. This is obvious when one looks at her corpus (only constituted from press papers or from short stories) and at her statistical tables: she measured what she could measure in an objective way, that is, distance. I am not saying that this is not an objective way to proceed: what I am questioning, rather is what it is that is measured in such a case. Whatever it is, I do not think that it is mutual manifestness: for one thing, in each of her texts, there is only one speaker, or rather writer. For another, her texts seem to be very uniform, being all drawn from newspapers or short fiction. It is not self-evident that she would have got the same results if she had taken another type of corpus (e.g. transcripts of conversations). And, last but not least, relying as she does on the one criterion of distance, she does not take into account the non-trivial fact that referring expressions, even when they are used in an anaphoric way, may refer. In other words, what is lacking in Ariel’s account of referring expressions is... reference. What is worse, though I think that one can account for Ariel’s accessibility scale on the basis of the semantic content of referring expressions plus Relevance Theory, it is impossible to account for the referring ability of referring expressions on the basis of Ariel’s accessibility scale even when it is augmented by Relevance Theory.

6.9. What came first: referring ability or accessibility?

So far I have argued for three things:

(i) accessibility is not linguistically marked by referring expressions;
(ii) the notion of accessibility actually used by Ariel is absurdly simple and monolithic in view of the complexities involved in the use and choice of referring expressions; it should at the very least integrate the notion of mutual manifestness and of point of view, but it is rather hard to see how one could construct the notion of accessibility in such a way;
(iii) the fact that referring expressions do indeed very often refer cannot be ignored.

In this section, I will try to show that it is specifically their ability to refer which can explain the accessibility scale of referring expressions, rather than the reverse. In other words, I will try to show something which should be obvious: there is no reason to consider the anaphoric use of referring expressions as in any way primary or preferential to their referential use.

Thus, in the end, the question seems to be whether accessibility came first and referring ability derived from accessibility or whether referring ability came first and accessibility can be derived from referring ability. In other words, can we derive the accessibility scale from the semantic content and referring ability of referring ex-
pressions rather than deriving the semantic content and referring ability of referring expressions from the accessibility scale? I will not, for reasons of space, consider the whole of the accessibility scale for all referring expressions; I will rather concentrate on one detail of the accessibility scale, taking one of those which, according to Ariel, better justify her hypothesis of the linguistic marking of accessibility. Let us go back to distal and proximal demonstratives. The accessibility scale predicts, accurately, that distal demonstratives indicate a lower accessibility than do proximal demonstratives. This is certainly borne out by the examples, though, as we have seen before, it certainly does not imply or show that accessibility, whatever it is, is linguistically marked. If we also take into account the fact, owned by Ariel herself, that the distal demonstrative is often used when the speaker but not the hearer can identify the referent (i.e. the referent is accessible to the speaker but not to the hearer) it is hard, contrary to what Ariel says, to see how this fact should be explained on the basis of Accessibility Theory. In such a case, indeed, it is not a lower degree of accessibility for the hearer that is indicated, but a null degree of accessibility, and it should be marked by a much lower marker of accessibility than a distal demonstrative pronoun. Thus, far from Accessibility Theory being justified by this sort of case, it raises a further difficulty.

As I said before, this case is very similar to some uses of indefinite descriptions, where the speaker can identify the referent, but where it is not clear that the hearer can. Now, indefinite descriptions are said to be non-referring, which means neither that there is no reference nor that the speaker cannot identify the reference. Rather, it means simply that identifying the reference is not necessary in order to understand the utterance. In other words, what is indicated by the use of indefinite descriptions, among other things, is the fact that the propositional form of the sentence does not have to include the reference of the indefinite descriptions. Coming back to distal demonstratives, they certainly are not non-referential expressions, i.e. they do not linguistically indicate that the propositional form of the utterance does not have to include the reference of the distal demonstrative, but they are, like all referring expressions in use, chosen partly on the basis of what the speaker sees as mutually manifest to himself and his hearer. Thus the distal demonstrative, used when the proximal demonstrative would rather be expected, indicates that the point of view chosen is that of the hearer, that the referent is not identifiable by the hearer and that it should not be included in the propositional form of the utterance. This derives from the semantic content of both distal and proximal demonstratives, and so, incidentally, does their relative places in Ariel’s scale of accessibility.

To see that this is so, let us take a look at first and second person pronouns in reported speech. As Kaplan (1977) has conclusively shown, the semantic content of indexicals is not truth-conditional and descriptive, but non-truth-conditional and non-computational. To identify the referent of / in a case of reported speech such as (10), the hearer applies the procedure that he would apply in non-reported speech, but applies it relative to the information that has been given, that is, not to the speaker of the whole utterance, but to the speaker of the reported utterance:

(10) Sam said: “I am exhausted”.
Something very similar takes place with the anaphoric use of distal and proximal demonstratives: the same procedure which is applied in determining the reference of the demonstrative in its demonstrative (and referring) use, is applied not to space but to the text where the demonstrative occurs. Thus, the anaphoric use of demonstratives and the different positions of distal and proximal demonstratives on the accessibility scale derive from the semantic content of demonstratives and hence from their referring ability, rather than the reverse.

On this view, the question of what came first, accessibility or referring ability, is not tantamount to the question of the chicken and the egg: referring ability came first and accessibility is just a result of referring ability to be explained on the basis of semantic content and Relevance Theory. If this is the case, not only is it unnecessary to adopt the theory of the linguistic marking of accessibility, but to do so would also violate Grice's modified principle of Occam's razor: according to this principle, one should not multiply senses beyond necessity. If accessibility were linguistically marked, it would be part of the semantic content of the referring expressions, and, as accessibility can be explained without assuming that it is linguistically marked, such a hypothesis should not be accepted.

6.10. Conclusion

Briefly, I have tried to show that Accessibility Theory fails on several counts:

(i) not only does Ariel not show that accessibility is linguistically marked, but it can be shown that such a hypothesis is not compatible with Grice's modified principle of Occam's razor;

(ii) the notion of accessibility is monolithic and, as such, fails to account for the complexity involved in the choice of referring expressions.

A few words, to conclude, on Accessibility Theory and coherence. A few years ago, Blass (1985) showed that coherence was not an explanatory concept accounting for textual phenomena, but rather that such textual phenomena, which may be called coherent, are better accounted for in a relevance-theoretic framework. On this view, which I share, coherence is, at the most, an emergent property of texts. I think that Ariel's Accessibility theory of referring expressions is a misguided attempt to reintroduce (as far as referring expressions are concerned) coherence (to which accessibility bears a very close similarity) as an explanatory concept. I hope to have shown conclusively here that such a reintroduction does not work and is not necessary.

Finally, I want to plead for a referential account of referring expressions: to my mind, wholly ignoring the referring ability of referring expressions when one tries to account for them is tantamount to trying to explain how a musical instrument works, while discounting the fact that it is used to produce sounds (and not just any old sounds) and that it was built for precisely this purpose.
What (if anything) is accessibility? 105

Notes

1. Not all so-called referring expressions do refer: there is a general consensus that indefinite descriptions do not refer, i.e. they do not pick out a specific object in the world. In the same way, definite descriptions may or may not refer, depending on their occasions of use and on the speaker's intentions.

2. The present criticism of Ariel's Accessibility theory does not apply in any way to Blakemore's excellent work.

3. Ariel's terminology.

4. The informativity of a given referring expression depends on the quantity of information given by the referring expression; its rigidity depends on the fact that it does always refer to the same thing, regardless of context (proper names are the standard example of rigid referring expressions); its attenuation depends on its phonological form and on the stress or absence of stress.

5. For reasons of space, I will not discuss this preposterous claim here, except to say that there is absolutely no foundation that I can see for it. The justifications invoked for it by Ariel — proper names are shorter than other referring expressions and are rigid, i.e. unambiguous — are certainly not conclusive; in most languages, proper names are longer than pronouns and Relevance Theory insists on the fact that communication is far from a failsafe process.

6. Adapted from Kleiber (1990).

7. This premise applies regardless of the analysis of third person pronouns which has been chosen. If a non-truth-conditional account is favoured, then the pronouns, whether stressed or unstressed, transmit the same truth-conditional information, that is to say none; if a truth-conditional account is chosen, then the same truth-conditional information is transmitted by stressed and unstressed pronouns. By the way, it should be noticed that the ease of stressed versus unstressed pronouns is one of the cases where accessibility cannot be reduced to distance, as a glance at examples (4) and (5) shows: the unstressed pronoun in (4a) marks, according to Ariel, higher accessibility than does the stressed pronoun in (4b).

Accessibility is generally assessed by distance between NP and antecedent. Yet, in (4a), the unstressed pronoun is co-referential with Jane, that is with the possible antecedent which is farthest from the pronoun. The reverse occurs in examples (5). Thus, assessing accessibility only on the basis of distance, which is Ariel's practice, does not always support her claim that unstressed pronouns mark higher accessibility than do stressed pronouns (unless, of course, the basis for assessing accessibility is changed).

8. Which her exclusive use of the distance criterion shows.

indeed if all linguists' works on referring expressions could be as "naïve" as this truly beautiful book.

10. It could also be said, in a perspective similar to that of Jean-Claude Milner (1982), that they indicate their lack of semantic completeness and the necessity to add to their semantic content, by gesture and/or linguistic context.

11. In fact, the utterance is completely neutral as far as the hearer's knowledge of the referent is concerned.

12. In some contexts, (9b) seems to be acceptable. However, it does not seem to be a general possibility.

13. In fact, it should be noted that point of view is very much a matter of what information is given (that is, information accessible only to the subject of consciousness), and the form this information, and most notably, information conveyed using referring expressions, takes (i.e. point of view is using the noun phrases most accessible to the subject of consciousness, given the referent). On this point, see Banfield (1982), Castafieda (1979), and Reboul (1992).

14. I take it that this notion is not in any need of definition. Just in case, this is what Sperber and Wilson say of mutual manifestness: "Any shared cognitive environment in which it is manifest which people share it is what we call a mutual cognitive environment. In a mutual cognitive environment, for every manifest assumption, the fact that it is manifest to the people who share this environment is itself manifest" (Sperber—Wilson 1986: 41-42), and "A fact is manifest to an individual at a given time if and only if he is capable at that time of representing it mentally and accepting its representation as true or probably true" (ibid.: 39).

15. What, however, is not borne out by the examples, is the fact that pronouns encode higher accessibility than do either distal or proximal demonstratives, especially if the demonstratives concerned are demonstrative noun phrases. Let us take a look at example (3) again.

(3) a. A plane crashed yesterday in New York. This plane used to fly between Miami and New York.
   b. A plane crashed yesterday in New York. ?That plane used to fly between Miami and New York.
   c. A plane crashed yesterday in New York. It used to fly between Miami and New York.

Here, the pronoun and the proximal demonstrative noun phrase (and the definite description, by the way) are equally possible, which is not easy to explain on the basis of the accessibility scale, as Kleiber rightly remarked on the basis of these examples (see Kleiber 1990). Note that it neither can be explained by an appeal to the violation of the scale of accessibility and a consecutive effect of point of view: there does not seem
to be any difference in point of view between (a) and (c) (any more than with the definite description, by the way).

16. Note that there is no question here of whether it is an anaphoric use of demonstratives: if it were an anaphoric use, there would not be any way for the hearer to be unable to identify the antecedent.

17. As pointed out by François Recanati (see Recanati 1993).

18. Just the reverse happens for truly referential expressions, such as proper nouns, which indicate that the propositional form of the utterance should include the reference of the proper noun. In a way, it could be said that such referring expressions as proper nouns on the one hand and indefinite descriptions on the other hand do contribute to the relevance of the utterance, by directing the process of interpretation through a linguistic marking of the requirements that the propositional form of the utterance should meet.

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Pragmatic functions, special positions and accent in Dutch

Roel M. Vismans

7.1. Introduction

This paper is a case study of the way constituent ordering and accentuation interact to express pragmatic functions, especially Topic and Focus, in Dutch. In several places in the FG literature (e.g. Siewierska 1991: 149) explicit reference is made to the interdependence in FG of pragmatic functions on the one hand and special positions in the clause and accentuation on the other. Dik (1989: 264) first defines topicality as characterizing "the things we talk about" and focality as characterizing "the most important or salient parts of what we say about the topical thing". He later posits a "universally relevant clause-initial position P1, used for special purposes, including the placement of constituents with Topic or Focus function" (ibid.: 348). Moreover, he also claims that "(p)ragmatic functions ... typically have impact on the prosodic contour of the linguistic expression" (ibid.: 390). His subsequent discussion of the interaction between pragmatic functions and prosodic features is about the "degree of accentual prominence" of Topic and Focus constituents. It is claimed, then, that Topic and Focus are typically, but not necessarily, expressed by positioning in P1 and accentuation.

This paper aims to explore this claim for Dutch. The first three sections give a brief survey of pragmatic functions, special positions (including P0 suggested by De Schutter 1985) and accentuation in FG respectively. The remainder of the paper tries to integrate these three issues in a coherent analysis of Dutch constituent ordering and accentuation in relation to pragmatic functions.

7.2. Pragmatic functions

The FG literature on pragmatic functions is probably well known and only requires a brief discussion. Dik (1989: 264-265), Connolly (1991: chapter 2) and Siewierska (1991: 146) note the difference between "extra-clausal and intra-clausal pragmatic functions". Extra-clausal pragmatic functions are associated with extra-clausal constituents (ECCs) which have had relatively little attention so far. Two functions that have been identified, however, are Theme and Tail, or left- and right-dislocated constituents (cf. Siewierska 1991: 150-153, Downing, this volume). I shall return to ECCs in section 7.3.2 and section 7.6.

The two intra-clausal pragmatic functions are Topic and Focus. Dik (1989: 265-266) sees as the primary aim of the speaker in producing an utterance the alteration of the addressee's pragmatic information. In order to do this, (s)he will start from some given information, or at least information which is assumed to be part of the addressee's pragmatic information. To this the speaker adds something new. There
is a close relationship between given information and topicality on the one hand, and new information and focality on the other. To quote Dik (ibid.), “Topicality characterizes those entities ‘about’ which information is provided or requested in the discourse. Focality attaches to those pieces of information which are the most important or salient with respect to the modifications which S [the speaker] wishes to effect in P_A [the addressee’s pragmatic information], and with respect to the further development of the discourse.” There are some difficulties in the integration of given-new with Topic-Focus. These have been highlighted by, amongst others, Mackenzie and Keizer (1990) and Butler (1991).

There are further subdivisions of both topicality and focality (cf. Dik 1989: 267-285, who distinguishes New Topic, Sub-Topic, Given Topic and Resumed Topic, and New (or Completive) Focus and Contrastive Focus). These do not require in-depth discussion here, except for NewTop, whose status as Topic is disputed. Several authors regard it as more akin to Focus than to Topic, e.g. Hannay (1991: 138): “the introduction of a new discourse entity is the point of the message, not the starting point of it”.

7.3. Special positions

In the literature we find several pleas for the recognition of special positions. Some of these are universal, whereas others are language-specific. P1, the “universally relevant clause-initial position” suggested by Dik (1989, 348-349), is discussed in section 7.3.1. Section 7.3.2 discusses De Schutter’s (1985) proposal for a clause-final special position for Dutch (P0).

7.3.1. P1

It will not be necessary to discuss P1 in any depth here, since the literature on this special position can again be assumed to be common currency. Chapter 16 of Dik (1989) presents nine general principles (GPs) and 16 specific principles (SPs) of constituent ordering. Not all of them are equally relevant to the present study. The crucial GP from our point of view is GP7 The Principle of Pragmatic Highlighting (ibid.: 343-344): “Constituents with special pragmatic functionality (...) are preferably placed in ‘special positions’, including, at least, the clause-initial position”. GP7 has SP4 as a corollary among the SPs (ibid.: 348-349): “There is a universally relevant clause-initial position P1, used for special purposes, including the placement of constituents with Topic or Focus function”. Note that languages may have P1-constituents which are “designated categories of constituents which must be placed in P1”. Only if no such constituent occurs in P1 can it be occupied by Topic or Focus constituents.

Dik’s suggested ordering template for Dutch is as follows (ibid.: 360):

(1) P1 Vf[main] S O X Vf[sub] Vi Vf[sub]
where Vf is the position for finite verb forms (with different positions for main and subordinate clauses), Vi the position for non-finite verb forms, S = subject, O = object, and X "stands for non-Subj, non-Obj constituents ('oblique' arguments, satellites) which will need further differentiation in a full description of Dutch constituent ordering, In a full account of Dutch constituent ordering, some further X-positions will be required" (ibid.). One additional X-position would be immediately before O, where it is not uncommon for satellites to occur. This schema is a formalization of Dutch sentence structure in FG terms on whose general tenet there is a widespread consensus.

The rules for filling PI in Dutch are formulated by Dik (ibid.) by way of a general illustration of how PI can be exploited:

(R0) PI must contain one and only one constituent.
(R1) Place PI-constituent in PI, where PI-constituent = question word, subordinator, or relative pronoun.
(R2) Else, place constituent with GivTop, SubTop or Foc function in PI.
(R3) Else, place X in PI, where X = some satellite or a dummy element.

(R1) names explicitly the "designated categories of constituents which must be placed in PI" (Dik ibid. 384) for Dutch.

7.3.2. P0

De Schutter (1985) makes a very strong case for a further special position in Dutch, P0, the final position of the clause. De Schutter sees a large measure of parallelism between P1 and P0, both in terms of the kind of constituent we are likely to find in them ("the filling of P0 runs to a great extent parallel to that of P1" (ibid.: 145)) and in broad functional terms ("the nature of P1 and P0 is pragmatic" (ibid.: 139)). Indeed, he calls P1 and P0 (and P2 and P3, see below) "pragmatic positions", suggesting that they are somehow related to pragmatic functions. However, it cannot be taken that there is a one-to-one correspondence between function and position. He sees the "unmarked" division of labour between the two positions as expressing "theme" and "rheme" respectively (i.e. theme in P1, rheme in P0), but a role-reversal is by no means impossible.

P0 is set off from an extra-clausal constituent which may follow a clause and is intonationally separated from it by a pause (in writing, a comma). The latter kind of constituent has been referred to in FG as a Tail (e.g. in Dik 1989: 135). It has a pre-clausal counterpart, differentiated in a similar way from P1 and also not integrated in the clause, known as Theme. Tail and Theme are illustrated (in Dutch, but they occur in other languages too) in (2) and (3):

(2) Hij heeft een houten poot, die man!
He has a wooden leg, that man!

(3) Die man, die heeft een houten poot!
De Schutter (1985: 137) prefers to use the neutral terms P2 (Theme) and P3 (Tail) for these positions. I shall return to P2 and P3 at the end of section 5.

P0 can be occupied by “one (but in principle not more than one) constituent” (ibid. 143). Excluded from P0 are “especially all nominal arguments that take up the syntactic functions of subject and object” (ibid.: 144). It is favoured by satellites with prepositions.

(4) is a revised version of Dik’s template for Dutch in the light of the above comments.

(4) P2, P1 Vf[main] S X O X Vf[sub] Vi Vf[sub] PO, P3

Not only have P2 and P3 been included, but also P0, and a second X-position between S(ubject) and O(bject).

7.4. Accentuation

To date FG has had a great deal less to say about accentuation and other prosodic features than about special positions and pragmatic functions. The discussion here needs more depth than in the previous sections.

For non-tonal languages accent and intonation are the two central components of prosodic contours. As Dik (1989: 380) points out, accent and intonation (as well as tone in tonal languages) make use of the same “primary medium of expression” to effect very different aspects of the clause structure: differences in pitch. Accent can be defined as a change in pitch, whether it is a change from high to low pitch, or from higher to lower pitch, or indeed the other way around. The actual fact that a change in pitch occurs is the crucial element of accentuation, the direction of the change (up or down) being irrelevant. The change normally occurs within one syllable. It is usually accompanied by other features than just the pitch change, such as loudness, tension and length. In contrast, intonation normally occurs over more than just one syllable. Moreover, the actual directions of the pitch movements (falling, rising, or otherwise) are important.

Keijsper (1990: 49-51) suggests a rigorous analysis of Dutch accentuation in FG terms. She distinguishes three patterns of accentuation: (i) the final most prominent pitch accent of a clause, (ii) any non-final accent, (iii) no accent. The interpretations of these are as follows:

(i) “the speaker signals that he opposes this referent to the absence of that same referent in the given ‘pragmatic information’”;

(ii) “the speaker signals that he chooses this referent and not another referent that can be found in the ‘pragmatic information’ given at this moment”;

(iii) “the speaker signals that this referent is not opposed to anything else: not to other referents within the pragmatic information given at this moment, nor its own absence (when the constituent comes under the scope of another accent)”.
Keijsper relates these accentuation patterns to Dik’s subdivisions of Topic and Focus. (i) relates to New Topic, New Focus, the last components of a clause with Parallel Focus, and Counter-presuppositional Focus; (ii) to Sub-Topic, Resumed Topic, and the first components of Parallel Focus; (iii) to Given Topic and Focus in cases where another word in the Focus constituent is accented.

The last possibility (an unaccented constituent “where another word in the Focus constituent is accented”) seems somewhat paradoxical and requires some discussion here. The standard examples are (5) and (6) taken from Dik (1989: 395):

(5) A: What happened?
   B: JOHNSon died.

(6) A: Who died?
   B: JOHNSon died.

In (5) B’s entire clause is in Focus, whereas in (6) only the subject is, but the result is the same accentuation pattern. Dik refers to Gussenhoven’s (1983a) Sentence Accent Assignment Rule (SAAR) for a precise discussion of how such cases come about. In short, when both argument and predicate are in Focus, it is the argument that is accented. In this context Keijsper (1990: 59, footnote 11) mentions another possibility, where the final clause accent falls on the object and where, in her view, verb plus object are Focus, as in (7):

(7) A: Wat doet Jan?
   What does John?
   ‘What is John doing?’

   B: Ján leest een BOEK.
   John reads a book.
   ‘John is reading a book.’

Her comment here is that “FG cannot justify this type, because leest een boek is not an FG constituent.” The latter half of her comment is true, but FG can explain the phenomenon with the help of Gussenhoven’s (1983a) SAAR. In (7) the predicate (leest) and its second argument (een boek) are in Focus. SAAR predicts correctly that boek is accented.

A slightly different case is (8):

(8) A: Wat gebeurt er?
   What happens there?
   ‘What is happening?’

   B: Jan leest een BOEK.
   John reads a book.
   ‘John is reading a book.’
As in (5B), in (8B) the whole predication is Focus. In such cases we are dealing with an "all-new predication" (Dik et al. 1981, quoted by Hannay 1991: 146) in which all information is "equally salient" and "there is no element that needs to be singled out for special treatment" (ibid.). This is the case, of course, when such neutral questions as "What happened?" in (5) and (8) are asked. As we have seen, Gussenhoven's (1983a, 1983b) SAAR predicts that in a combination in which predicate and argument are in Focus, the argument is accented. This rule can be extended to take on board all arguments of a predicate and all satellites. When an entire predication is Focus, it will be the last argument or satellite that is accented.

7.5. Pragmatic functions, special positions and accentuation in Dutch

How can we combine these analyses of accentuation and constituent ordering into a coherent analysis of what happens to pragmatic functions in the expression rules of Dutch? First we reduce Keijsper's analysis to the following rules:

(i) the final clause accent, by which is meant "the final most prominent pitch accent of a clause" (Keijsper, 1990: 49), is reserved for Focus constituents including Dik's New Topic;\(^{11}\)

(ii) non-final accents are assigned to all other Topics except Given Topic, as well as the first mention of constituents in Parallel Focus;

(iii) Given Topics are not accented.

Let us now consider the positions in the template in (4), excluding P2 and P3 for the moment, by looking at the exchange in (9), below, and concentrating on Focus constituents. A’s question asks for confirmation of the premise that B is going to eat mussels on Saturday. However, this is countered by B who says that the meal in question does not take place on Saturday, but on Friday. This can be done in a number of ways, but will always involve a final clause accent on the first syllable of *vrijdag*, because *vrijdag* is the Focus constituent of B's response. In the least marked sentence pattern of Dutch *vrijdag* would occur in the first X-position in (4), preceding O, as in (9).

(9) A: Je gaat zaterdag MOSselen eten, hè?
   You go Saturday mussels eat, isn’t it?
   ‘You’re going to eat mussels on Saturday, aren’t you?’

   B: Nee, ik ga VRIJdag mosselen eten.
   No, I go Friday mussels eat.
   ‘No, I’m going to eat mussels on Friday.’

However, the Focus constituent could also occur in P0. This is the last position in the clause, and therefore contains the last possible constituent to which a final
clause accent can be allocated. Moreover, we saw in section 2.2. that according to De Schutter (1985) the usual division of labour between P1 and P0 was for Topics to occur in the former and Focuses in the latter. This is what has happened to the Focus constituent in (10).

(10) B: Nee, ik ga mosselen eten op VRIJdag.

A third possibility is for the Focus constituent to occur in the second X-position, following O(ject), as in (11):

(11) B: Nee, ik ga mosselen op VRIJdag eten.

Finally, a Focus constituent can also occur in P1. Here (and in (9), above), the consequence of rule (i) above will be that no other subsequent constituent is given any prominent accent. This is the case in B's utterance in (12).

(12) B: Nee, VRIJdag ga ik mosselen eten.

It is probably quite rare for Focus constituents to occur in P1 in longer utterances, but in single-constituent utterances it is of course the only possibility. Consider, for example, a one-word response to a question, as in (13), which is by definition in P1 and in Focus:

(13) A: Waar ga je morgen naartoe?  
Where go you tomorrow to?  
Where are you going tomorrow?

B: ANTwerp.
Antwerp.

To sum up the findings so far, any constituent can be put in P1 for Focus. If a Focus constituent is not assigned to P1, it may occur in any of the subsequent positions of the template in (4), again excluding P2 and P3 for the moment. Wherever the Focus constituent occurs, it always carries the final clause accent.

The situation with respect to Focus constituents sketched above has certain repercussions for Topic constituents. Following rule (ii), which states that non-final clause accents are assigned to Topics, any of the positions preceding the position with the Focus constituent can be filled by a Topic (on the understanding that topicality only applies to entities and may therefore not be assigned to verbal predicates or other predicates that do not refer to entities).\(^{12}\) This means that the further to the right a Focus constituent occurs, the more "choice" there is for a Topic constituent. In this respect example (10) above illustrates the maximum scope allowed to the Topic. Example (12) illustrates the other extreme, where simply no Topic can occur in a clause. If the Focus constituent occurs in S (i.e. the subject position), any Topic constituent will have to occur in P1 and will be given a non-final accent. Consider A's response to B's message in (13):
(14) Morgen gaat mijn MOEder naar Antwerpen.
Tomorrow goes my mother to Antwerp.
'Tomorrow my MUM’s going to Antwerp.'

The result of rule (ii) above is that any constituents subsequent to the Focus constituent cannot be interpreted as Topics, because Topics (with the exception of GivTops) are identified by non-final accents.

As De Schutter (1985: 144) indicates, PO is not normally occupied by objects. Consequently, if the object is in Focus, any constituents in PO will be unaccented or only lightly accented. Following rule (iii), unaccented GivTops will then occur in PO. Bearing in mind the conversation in (13), consider (15) as the subsequent exchange. Here the entire predication we gaan MOSselen eten is in Focus with the (final clause) accent on the first syllable of mosselen as predicted by SAAR. In Antwerpen, the GivTop in this clause in view of the earlier exchange in (13), is unaccented.

(15) A: Ga je dan het Rubenshuis bekijken?
   Go you then the Rubens house visit?
   'Are you going to see Rubens’ house then?'

   B: Nee, we gaan MOSselen eten in Antwerpen.
   No we go mussels eat in Antwerp.
   'No, we are going to eat MUSsels in Antwerp.'

The question that arises from this discussion of Topic constituents is whether the division into different sub-categories of topicality is really necessary for the purpose of analysing constituent order and accentuation. What is the difference between mosselen in (10) and the same word in (12) except for its accentuation, when rule (ii) stipulates that in (10) it can be accented, but in (12) it cannot? The same could be said for in Antwerpen in (15) and another variant in which it occurred in an X-position preceding MOSselen. We can give a more elegant account of the interaction between constituent order and accentuation in Dutch: Topic constituents can precede OR follow the Focus constituent of the clause, which is the constituent bearing the final clause accent. If a Topic constituent precedes the Focus constituent, it is given a non-final accent. If it follows the Focus constituent it is not given any accent. This also obviates the need for a division of topicality into further sub-categories merely for the purpose of analysing constituent order and accentuation.

7.6. P2 and P3

Finally, let us return to P2 and P3 and consider Focus and Topic in connection with these positions.13

(16) MORgen, DAN ga ik in Antwerpen mosselen eten.
(17) Morgen, dan ga ik in Antwerpen MOSselen eten.
In examples (16) and (18) P2 and P3 are filled by constituents that corefer to the Focus constituent, and in examples (17) and (19) by constituents that corefer to the Topic constituent. The difference between the two sets of examples lies in the fact that where the constituents in P2 and P3 corefer to Focus constituents, the accentuation is replicated, but in the case of coreference to Topic constituents it is not. This is a further illustration of the fact that the parallels between final clause accent and Focus are much stronger than those between non-final clause accent and Topic. It can also be seen as supporting the position set out in the final paragraph of section 4 (above), that a division of topicality into sub-categories is unnecessary for an analysis of the interaction between constituent order and accentuation. Central to this interaction is the fact that in spoken language Focus and final clause accent are tied up together.

The names Theme and Tail are used imprecisely for P2 and P3, as if to indicate pragmatic functions. With De Schutter (1985) I would argue against the use of “Theme” and “Tail” and in favour of “P2” and “P3”, as an indication that they are special positions, not pragmatic functions. They may be filled by constituents with pragmatic functions, but also by other constituents.  

7.7. Conclusion

It has become clear that the relation between Topic and Focus on the one hand, and constituent order and accentuation on the other is a complex one. Hannay (1991) calls the mechanism that is responsible for the actual decisions on accentuation and constituent ordering “message management”. Among the issues in FG that require further investigation at the moment, the most challenging is probably the question of message management. In order to arrive at a tenable analysis of message management, accentuation (and prosodic features in general) needs more, and more serious consideration.

Notes

1. This paper is an amended version of section 5.4 from Vismans (1994). I am grateful to Lachlan Mackenzie, Chris Butler and John Connolly for comments on earlier drafts.

2. During the Sixth International Conference on Functional Grammar some participants expressed different views on this (e.g. Hannay suggested that P2 and P3 constitute entirely separate discourse acts).

3. Contrast can be further subdivided into Parallel Focus or Counter-presuppositional Focus. The former is found when two entities are compared. E.g. (Dik 1989: 278):
John and Bill came to see me. JOHN was NICE, but BILL was rather BORing.

With Counter-presuppositional Focus “the information presented is opposed to other, similar information which S presupposes to be entertained by A” (ibid.: 282). Dik (ibid.: 283-285) distinguishes Replacing (not X, but Y!), Expanding (also X!), Restricting (only X!) and Selecting (X!).

Most examples of Focus in this paper are examples of New Focus or Counter-Presuppositional Focus.

4. Geerts et al. (1984) presents an analysis of Dutch word order that contains elements very similar to Dik’s analysis, but in a less theory-specific way.

5. De Schutter refers in a footnote to the possibility of more constituents occurring after the verbal complex (both presumably in P0). This is also acknowledged in Geerts et al. (1989: 1016, 1032). Nevertheless, it is quite rare.

6. This statement of De Schutter is too categorical. In the following example the object appears in P0:

> Leg neer die bal!
> Lay down that ball
> ‘Put that ball down!’

*Leg* is in position Vf (P1 either being empty or coinciding with Vf). The separable verbal prefix *neer* is in Vi, and the object, *die bal*, must then be in P0. Cases like this are rare, however.

7. For a fuller discussion of (Dutch) intonation in FG, see Vismans (1994: ch. 7).

8. Keijsper’s formulations are somewhat circumlocutory. They must be read in conjunction with Dik’s comment that the speaker’s primary aim is to change the addressee’s pragmatic information. The phrases “given pragmatic information” and “pragmatic information given at this moment” in Keijsper’s definitions refer to the addressee’s pragmatic information.

9. In my examples, final clause accents are indicated by putting the entire accented syllable in upper case, non-final accents by acute accents on the vowel of the accented syllable.

10. See Gussenhoven (1983b) for a discussion of similar phenomena in Dutch.

11. which, as we saw in section 7.2, is regarded by several authors as more akin to Focus than to Topic.

12. But cf. Helma Dik’s proposal in a paper given at the same conference as the present paper.

13. As Dik (1989: 264-265) points out, P2 and P3 can be used for other functions too of course, but here I concentrate on their relationship with Topic and Focus.

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Pragmatic functions and special sentence positions in Bulgarian

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8.1. Introduction

8.1.1. Constituent order in Bulgarian

In terms of Greenberg's (1966) typological classification of languages, Bulgarian is to be treated as a language with a dominant SVO order of constituents. In FG terms, however, it seems plausible to claim that from the two perspectivizing functions, Subj and Obj, only subject assignment is applicable to Bulgarian. Thus (1) illustrates alternative subject assignment to an Agent term (in (1a)) and to a Goal term (in (1b)):

(1) a. *Mnogo turisti* posetixa muzeiya. — $S_{A8}$
   many tourists visited museum-DEF.-ACC.
   'Many tourists visited the museum.'

b. *Muzeiyat* beshe poseten ot mnogo turisti. — $S_{G0}$
   museum-DEF.-NOM. was visited by many tourists
   'The museum was visited by many tourists.'

(On subject assignment in Bulgarian, see also Stanchev 1990 and Stanchev 1987.)

Bulgarian (unlike English) does not seem to make use of object assignment for alternative coding of other than Goal terms. Having in mind the universal validity of the special clause-initial position PI, we can stipulate the following basic word order pattern for Bulgarian:

(2) $P1 \ S \ V \ X$

If we take into account Dik's (1989) proposals for languages without Subj/Obj assignment reflected in specific word order principle SP2 ('The preferred ordering of $A^1$ and $A^2$ in relation to the V is determined by the principle of Centripetal Orientation (GP3) as: $A^1 \ A^2 \ V \ A^2 \ A^1$'), then Bulgarian would emerge as a language with a basic order of constituents as given in (3) (cf. Dik 1989: 346, 358-359):

(3) $P1 \ A^1 \ V \ A^2 \ X$

where $A^1$ and $A^2$ are the first and the second argument of the verbal predicate.
respectively, and X is a non-Subject and non-Object constituent (typically a satellite).
For the sake of linguistic convention however, I will be using “S” and “O” instead of “A1” and “A2” in the discussion below.

8.1.2. Theoretical preliminaries

From Hannay’s (1991) functional definition of Topic the following guidelines can be highlighted (see Hannay 1991: 141):

• The Topic constituent refers to shared pragmatic information of Speaker and Addressee, i.e. it refers to given information (with the possible exception of NewTop, which however is closely related to focality).
• In a process-oriented approach the Topic constituent is taken as the “appropriate foundation” for the message: the basis, the starting point. Topic assignment is: “... a device for giving special treatment to elements of topical information ...”, “... a reflection of a decision by the speaker in the course of the message and discourse construction ...” (Hannay 1991: 141).

Some assumptions established in FG literature are:

• Topic relates only to entities and no more than one entity per predication is allowed for this function (though de Groot (1981) has argued for more than one constituent in the special Topic position P1 for Hungarian).
• Languages make use of a special clause-initial position P1 which, among other things, serves for “special treatment” of Top and Foc constituents.

For English, Hannay claims that P1-placement is the only means for the special treatment of Topic constituents, since English has no formal devices for identifying a constituent as a Topic (cf. Hannay 1991: 141). Mackenzie and Keizer (1991) have gone further and suggest abolishing Topic assignment for English. P1 in English is then used as follows:

• In the unmarked case P1 harbours the Subject.
• In the marked case P1 is filled: (i) by P1 constituents (such as Q-words), or (ii) by a Focus constituent (cf. Mackenzie—Keizer 1991: 196).

Dik (1989: 360) outlines the following uses of P1 in Dutch:

(R0) P1 must contain one and only one constituent.
(R1) Place P1-constituent in P1, where P1-constituent = question word, subordinator, or relative pronoun.
(R2) Else, place constituent with GivTop, SubTop or Foc function in P1 (optional).
(R3) Else, place X in P1, where X = some satellite or a dummy element.
Against this theoretical background, in the subsequent sections I will address issues relating to Topic and Focus assignment and the use of special sentence positions in Bulgarian.

8.2. Topic assignment in Bulgarian

As can very well be expected, the P1 position is a major means of pragmatic articulation (or singling out for special treatment) in Bulgarian. Like English, Bulgarian makes use of P1 as the unmarked Subject position. Before proceeding with the correlation between P1 and Topic assignment in declaratives I shall examine “typical” P1 placeholders in Bulgarian questions first.

8.2.1. P1 placeholders in questions

Some possible questions in Bulgarian might be:

(4) a. Kakvo kupi Ivan vchera?
   what bought Ivan yesterday
   ‘What did Ivan buy yesterday?’

   b. Koga kupi Ivan kniga?
   when bought Ivan book
   ‘When did Ivan buy a book?’

   c. i. Kude kupi Ivan kniga vchera?
       where bought Ivan book yesterday
       ‘Where did Ivan buy a book yesterday?’

      ii. Kude kupi Ivan vchera kniga?
          where bought Ivan yesterday book
          ‘Where did Ivan buy a book yesterday?’

Obviously the “basic” question template is: P1 V S O/X, where P1 is filled by a Q-word (“what” in (4a), “when” in (4b), and “where” in (4c)). From (4a-c) two things can be seen: (i) there is a tendency for maximum contiguity between the Q-word and the verb; (ii) in the “counter-field” of P1 (the field on the opposite side of the head V) there is no fixed linearization pattern and ordering is subject to vague tendencies, as can be further exemplified by the following “variations” of (4c), all of which are perfectly “normal” in standard Bulgarian and could not be said to be marked as opposed to (4c):

(5) a. Kude kupi Ivan kniga?
    where bought Ivan book

    — P1 V S O
b. Kude kupi kniga Ivan?  —  P1 V O S
   where bought book Ivan

c. Kude Ivan kupi kniga?  —  P1 S V O
   where Ivan bought book

but  d. *Kude kniga kupi Ivan?  — *P1 O V S
   where book bought Ivan

The X-constituent vchera ‘yesterday’ is free to be placed in any position in these linearization patterns:

(6) (Vchera) kude (vchera) kupi (vchera) Ivan (vchera) kniga (vchera)?

It is clear that the only restriction in the above examples applies to the relative positions of V and O, whereby an O V ordering is unacceptable.

The general picture becomes more complicated by the fact that Q-words in Bulgarian are by no means restricted only to a clause-initial position, as can be seen from the following examples:

(7) a. Ivan kude kupi kniga vchera?  —  S Q-word V O X
   Ivan where bought book yesterday

b. Ivan vchera kude kupi kniga?  —  S X Q-word V O
   Ivan yesterday where bought book

c. i. Ivan vchera kupi kakvo?  —  ... V Q-wordobj
   Ivan yesterday bought what

   ii. Ivan (vchera) kupi kniga kude?  —  ... V O Q-word
      Ivan bought book where

   but iii. *Ivan (vchera) kupi kude kniga?  — *... -V-Qword-O
      Ivan bought where book

(7c.iii) is an illustration of the bonding between V and O which makes the insertion of a Q-word between them unacceptable.

From the examples so far it becomes apparent that for questions in Bulgarian the following tendencies can be outlined:

(8) a. Q-words may take other than clause-initial positions.
b. O (or A₂) may not precede V.
c. Q-word normally precedes V; however, it may also be placed postverbally, but never between V and O.

It is in keeping with the postulates of FG that Q-words, along with Subjects, are
prime candidates for the PI position. It should be noted that as in English (e.g. “He bought the book where?”) Q-words in Bulgarian may be placed in clause-final position under heavy stress, i.e. bear strong Focus (cf. (7c.i and 7cii). Unlike English, however, Bulgarian allows for Q-words to be placed in non-PI preverbal positions, as in (7a) and (7b) above, or at least, so it seems. If we assume this to be the case, we will analyze the sentences in (7a) and (7b) as having a SubjTOP in PI and the Q-word in some other preverbal position with the open possibility of setting out on a quest for a special Q-word position. This would hardly be justified since the only feature that would help identify that presumed Q-word position would be its preverbal location (cf. (9)):

(9) Ivan vchera v magazina kakvo kupi?
    Ivan yesterday in shop-DEF what bought
    ‘What did Ivan buy in the shop yesterday?’

It is possible to assume that in cases like (9) PI is multiply filled with S, X and Q-word, but this would create an array of problems, such as having both a topical element (Subject) and a focal element (Q-word) get prominence through special treatment in the special position PI in one and the same expression. As a matter of fact, multiple filling of PI is indeed possible in Bulgarian questions:

(10) Koi, kude, kakvo kupi vchera?
    who, where, what bought yesterday
    ‘Who bought what and where yesterday?’

Such multiple filling of PI, however, seems to be subject to the principle that “once a position is occupied it cannot then be filled by another constituent of a different syntactic category” (cf. Connolly 1983: 250). It would be a violation of this principle to assume that Subject, time/place satellites and Q-words (as in (9)) could be PI-placeholderst at the same time. (10) is an example of a tendency, typical not only of Bulgarian but of other Slavic languages too (e.g. Polish — cf. Siewierska 1991: 223), where PI can be multiply filled by Q-words, which, it should be noted, are constituents of the same syntactic category.

Since the possibility of a multiple filling of PI with constituents of differing syntactic rank would be in contradiction with the theory of Functional Grammar, a solution to the dilemma posed by (9) then would be to treat such cases by taking into account the extra-clausal Theme function and its designated sentence-initial (however not clause-initial) position P2 as defined in Dik (1978: 132-141). Thus (9) will be analysed in the following manner:

(11) P2 P1 V X, where P2 is multiply filled and harbours S, X₁ and X₂, whereas the Q-word is in PI.

This treatment seems feasible if we have in mind that verbs in Bulgarian are always inflectionally marked for person, and Subjects can be perceived as superfluous and are therefore regularly omissible. A more detailed glossing of (9)
would illustrate this:

(12) a. Ivan včera v magazina kakvo kupi?
   Ivan yesterday in shop-DEF what buy-3sg.-PAST
   ‘What did Ivan buy in the shop yesterday?’

   b. Ivan včera v magazina kakvo kupi?
      Ivan yesterday in the shop what ((s)he/it)-bought
      { P2 }Theme P1_foc (S) V

The constituents in P2 in (12) (and for that matter, in (9)) carry the Theme function presenting “... a domain or universe of discourse with respect to which it is relevant to pronounce the following predication ...” (Dik 1978: 130). The borderline between P2 and P1 is prosodically marked by a pause and intonational prominence (accentuation) of the P1-constituent(s).

A possible criticism which might be levied against this line of argumentation would be that P2 has thus been reduced (or, shall we say, “inflated”) to a ubiquitous, all-encompassing and rather broadly defined extra-clausal (in this case, sentence-initial) position. At the present stage of the development of the theory I am not aware of any restrictions and possible objections that might be raised against the multiple filling of P2 with constituents which relate to “... a set of entities that the subsequent predication is going to bear upon ...” and which are “... outside the performativ modality of the subsequent predication” (Dik 1978: 132, 134) as long as they are (partially) independent from the predication proper and meet the requirement for pragmatic relevance (cf. Dik 1978: 137-140). The loose definition of the Theme function in the literature along with the well-established adoption of P2 as its designated position should in my opinion be sufficient to obviate the necessity of going deeper into that theoretical issue for the purposes of the present study. Moreover, the proposal for the treatment of questions in Bulgarian, as stated above, seems to be the more feasible one in comparison with another possible approach as presented in 8.3.2. below.

From the discussion so far it has become obvious that despite some superficially deceptive structures where Q-words are not in sentence-initial position, P1 would still be seen as the designated Q-word position in Bulgarian questions (as is the general rule for other languages like English, or Dutch). Unlike Germanic languages, however, P1 in Bulgarian can be multiply filled by Q-words (which are constituents with the same syntactic specification). It is also quite common in Bulgarian questions to assign a Theme function both to satellites and to arguments in P2 which, if not impossible, is not the preferred pattern in English.

8.2.2. Topic assignment in declaratives

In Bulgarian placement in special pragmatic positions is a major strategy for pragmatic articulation along the distinctions of “givenness” and “aboutness”. Since the Subject is the prime candidate for Topic assignment it is no wonder that its non-marked position in declaratives would be P1. However, two interesting
points for the discussion emerge here: (i) the possibility of multiple Topic assignment (i.e. whether PI in declaratives can also be multiply filled); (ii) the treatment within FG of expressions with other-than-Subject constituents in sentence-initial position.

Alternative Topic assignment in PI to non-Subject arguments in Bulgarian makes use of a clitic construction which is traditionally called the “doubled object construction” (a more detailed analysis of this construction was presented in Stanchev 1992). A typical example:

(13) a. Kakvo stana s zhenata?
    what happened with woman-DEF.
    ‘What happened with the woman?’

   b. Zhenata ya ubi edin politzay.
      woman-DEF her-cl.ACC. kill-PAST one policeman
      ‘The woman got killed by a policeman.’

In (13b) the Object (zhenata) is assigned a Topic function in PI. This is signalled by the “doubled object construction” with its pronominal clitic doubling of a nominal/pronominal direct or indirect object (speaking in traditional grammar terms), in this case: ya ‘her’. Bulgarian short pronominal forms are marked for the accusative/dative distinction and obey Wackernagel’s principle of proclisis to the verb (however, never in clause-initial position). The Subject of (13b) (edin politzay) obviously has the Focus function in clause-final position.

Then (13) can be compared to a corresponding “basic” structure without the “doubled object construction”:

(14) a. Kakvo stana s zhenata?
    What happened with the woman?

   b. Zhenata ubi edin politzay.
      woman-DEF kill-PAST one policeman.
      ‘The woman killed a policeman.’

(13b) and (14b) demonstrate alternative PI Topic assignment to an Object (A2) and to a Subject (A1) constituent respectively for Bulgarian declaratives (which is not the case for English, as argued in Mackenzie—Keizer 1991: 208).

There is also evidence for the possibility of multiple PI Topic assignment in Bulgarian:

(15) a. Ti kakvo napravi s kolata?
    you what did with car-DEF
    ‘What did you do with the car?’
b. Az kolata ya prodadox.
   I car-DEF it-cl.-ACC. sold
   'I sold the car.'

Both az ‘I’ and kolata ‘the car’ in (15b) meet the “aboutness” and “givenness”
criteria and can be treated as Topic constituents in PI. Thus it seems that in
Bulgarian PI can be multiply filled not only by Q-words (Focus constituents) in
questions (see (10)), but also by Topic constituents in declaratives (see (15b)).
However, these constituents can only be of equal rank. An analysis assuming
multiple Topic assignment to arguments in sentence-initial position seems feasible
only in an order “A’(Subj) A". The reverse order of constituents, i.e. “A’
A’(Subj)”, might call for a different analysis. Thus (16) could also be the answer to
(15a):

(16) Kolata_theme az ya prodadox
    car-DEF I it-cl.-ACC sold
    'As for the car, I sold it.'

The English translations illustrate the communicative difference between the
responses in (15) and in (16). In speech there would also be a pause in (16), but
not in (15). Hence, different analyses should be applied to the declaratives in (15)
and in (16): “(Subj + Obj)_Top (V)_Foc” for (15) and “(Obj)_Theme (Subj)_Top (V)_Foc” for
(16). Such a distinction between the two ways of structuring the message is
supported by the possibility of assigning Tail function to the Object in this case:

(17) Az ya prodadox kolata_tail.
    I it-cl.-ACC sold car-DEF
    'I sold it, the car.'

Problems for the analysis could be posed by the status of the clitic pronominal
forms in the “doubled object construction”. It should be noted that clitic
pronominal forms are the only forms in Bulgarian that have preserved the
accusative/dative case distinctions. They have a double function in contemporary
Bulgarian: (i) as pronominal forms in the paradigm of the so-called “personal
pronouns”, i.e. pronominal argument position fillers, e.g. nego ‘himfull pron.’ :: go
‘him_acc.clit.’, na_nego ‘to him’ :: mu ‘him_dat.clit.’, neya ‘herfull pron.’ :: ya
‘her_acc.clit.’, na_neya ‘to her’ :: i ‘her_dat.clit.’ etc.; (ii) as grammaticalized forms
in structures like the “doubled object construction”, the “dativus commodi”
construction, etc. This latter function of Bulgarian clitics can be interpreted as an
indication of their development from pronominal forms to some kind of referential
adpositions along the typological line suggested in de Groot and Limburg (1986):
“free pronoun — clitic — referential affix — agreement marker — zero”. However,
if we adopted a purely referential (non-pronominal) status for the clitic form in the
doubled object construction, it would be difficult to sustain the treatment of cases
like (16) and (17) as instances with “Theme — Object” and “Tail — Object”
respectively. There are two possible solutions:
Either we can assume that the clitic form in the doubled object construction is both a pronominal form and a referential marker, i.e. it is in a transitory stage of its development and has a double function; such an assumption would make the analysis suggested for (16) and (17) justifiable;

• Or we can assume that the doubled object construction clitic form has lost its pronominal character (i.e. it does not count as a "fully-fledged" constituent in the linearization pattern) and is a "pure" referential marker. Thus (16) and (17) would have to be treated simply as possible alternatives of (15b) and of (19b) respectively, whereby the factors determining the choice of one alternative over the other will have to be investigated in further research.

I shall leave the problem as to the correctness of each approach open for the time being, although for various morpho-syntactic and functional considerations the former hypothesis might seem the more viable one.

8.2.3. Summary

Despite deceptive appearances Bulgarian obeys the typological tendency for placing focal Q-words in P1. As in other Slavic languages, multiple filling of P1 by Q-words (which are constituents of the same rank) is also possible. Other constituents (A₁, A₂ arguments or satellites) may precede the Q-word(s) in questions, but in such cases they are assigned a Theme function in P2.

Bulgarian is a language with alternative Topic assignment to Subject and Object terms in P1. The unmarked case is where the Subject is assigned Topic function in P1. Bulgarian employs a special construction — the "doubled object construction" — for Topic assignment to non-Subject arguments such as Object constituents in P1. Usually in such cases the Object goes along with the Subject in P1, which is thus multiply filled following a tendency for Subject-first placement (see (15b)). The Object can be independently topicalized as a clause-initial P1 constituent only when the Subject is not a Topic in P1 (either omitted, as in (18b), or in post-verbal position in colloquial expressions like (19b):

(18) a. Kakvo stana s kolata?
    what happened with car-DEF.
    ‘What happened with the car?’

b. Kolata ya prodadox.
    car-DEF it-cl.ACC sold-1sg.-PAST
    ‘I sold the car.’

(19) a. ... as in (18a) ...?
The above observations point towards a tendency in Bulgarian for a P1 topicalization hierarchy of the type “$A^1_{Top} > A^2_{Top}$”.

8.3. The Focus function

8.3.1. Focus assignment and pragmatic positions

It appears that Bulgarian makes use of a special preverbal position which is relevant for pragmatic function assignment, consider (20):

(20) Az kolata vchera prodadox, a ne kushtata.
*I car-DBF yesterday sold and not house-DBF
*I sold the car yesterday, not the house.'

The Object in (20) is in preverbal position but it is not a Topic because it is not in the “doubled object construction” as stipulated in 8.2.3. Its salience is signalled by prosodic prominence (as indicated by the italic type in (20) and in (21)) which is a sign of its focal character — it has in fact a ConFoc (counter-presuppositional) function. I shall label this post-Pi preverbal focal position “P4”. It seems to be functional regardless of the number of P1 placeholders:

(21) Az kolata vchera ya prodadox, a ne dnes.
*I car-DEF yesterday it-cl.-ACC sold and not today
*It was yesterday that I sold the car, not today.'

The Bulgarian expression in (21) has a multiple Topic assignment to a Subj and an Obj term in P1 and a Foc assignment to a Temp satellite in P4, as is illustrated in (22):

(22) $P_1(\text{Subj}_{Top} \text{Obj}_{Top})_P_1 \rightarrow P_4((X-\text{Temp})_{Foc})_P_4 \rightarrow$ cl. — $V$ — ...

That the Obj (kolata ‘the car’) in (21) (but not in (20)) is topicalized is signalled by the “doubled object construction”: ... kolata ... ya ‘the car ... itclitic’.

Although the position of the focal P4 in the field between P1 and V is not “anchored”, P4 placeholders in Bulgarian declaratives can be identified by the following characteristics:

(23) a. Preverbal placement of the “typically” (according to the general schema in (3)) postverbal constituents $A^2$ and $X$, i.e. non-Subject and non-Topic arguments (cf. (20)) and satellites (cf. (21)).

b. High prosodic prominence signalling a ConFoc function.
c. A tendency for maximum contiguity between the P4-filler and V, although, owing to the overall constituent order dynamism in Bulgarian, this cannot be stipulated as a hard and fast rule (cf. (20)).

What (23) presupposes is that P4 is a preverbal, but not clause-initial, focal position, hence P4 will be used for Focus assignment only if P1 has already been filled by one or more Topic constituents, otherwise the Focus function can be assigned to a constituent in P1.

Apart from the preverbal Focus position P4, Bulgarian makes use also of the generally recognized clause-final position for Focus (and for that matter NewTop) assignment (see (24)):

(24) a. Az vchera magazina kupix edna kniga_{NewFoc}.
   I yesterday in shop-DEF bought a book
   ‘I bought a book in the shop yesterday.’

b. Az vchera prodadox kolata{{ConFoc}} a ne kushtata.
   I yesterday sold car-DEF and not house-DEF
   ‘Yesterday I sold the car, not the house.’

For this clause-final Focus position I shall adopt the label “P0”. In a way this position is a mirror image of P4 in the postverbal field. P0 is the preferred non-marked position for NewFoc (and also NewTop) assignment (see (24a), but it may also be used for ConFoc assignment with high prosodic marking (see (24b) and compare with (20) and (21)).

As stated in Dik (1989: 348-349), P1 can also be the special position for Focus assignment. This is usually signalled by prosodic prominence. Such is also the case in Bulgarian. Both A{1} and A{2} constituents may be focalized in P1 as in (25) and (26) respectively:

(25) a. Koi doide s kolata?
   who came with car-DEF
   ‘Who came with the car?’

b. Petar doide s kolata. — (Subj)_{NewFoc} in P1
   Peter came with car-DEF
   ‘Peter came with the car.’

(26) a. Ti kakvo kupi na pazara?
   you what bought on market-DEF
   ‘What did you buy at the market?’

b. i. Domati kupix.
   tomatoes buy-1sg.-PAST
   ‘I bought tomatoes.’
ii. Domati kupix az, a ne krastavitzi. — (Obj)\text{conFoc}
tomatoes bought I and not cucumbers
Hought tomatoes, not cucumbers.'

Bulgarian empirical data seems to point to the fact that PI is used for Focus assignment primarily to Subjects (as in (25)). Thus in Bulgarian the Subject emerges as the prime P1-candidate both as a Topic and as a Focus. A non-Subject Focus constituent can be placed in P1 only if the Subject is not there (either omitted, since it is coded on the verb anyway (see (26b.i)), or in rare cases when it is in post-verbal position (see (26b.ii))). Unlike multiple Topic assignment (cf. (15) and (21)), multiple Focus assignment in PI is not possible for Bulgarian.

8.3.2. A new perspective on questions?

The adoption of a special focal position P4 may involve a reinterpretation of questions in Bulgarian. For example, the analysis suggested for cases like (9) above is based on the assumption that Q-words are invariably in P1 while the constituents preceding them are to be treated as Theme in P2. The introduction of P4 for Focus assignment makes it possible to analyze the Q-word as a P4-placeholder whereas the P1 position would then be taken to harbour a multiple Topic. This analysis would seem feasible, especially if we have in mind that in the written tradition of Bulgarian there is no comma demarcation of the presumed Theme constituent in the sentence-initial position in cases like (9). A major stumbling block for such an approach, however, would be the principle that multiple Topic can only be assigned to constituents of the same rank. This would not be the case in instances like (9) where both arguments and satellites would have to be treated as multiple P1 fillers were such an approach adopted. From a theoretical viewpoint there is little justification for this and I would rather subscribe to the analysis of questions as presented in 8.2.1.

8.4. Conclusion

I can now draw up a general pattern of the special positions involved in pragmatic function assignment in Bulgarian. In addition to the generally accepted P1 for Topic/Focus assignment it seems feasible to postulate two more clause-internal pragmatic positions: P4 and P0. Along with the established clause-external pragmatic positions P2 for Theme function assignment, and P3 for Tail function assignment (cf. Dik (1978: 130)), we get the following "basic" pattern of pragmatic positions in Bulgarian:

\[ p_2\{\text{Theme}\}p_2, \ p_1\{\text{Top/Foc}\}p_1 \ p_4\{\text{Foc}\}p_4 \ V \ p_0\{\text{Foc/Top}\}p_0, \ p_3\{\text{Tail}\}p_3 \]

The following provisions need to be made with regard to the schema in (27):
Pragmatic functions and special sentence positions in Bulgarian

- PI is the unmarked position for Topic and the marked position for Focus constituents; Subjects are the prime candidates for PI both as Topic and as Focus; Topic function assignment to non-Subject arguments in PI is signalled by the “doubled object construction”.
- P4 is a special position used for preverbal Focus assignment when PI is occupied by (a) Topic constituent(s).
- P0 is generally employed for Focus/NewTop constituents (unmarked position for NewFoc/NewTop, marked position for ConFoc), as in (28b.i) and in (28b.ii) respectively:

(28)

a. Italia li specheli kupata?
   Italy Q-particle won cup-DEF
   ‘Did Italy win the cup?’

b. i. Kupata ya specheli Brazilia. — NewFoc in P0
cup-DEF it-cl.-ACC won Brazil
   ‘Brazil won the cup.’

ii. Kupata ya specheli Brazilia,
cup-DEF it-cl.-ACC won Brazil
   a ne Italia. — ConFoc in P0
   and not Italy
   ‘Brazil won the cup, not Italy.’

An interesting correlation holds between PI, P0, and P4, as can be seen from (28) and (29):

(29)

a. ..... as in (28a) .....  

b. i. Brazilia specheli kupata.  
   (SubjFoc)P1 V (ObjTop)P0
   Brazil won cup-DEF
   ‘Brazil won the cup.’

ii Kupata Brazilia ya specheli.
   (ObjTop)P1 (SubjFoc)P4 V ...
cup-DEF Brazil it-cl.-ACC won
   ‘It was Brazil that won the cup.’

The general tendencies governing the intricate relationship between PI, P4 and P0, and pragmatic functions in Bulgarian can be tentatively summed up as follows:

- Topic and Focus can be balanced on the two opposing poles of the expression whose pivot is the verbal predicate whereby the Topic will tend to be presented in the beginning thus leaving the Focus as a culmination at the end: Topic — V — Focus (cf. (28b)). In some cases
it is possible to have the reverse distribution: Focus — V — Topic, but clitic doubling is not favoured in this case (cf. (29b.i), or even preverbal realization of both Topic and Focus: Topic — Focus — V, as in (29b.ii).

- P1 is a clause-initial and P0 is a clause-final pragmatic position for “special treatment”, i.e. Topic/Focus assignment.
- P4 is a preverbal but not clause-initial pragmatic position which allows for preverbal Focus assignment along with the P1 Topic assignment whereby the P1-Topic will precede the P4-Focus (cf. (29b.ii).
- P4 and P0 correlate in a way which allows for alternative pre- or postverbal Focus assignment, as in (29b.ii) and in (28b.i) respectively. The factors influencing the choice of a particular alternative remain to be investigated in future research.

Further work in the field of Bulgarian syntax and pragmatics will probably shed more light on issues which, due to the limited volume of the present study, were not addressed here, such as the interdependence between Subj, Obj and semantic functions on the one hand, and pragmatic functions and the order of constituents on the other.

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Discourse pragmatic functions of the Theme constituent in spoken European Spanish

Angela Downing

9.1. Introduction

In Dik (1981) and Dik (1989) the extra-clausal constituent (ECC) Theme is associated either explicitly or implicitly with what is commonly called Left-Dislocation (henceforth LD), in parallel with the Tail function realized by Right-detached constituents. (See also Vismans, this volume, and Ziv, this volume.)

Research over the last decade and a half suggests that left-dislocation is a widespread phenomenon among languages. The form-function correspondence, as opposed to an exclusively syntactic perspective, has been explored in functional treatments of LD (Duranti—Ochs 1979; Givón 1983; Prince 1984; Ashby 1988; Geluykens 1992; Ziv 1994) often within a wider framework (Keenan—Schieffelin 1976; Barnes 1985; Siewierska 1989; Aijmer 1989; Cadiot 1992), some of which have been corpus-based. For Spanish, a few examples of left-dislocated Object constituents are included by Silva-Corvalán (1984), also based on naturally-occurring data, in conjunction with PI (fronted or topicalized) constituents.

My aim in this introductory study is to attempt to establish the discourse-pragmatic functions of the LD constituent in spoken European Spanish.¹

Dik (1981: 140) claims that all languages have some sort of Theme construction, but that its use may be evaluated differently as regards social acceptability from language to language. As regards European Spanish, the use of LD is not restricted to non-standard dialects, but occurs freely even in fairly formal registers such as television news bulletins and university lectures. It appears in the “leisure” sections of the national daily press. Unlike certain syntactic innovations, it evokes no adverse comments; in fact it evokes no comments at all among non-linguists. One feels that it is perceived as “normal”.

The data-base used for this study attempts to reflect this widespread use of LD and comprises three sets of transcripts of educated spoken Spanish:²

- Three stretches of naturally occurring conversation (27/11/92 and 13/12/92) and one telephone conversation (6/11/92), between native Spanish speakers (henceforth C). Total duration: 30 minutes.
- One televized debate in the series “Queremos saber”, in which an audience interacts with guest speakers, monitored by Mercedes Milá. In this case the subject was AIDS, the guest speakers included parents and doctors,
and the debate was very lively. It was recorded 1/12/92 (henceforth QS). Duration: 60 minutes.

The total number of tokens of LD was 175. Alternating speakers are labelled throughout as A and B.

This study is organized into two parts. The first establishes the criteria adopted here for left-dislocation in Spanish and the types of constituent to be included within the Theme function. The second deals with the discourse-pragmatic functions of these constituents.

9.2. Properties of LD in Spanish

9.2.1. Preliminaries

Dik characterizes the Theme constituent as an optional addition to the Predication, its function being to present a domain or universe of discourse with respect to which it is relevant to pronounce the following predication (1981: 130). The Theme function, which in principle is outside and independent of the predication, is said to present an entity or set of entities that the subsequent predication is going to bear upon. As a consequence of this at least partial independence, it is suggested that the predication is adjusted to the Theme, rather than the other way round, the Theme in fact being established by the speaker before the latter is quite sure how the predication will develop, a view shared by Barnes (1985). Theme is thus distinguished from the Topic function, which operates inside the predication and marks that constituent “about” which the predication can be taken to predicate something (1981: 141). Little is added as regards the Theme function in Dik (1989), apart from the general properties attributed to the ECCs. These have to do with (i) the position of the ECC relative to the clause proper; (ii) the fact that they are considered to be “typically ‘bracketed off from the clause by pause-like inflections in the intonation pattern’”; (iii) they are not sensitive to clause-internal grammatical rules, although they may have the case-marking of a constituent in the clause they are associated with; (iv) they can be omitted without disrupting the integrity of the clause structure (1989: 265). I will start by considering these properties in relation to the Spanish data. But first a word must be said on the subject of coreferentiality of the Theme entity with that of an entity within the clause.

9.2.2. Coreferentiality of the Theme entity with an entity within the predication

Dik (1981) illustrates the Theme function with LD examples of two types. The first type presents an entity which is coreferential with an entity within the predication, the latter realized by a clitic pronoun or full NP, as illustrated in (1), (2) and (3).
(1)  
\textit{la radio} no \textit{la} suelo escuchar (EC)

the radio, Neg. it tend (1-sing) listen to

‘the radio, I don’t usually listen to it’

(2)  
\textit{eso y a lo} veremos (C)

that, it see (fut-1-pl)

‘we’ll see about that later on’

(3)  
\textit{pero la tela, lo que es muy bonito es la tela} ¿eh? (C)

but the material, what is very pretty is the material, isn’t it?

More will be said below about pronominal LDs, which with the exception of an emphatic personal pronoun (myself) are not dealt with by Dik.

In the second type, the NP in the main clause is related pragmatically to the Theme LD in a relationship of set membership (Prince 1984), but is not coreferential with it. Dik’s first example is repeated here as (4):

(4)  
\textit{As for the students, adolescents almost never have any sense.}

No clear instances of this type were found in the Spanish corpus. The single close approximation, which might be considered as a false start rather than LD, is (5), in which the wider topic is the cost of wedding receptions. The Theme \textit{hotels} introduces a domain of discourse which is then contrasted with \textit{los salones Santa Rita} (‘banqueting rooms’). Both these entities can be held to sustain a pragmatic relationship of a “part of” nature (Hannay 1985; Dik 1989) with the subject \textit{el cubierto} (‘cost per head’), which is specified as the Tail (Right-detached) constituent:

(5)  
\textit{Además, es que los hoteles... los hoteles... por ejemplo}

besides, well hotels hotels for example,

\textit{en los salones Santa Rita me imagino que será... vamos,}

in the Santa Rita rooms I imagine that will be .. well

\textit{la mitad de precio, el cubierto. (C)}

half the price the cost per head

This evidence leads to the hypothesis that the vast majority of LD entities in spoken Spanish have their source in the predication, even though the predication is seen as “built onto” the ECC.

9.2.3. Coreferentiality, resumptive NPs and subject function

In previous studies on LD, the requirement that an unstressed resumptive pronoun (or full NP) be present has meant that cross-linguistically one finds a different range of left-positioned constituents being accorded LD status. Within this study, the
constituent most affected by this requirement is the clause subject. In English, for instance, subject pronouns are obligatorily present in the absence of full NPs, and so allow for left-detached subjects in this language, as in (6) from *A Corpus of English Usage* in Geluykens (1992):

(6) *That aspect of the work, does it appeal to you?*

Similarly, left-detached subjects are recognized in French, as can be seen in example (7) from Barnes (1985: 74):

(7) *Ma maman elle dit toujours que j’ai poussé comme un champignon.*

Standard Italian, on the other hand, does not have subject clitics; and, since full subject pronouns do not occur instead of clitics, for Duranti and Ochs “subjects never happen to be LD items” (1979: 381).

Spanish is like Italian in not having subject clitics, since anaphoric reference is made by concord on the verb. Nor do full pronouns occur instead within the main clause except for degrees of emphasis. Nevertheless, Dik’s emphasis on the essentially pragmatic nature of the relation between the Theme and a later clause constituent, rather than on the obligatory presence of a pronoun, allows us to consider left-positioned subject items set off from the clause to have LD status if the other criteria are fulfilled.

9.2.4. *Detachment of the Theme constituent*

In this study, I shall hold the feature of detachment (Dik’s “bracketing off”) to be the first criterion, and will consider constituents, including left-positioned subjects, to realize the Theme function whenever the data appear to provide reasonable evidence for the separating of the constituent from the rest of the predication, potentially as a separate tone unit. Evidence considered acceptable comprises a comma (in the published materials), a pause, and — most clearly — intervening syntactic or discourse material. In the following examples the left-positioned constituents have the function of subject in a subordinate clause.

(8) *Y su mujer ¿sabes cómo se llama? (C)*

‘And his wife, do you know what she’s called?’

(9) *Milagros, puede que los haya (QS)*

‘Miracles, maybe they happen’

(10) *y el pasillo veiamos que, que nunca se acababa*

‘and the corridor, it looked never-ending’
Separation of the LD constituent by intervening syntactic material is achieved in the Spanish data by two main resources: embedding and wh-clefting.

9.2.4.1. Embedding

As observed by Rivero (1989) left-dislocated items can be embedded very freely in Spanish. Embeddings follow verbs of various semantic types which include cognition (saber, entender, creer), as in (8), possibility/doubt, such as puede que as in (9), and perception, as in (10).

A further subcategory is represented by such expressions as es que, resulta que, me parece que which appear to be used with a presentative or orientative purpose, and/or as a “hedge” or hesitation particle, as in (11) and (12):

(11) yo, es que tengo una niña (EC XXII)
     I, is that have (1-sing) a child
     ‘As for me, the thing is I have a child’

(12) El Ateneo me parece que pilla más arriba. (EC XXII)
     The Atheneum to me seems that find (3-sing) further up
     ‘The Atheneum I think it’s further up’

The LD item may be anaphorically related to a relative clause within the embedded clause, that is at greater depth (13):

(13) ... y entiendo que el profesor, pues, una de las cosas... (EC II)
     ...and (I) believe that the teacher, well, one of the things
     que tiene que tener es... (EC II)
     that (he) has to have is...

     ‘and I believe that one of the things a teacher has to have is..’

9.2.4.2. Separation of LD item by a following wh-cleft

The juxtaposition of an LD item with a wh-cleft occurs very frequently in spoken Spanish and in the less formal registers of journalism. The LD item, which tends to be a subject, appears to be extracted from the wh-cleft as in (14):

(14) La neurología lo que estudia son tumores
     Neurology, what (3-sing) study are tumours (EC VIII)
     ‘What neurology studies are tumours’

9.2.5. Insensitivity of the LD constituent to clause-internal rules

Together with the bracketing off criterion, Dik’s (1981) claim that the Theme constituent lies outside the performative modalities (declarative, imperative,
interrogative) of the subsequent predication enables a distinction to be made between two similar syntactic phenomena in the Spanish data, the first of which will be considered as LD fulfilling the Theme function, the second not.

On the one hand, the previous examples illustrate how detachment and insensitivity to clause-internal rules go hand in hand. In (8) for instance, (y su mujer, ¿sabes cómo se llama?) the LD constituent is at once set off from what follows, and is outside the interrogative modality of the subsequent predication. Examples (9) and (10) fulfil the same conditions, with regard to the declarative modality of the subsequent predication.

In the same way, the pronominal constituent in (15) is bracketed off both prosodically and syntactically from the main predication, and lies outside the interrogative modality:

(15) a ti este año, qué te iba a decir yo, a ti este año ¿te
you (Obj) this year, I mean to say, you this year, you

pescaron los, los los policías en... cuando entraron en la Facultad,
catch (past) the... police when they entered the faculty

or no? (EC XVII)

‘This year were you, I mean, were you caught this year by the police when they moved in to the Faculty?’

In the second type, on the other hand, these conditions do not obtain. In (16) the speaker explains how he took up gliding as a hobby; in (17) the topic is housework:

(16) y mi hermano influyó, a mi madre se quitó el miedo,
and my brother influenced, to my mother take (pass.) fear

y entonces dieron el consentimiento (EC 1)
and then (they) gave the consent

‘my brother was influential, my mother lost her fear and then they gave their consent’

(17) A: Pues a mí no me gusta trabajar en casa
well, to me not me-like work in house
‘I don’t like housework’

B: A mí tampoco ¡je je! (EC XXII)

to me neither, ha, ha!
‘Neither do I’ (laughs)

In this type the left-positioned constituent, whether a full NP a mi madre or a
pronoun *a mí*, is fully integrated into the predication. There is no perceptible bracketing off of this constituent from the rest of the clause; at the same time, testing for performative modalities other than declarative produces an equally integrated utterance, as in (18) and (19):

(18)  ¿a tu madre se le quitó el miedo?  
    Did your mother lose her fear?  
(19)  ¿a ti te gusta trabajar en casa?  
    Do you like housework?  

Consequently, despite the coreferentiality of the leftmost constituent with the subsequent pronoun in the second type, it seems clear that the former does not realize the ECC function of Theme, as currently characterized in FG. Whether or not such constituents fulfill any or all of the discourse-pragmatic functions of LD in Spanish would be the subject of a further study, in which combinations of prosodic, positional and functional features, identified by their presence or absence, would be examined for their functions in discourse (cf. Cadiot 1992).

9.2.6. *The non-preposing constraint*

In Spanish, contrary to the non-preposing constraint specified by Ziv (1994: 632), according to which no other material may be preposed over the LD constituent, adverbial preposing does not render the utterance ill-formed:

(20)  Claro, concretamente en los veranos... yo, mis amistades,  
    Of course, particularly in summer...... I, my friends,  
    mi círculo de amistades más íntimo, nunca estoy con ellos (EC II.35)  
    my circle of closest friends, never (I) am with them  

Instances of this type are, however, rare in the data, the vast majority of examples displaying absolute left-positioning, followed by the time adjunct, as in (15).

9.2.7. *Multiple left-dislocation*

LD items can occur recursively in Spanish, as in (20) and (21), the number of discourse referents being typically two:

(21)  bueno yo quiero decirle a Victoriano que efectivamente  
    well I wish to say to-him to Victoriano that indeed  
    la información a los hijos sí, se les debe dar y  
    information to our children... it-to-them must give and
se les debe decir (QS)
It-to-them must tell

'... well, I'd say to Victoriano that indeed children must be informed and
must be told'

This feature Spanish shares with French, as illustrated in the following example,
from Ashby (1988: 204):

(22) Moi, le sport qui me passionne, c'est le rugby.

Having discussed the properties of left-dislocation in Spanish, I shall now
examine the range of dislocated clause constituents as shown by the data.

9.3. Left-dislocated constituents in Spanish

The present data have provided instances of left-dislocation of a range of clause
countents: Subject, Object and satellite constituents. Even whole predications
can be left-dislocated. These will be illustrated in the following sections.

The semantic functions represented by LD items comprise the following: Agent,
Goal, Recipient, Positioner, Zero, Locative (spatial), Destination. No instances of
Instrument or Temporal locative were identified. Temporal locatives co-occur,
however, with LD items either initially, or more commonly, after the LD
constituent. Semantically, not only the higher functions on the Semantic Function
Hierarchy are represented among LD items, but functions lower down the hierarchy
also.

9.3.1. LD subjects

Left-dislocated subjects totalled sixty-nine in the data-base, representing 39.4% of
the total left-dislocated items. Table 1 shows the distribution.

Subject NPs from embedded clauses have verb concord and tend to occur with a
certain amount of hedging:

(23) Ahora... tú crees que esta carrera tuya, esta
Now, you think that this degree of yours... this
especialidad tuya ... e...vamos, me parece a mí que... yendo
speciality of yours... I mean... to me it seems that... going
a una capital de provincia tiene que tener salida, puestos de trabajo?
to a provincial town (it) has to have (a) future, job openings?
(EC VIII)
Discourse pragmatic functions of the Theme constituent 145

Table 1. Left-dislocated subjects: 39.4% of total Lds

<table>
<thead>
<tr>
<th></th>
<th>EC</th>
<th>C</th>
<th>QS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full NPs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>20</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>non-embedded</td>
<td>9</td>
<td>5</td>
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</tr>
<tr>
<td>embedded</td>
<td>9</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>recursive</td>
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<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2. Strong pronouns</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>32</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>yo</td>
<td>22</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>tú</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>él</td>
<td>1</td>
<td></td>
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</tr>
<tr>
<td>ella</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>nosotros/as</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ellos/as</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>recursive</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Embedding, multiple dislocation and a coreferential full NP can occur in the same utterance, which also contains the single indefinite specific LD token (un coche que iba a tirar a la basura) in the corpus, all the rest being definite:

(24) claro, lo que no comprendo es que mi padre, un coche
    que iba a tirar a la basura resulta que ahora
    pues está mirando el coche a ver cómo está (C)

Among LD subject pronouns, yo is by far the most frequent. But, as with other pronouns, yo is also used as an absolute form, which does not fulfil subject function. An anaphor is, however, present in all such cases:

(25) yo me suena muchísimos su cara (EC XXIII)
    I, to me sounds very much (3poss) face
    ‘To me his face rings a bell’
The one instance of recursive LD pronouns (subject + objective) in the data was the following:

(26) tú a mí, de todas formas, tu cara me suena (EC XVII)
     you to me, in any case, your face sounds
     ‘Your face rings a bell, anyway’

9.3.2. LD Objects

Ninety-six left-dislocated Objects were identified in the data base, 54.9% of the total number of LD items. Of pronominal LDs only those set off and independent from the main predication were counted, as explained in 9.2.5. The distribution is shown in Table 2:

Table 2. Left-dislocated objects

<table>
<thead>
<tr>
<th></th>
<th>EC</th>
<th>C</th>
<th>QS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Full NPs</td>
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<tr>
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<tr>
<td>embedded</td>
<td>11</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>recursive</td>
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<td>2</td>
</tr>
<tr>
<td>2. Pronouns</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
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<td>6</td>
<td>5</td>
</tr>
<tr>
<td>(todo)esto/eso</td>
<td>12</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>estos/as</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) mí</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) ti</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>lo(s)/la(s) de</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

As with LD subjects, full NP objects occur frequently both in canonical clauses as in (27) and in embedded clauses after such verbs as creer as in (28):

(27) y la mesa del ordenador la ponemos aquí (C)
     and the desk of the computer it put (1-pl) here
     ‘and the computer desk we’ll put here’

(28) Yo creo que la sociedad, si hay que cambiar/a,
     I believe that society, if (impers.) must change it,
Discourse pragmatic functions of the Theme constituent

se la puede cambiar (EC 1)
it can be changed

'and I believe that if society must be changed it can be changed'

Specific human Goal Objects, which are prepositionally marked by a in Spanish, frequently occur in absolute form as LDs, a feature which supports the argument in favour of the independence of the Theme constituent (Dik 1981: 135):

(29) Angel, como fue el que empezó el tema, pues le
Angel, as was he who started the subject, so him (Obj)

viene muy bien estar ahí (C)
suits very well to be there

'As Angel was the one who started it all, it suits him very well to be there'

Of the total LD Objects, 65 (37.2%) occurred with Goal function in two-place predicate frames, while 31 (17.7%) occurred as Recipient in three-place predicate frames.

Dislocated Rec Object NPs tend to be weighty, and retain case marking:

(30) Entonces esto quiere decir que a las personas que no están enfermas, que son portadoras, ¿se les puede frenar
Then this means that to the persons who (neg) are ill who are carriers, to them can (pass) check

con el acetate el desarrollo de la enfermedad? (QS)
with the acetate the development of the disease?

'So does this mean that, in the case of people who are not ill, who are carriers, the development of the disease can be checked by means of the acetate?'

9.3.3. The remaining LD constituent types

Together, Subject and Object LDs accounted for 94.3% of the total number of LD constituents in the data. The remaining types include what elsewhere are often called directional complements and other types of complement which are mediated by a preposition. In most cases, the LD complement appears as an absolute form while the preposition surfaces in the main predication. Eight instances represented 4% of the total. It is not clear to me how these types could be handled in FG, which does not allow for a proliferation of syntactic functions (cf. Siewierska 1991: 100). Exemplification and distribution across the texts is as follows:
Las autopsias clínicas, esas sí he ido yo a más. (EC VIII)

Ahora, el amor así, en abstracto, todo el mundo cree en él

...Por eso es muy importante que los donantes, además de

That's why it's important that donors, besides

9.3.4. Locative LDs

Spanish has no locative clitic; nevertheless, the adverb allí or a full NP occasionally appear to be used to refer retrospectively to a dislocated item with locative meaning. One instance of each occurred in the data (1.1%):

Prepositional and locative LD items totalled 10 in the data.
9.3.5. Predication LDs

One further type of LD remains to be accounted for, namely the dislocation of a whole predication, of which the object constituent is “copied” by a resumptive pronoun:

(35) \(\text{percibir cosas, si que } las \text{ perciben}\)

\(\text{perceive things, yes them perceive (3-pl)}\)

‘As for perceiving things, they do perceive them’

One instance only of this fully idiomaticized construction was found in our data (0.60%). The dislocated predication occurs with the verb in infinitive.

9.4. The discourse-pragmatic functions of LD in Spanish

Within the functionalist literature, LD is seen to play both organizational and interactive roles. As regards the informational status of the left-dislocated entity, LD has been widely associated with a basically foregrounding (Keenan—Schieffelin 1976) or introductory function (Ziv 1994) by which the LD constituent is claimed to introduce or reintroduce into the discourse a referent that is not in the addressee’s focus of attention, in Chafe’s (1976, 1994) sense. More recent text-based studies have revealed additional linking functions, by which the LD constituent has the role of establishing or marking connections and transitions between the different parts of the text (Aijmer 1989; Barnes 1985). As regards its interactive role, the Theme constituent has been associated with floor-seeking (Duranti—Ochs 1979) and with marking the relevance of the speaker’s contribution to the overall discourse topic (Barnes 1985).

Adapting these claims as far as possible to FG terminology, the LD items in the Spanish data were first tested for five possible functions and an attempt was made to verify whether any correlation exists between the discourse function of the LD item and its grammatical status:

(i) Introduction of a new entity into the discourse. (NewTop)
(ii) Introduction of an inferrable entity. (SubTop)
(iii) Maintenance of an activated entity in the discourse. (GivTop)
(iv) Reintroduction of an entity within a current or previous discourse frame. (ResTop)
(v) LD as a management or interactive device.

In addition, the Spanish LD tokens were scrutinized in context for possible subfunctions distinct from or related to the five above.

9.4.1. Introduction of a new entity into the discourse

Topics in FG are hierarchically organized into several types: New Topics, Given
Topics, Sub-Topics and Resumed Topics. A first presentation of a D-Topic is called a New Topic (NewTop). NewTops are claimed to have a strong preference for taking a relatively late position in the clause (Dik 1989: 269), and various syntactic devices are available for this purpose. They are also likely to be expressed by indefinite NPs, although this is not criterial. According to this view, therefore, one would not in principle expect NewTops to conflate with a Theme constituent.

In effect, no instances were found in the data of the use of a Theme constituent to introduce a Brand New entity, that is, unfamiliar to the addressee in Prince’s (1981) terms, and which would constitute a NewTop in FG.

9.4.2. Introduction of an inferrable entity

Sub-Tops (SubTops) refer to entities which are assumed to be “available” in relation to a GivTop via a relationship of inference (Hannay 1985: 53; Dik 1989: 275). This is compatible with Duranti and Ochs’ introduction of a new referent from a given frame or from a prior frame, using “frame” in Fillmore’s (1975, 1986) sense, although the degree of accessibility will be different in each case. It also conforms to the notion of connections made via “bridging assumptions” which also vary as regards accessibility (Clark—Haviland 1974, 1977, as quoted by Dik 1989: 276). Such referents correspond to Prince’s “inferrable” entities.

Inferrable entities introduced by left-dislocation are frequent in the Spanish data, accounting for about one-third of the total number. Their relationship to the prior text does not, however, always conform to a connection between entities, as seems to be implied in Dik (1989); more frequently, the entity is inferred as related to a wider discourse concern. This is illustrated in (36):

(36) B: ¿Quieres? (offering cigarettes)
Have one?

A: Bueno, no fumo mucho, pero. ¡Oye! qué cosa,
Well, (I) don’t smoke much but, listen
fijate; antes me fumaba...; bueno, la cajetilla,
Imagine! before smoke (1-sing-imperf) well, the packet,

casi casi me caía al día (EC XVII)
to-me fall (past imperf) a day

‘I don’t smoke much but...can you believe it, I used to smoke... well, I used to get through a packet a day’

La cajetilla (‘the packet’) had not been mentioned before, but can be considered as inferrable within the frame of “smoking”. The problem in FG terms in assigning la cajetilla Sub-Topic status is that it is related, not to a GivTop entity, but to a Discourse Topic in the sense of a global concern, which is based on a proposition rather than an entity. At the same time la cajetilla clearly reflects “discourse-
boundedness” of the “association with” type specified by Hannay (1985: 57) as one of the relationships which qualify strictly unintroduced entities for SubTopic status, incorporated into Dik (1989). An entity such as la cajetilla could, therefore, be considered a Sub-Topic if Discourse Topics were to be conceived of not only in terms of entities in a stretch of discourse, but also as global concerns expressable as propositions about which the stretch of discourse provides the discourse participants with information (cf. van Dijk 1977). This would also permit the possibility of distinguishing a wider Discourse Topic from a local topic, and the possibility of either being the topic of a particular clause (cf. Barnes 1985; van Oosten 1986).

Other LD Sub-Topics shade off into Unused, that is familiar but previously unintroduced in Prince’s (1981) taxonomy (Hannay 1985: 53). They are considered as SubTops rather than New by virtue of being members of a set of entities activated by mention of a previous entity. Such is the case in (37), in which, after a lengthy turn on the subject of her father, the informant is asked about her mother:

(37) Y su madre ¿de dónde era?
And your mother, where was she from?

A feature of certain Sub-Topic LDs, such as la cajetilla in (36) is their lack of continuance. They can be considered parenthetical statements (cf. Barnes 1985). In such cases their specific discourse function is that of illustrating the wider Discourse Topic, as in the case of (36). As Barnes has pointed out, such parenthetical statements are related to the current Discourse Topic (understood in its wider sense), but frequently contribute little or nothing to the current informational purpose of the discourse. Other LD Sub-Topics, by contrast, effect a topic switch with extensive continuance as occurred in (37).

9.4.3. Maintenance of an activated entity in the discourse: LD constituents as Given Topics

LD constituents serve to maintain already activated entities (Given Topics) by establishing retrospective linking across clauses, and frequently across turn boundaries. The LD token may be an exact repetition of an entity in the immediately preceding clause, as in (38) in which the participants are talking about a school in which classes are conducted in French:

(38) A: ¿Y español?
And Spanish?

B: Español también, además español lo hablan en su casa,
Spanish also, besides Spanish it (they) speak at home,

si las familias son españolas no tienen problema. EC XVIII. 317.
if the families are Spanish they have no problem
However, the full NP or pronoun may refer retrospectively, not to an entity, but to a whole previous proposition. This is particularly frequent with indefinite demonstratives:

(39) ...creo que soy una persona que entra en el montón.
(I) believe I'm just an ordinary person.

Esto no lo digo por capricho.... EC I. 17
This I don't say it on an impulse

A further question is whether the distinction between GivTop and ResTop can be considered discrete. The Spanish data reveal that the linking to a previous referent or whole proposition may be interrupted by one or more intervening clauses. For instance, in (40) in which the participants are talking about furnishing their apartment, *esa mesa* ("that desk") occurs twice referring back to the NewTop *una mesa* ("a desk"):

(40) A: lo que tenía en Holanda es una mesa así, con ordenador, what (I) had in Holland is a desk so (big) with a computer,
que se puede trabajar
that (impers.) could work (at)

B: ah, es verdad
Oh, yes (you did)

A: Sí, claro
Yes, of course

B: y *esa mesa?*
and that desk?

A: y luego una mesita para la impresora
and then a small table for the printer

B: y *esa mesa* ¿dónde la tienes? (C)
and that desk, where do you have it? (‘where is it’)

The intervening clauses are not, however, parallel as regards content. The clauses before the first occurrence of *y *esa mesa?* simply express agreement, without introducing a new entity. B's *y *esa mesa?* could therefore be analysed as maintaining a GivTop. The LD utterance, however, *y esa mesa ¿dónde la tienes?* is separated from its co-referent by a new SubTop *una mesita para la impresora*, and could therefore be considered as a Resumed Topic, since it marks a shift back to a previous Topic, although here with minimal separation.

The LD role may be that of summarising a whole Discourse Topic (in the wider
sense), and steering it towards closure, as in (41) in which the speaker had talked extensively on the varied quality of current magazines:

(41) Publicaciones, pues sí, hay algunas bastante buenas,
Publications, well yes, there are some quite good ones,

desde luego. (EC II, 40)
of course

A further type of Given LD constituent is also well represented in the data. This is the entity which is situationally Given (situationally evoked, in Prince’s terms), that is, part of the participants’ information which they derive or experience from the situation in which the interaction takes place (cf. Dik 1981: 128). Example (3) repeated here as (42) illustrates this use of LD in Spanish. The participants are discussing the details of a wedding dress:

(42) ...pero la tela, lo que es muy bonito es la tela ¿eh? (C)
...but the material, what is very pretty is the material, isn’t it?

9.4.4. Re-introduction of an entity into the discourse: LD constituents as Resumed Topics

LD constituents of strong anaphorical reference are used to reintroduce an entity which had previously occurred some time back, either within the same speaker’s turn or, more usually, in a previous turn, as in (43). In this instance, the Resumed Topic, neurology, had been introduced as a New Discourse Topic:

(43) A: Ahora, tu especialidad ¿cual es?
Now, your speciality, what is it?

B: Neurología.
Neurology.

A: ¿Y en qué consiste?
What does it consist of?

B: Son enfermedades del sistema nervioso, pero orgánicas
Diseases of the nervous system, but organic...

(6 clauses more on nervous diseases)

Entonces la neurología lo que estudia son tumores
Then neurology, what it studies are... tumours...

...malformaciones... e bueno, toda lesión que
malformations... er, well, all kinds of lesion for which
LD constituents can resume a previous Topic over a considerable stretch of text, which as seen above, can contain newly introduced entities. In (44) at least twenty-five clauses intervened, including an unsuccessful attempt on the part of B to shift the topic from music to painting:

(44) A: Al llegar de ahí... del... colegio, teníamos
On arriving from there... from school, we had

la profesora de piano
the piano teacher

……………………………

B: ¿Y usted el piano ¿cuándo lo tocaba? (EC.XV.245)
And you the piano when did you play it?
‘And when did you play the piano?’

9.4.5. LD as a management or interactive device

The Spanish data reveal that LD is used in conversation as a device for seeking and occupying the floor, while at the same time effecting a topic shift (cf. Duranti and Ochs for Italian). In the Spanish data, those LD tokens which most consistently coincide with turn boundaries are the full pronouns, both the demonstratives and the personal pronouns. The demonstratives appear to have the double function of maintaining a GivTop by retrospective linking with a previous discourse entity or segment, and also of claiming the floor. A third function associated, although not exclusively among LD tokens, with the pronoun eso is that of topic closure, as in (2) Eso ya lo veremos (‘We’ll see about that’), which came at the end of a discussion in which the speaker had not yielded to her sisters’ suggestions regarding a detail of her wedding-dress.

Of the personal pronouns, by far the most frequent is yo, as is moi in French as reported by Barnes (1985). In the Spanish data yo accounts for 14% of the total number of LD tokens, as against 19% of full NP subjects. LD yo, like moi, appears to be a quasi-obligatory marker of a topic shift, often to the speaker herself, in relation to an existing Discourse Topic. This is particularly frequent when speakers’ turns are short, alternating rapidly. When on a turn boundary, claiming the floor may be a additional function of yo.

(45) A: ¿Tú te tirabas desde el trampolín?
Did you jump from the diving-board?

B: Más o menos, pero vamos...
More or less, but, not...
A: ¡Ah! ¡Sí?
   Oh yes?

B: No, pero no en saltos de... como hobby
   No, but not in jumps of... (Just) as a hobby

A: Yo este año, en en Almuñécar, teníamos en los apartamentos
   (Me) this year in Almuñécar, we had in the apartments
   en donde estábamos una piscina bastante buena
   where we were quite a good pool
   en cuanto a tamaño y profundidad
   as regards size and depth... (EC XX:385)

The LD yo is not, however, necessarily located on the turn boundary, and so cannot be considered as simply a turn-taking device. Rather, the pronoun signals that what follows is the speaker's relevant contribution to the current Discourse Topic (cf. Barnes 1985: 39).

(46) B: A mí también me queda el Arabe de segundo.
   To me there is left Arabic of second (year)
   'I still have second year Arabic.'

A: ¿El Arabe? Yo el Arabe lo aprobó con éste, con P.
   Arabic? I Arabic it (I) passed with this, with P
   Arabic? I passed Arabic with what's his name, with P.

B. Con P. Yo es que tuve un profesor.
   With P. I (the thing) is that I had a coach

The speaker can therefore have two topics. Interactionally, speakers can gain access to the floor and effect either topic maintenance or topic shift within the general Discourse Topic, while claiming speaker's relevance.

The initially positioned pronouns a mí, a ti discussed in section 9.2.5, whether clause-integrated or ECC constituents, appear in their respective examples to serve the same purposes: shifting the topic to the relevant participant in the conversation while maintaining a topic or introducing a new referent.

In addition to these interactive functions, evidence from the data suggests that although the LD constituents do not themselves introduce Brand New Topics, they appear to be used so that the new entity appears in a favoured position. Such is the case with the entities una piscina bastante buena and P (a proper name) in the preceding examples.
9.5. Conclusions

According to these very provisional findings, in principle, functions 2 and 3, together with the speaker-orienting function described in 9.4.5, account for the vast majority of the LD tokens extracted from the corpus. In other words, LD constituents were fairly evenly spread among three main functions: they (i) introduced an inferrable entity within a general Discourse Topic or (ii) made a retrospective link with a previous entity occurring immediately before the LD or in the discourse record; (iii) they shifted the current topic to the speaker. This means, in effect, that left-dislocation is used in Spanish in order to introduce inferrable entities and to refer anaphorically or exophorically to given ones. These findings are more similar, as regards detail, to those of Barnes for French than to certain findings based on English data (e.g. Keenan—Schieffelin 1976; Geluykens 1992; Ajmer 1989) for whom the motivation for LD discourse functions lies in the need to introduce, foreground or activate a referent which is not currently in the centre of attention. Although globally the introductory functions are similar for English and Spanish, the Spanish data reveal that in many cases the LD entity was already relatively foregrounded, rather than fallen into the background (cf. Barnes 1985: 113 for French). These considerations go a long way towards explaining the high frequency of LD in Spanish. Scrutiny of the LD contexts suggests that the motivation for LD in spoken Spanish may lie more specifically in its enabling unplanned speech to break up the message into manageable chunks, reconciling speaker-meaning with contextual — and co-textual — background (cf. Werth 1984: 253). Essentially, it is a question of discourse coherence, achieved by positioning.

In Spanish it is the case that via LD, constituent positions are often reversed: what would have come in final position is now extra-clausal Theme, while what would have been in initial or near-initial position is displaced to the end. Textual evidence suggests that when an entity can be allocated to Theme function and treated by inference as SubTop, in virtue of some set membership relationship, or GivTop by linking, this is preferred, as in (47a), rather than the alternative of placing the entity in a position favourable to NewTop, as in (47b):

(47) a. y su mujer, ¿cómo se llama?
    and his wife, how is (she) called

    b. y ¿cómo se llama su mujer?
    and how is his wife called

Such effects are more easily achieved by LD than by the use of the passive (including even the "reflexive passive", which in fact co-occurs with LD as in this example) or prosodically marked focus. In spoken English, prosodic focus is a strong factor in establishing discourse coherence, whereas in spoken Spanish LD appears to take over this function, prosodically marked focus and the syntactic passive being relatively little used. The effects achieved are clear in instances of repeated parallelisms such as:
...son señores que creen que la Universidad la hacen ellos.
they are people who think that the university it they make,

para ellos, y sólo de ellos. (EC XVII)
for them and only of them

‘they are people who think that the University is made BY them, FOR
them and exclusively OF them’

Hay que pensar qué curamos o qué cura hoy la medicina.
We must think of what we cure or what cures today medicine.

La hipertensión no la curamos; la diabetes, no la curamos;
High blood pressure we don't cure it; diabetes we don't cure it;

la artrosis, no la curamos; las hepatitis crónicas, no las curamos;
arthritis, we don't cure it; chronic hepatitis, we don’t cure it;

las bronquitis crónicas, no las curamos. (QS)
chronic bronchitis, we don’t cure it.

In English, by contrast, fronting (High blood pressure we can’t cure) or the passive
(High blood pressure can’t be cured), or an Attribute (High blood pressure is
incurable), or final prosodic focus (We can’t cure high BLOOD pressure) are more
likely choices.

To a lesser degree, LDs were found to reintroduce a referent from a current or
related frame. Here Givón’s “simple psychological principle: ‘Attend first to the
most urgent task’” may be in operation (Givón 1983: 20). According to this view,
“when the topic is less obvious, establishing it is more urgent”. The choice of LD,
in setting off the referent from its normal position corresponding to its syntactic
function appears to attend to this more urgent need. In this way, the LD item can
be said to lay a foundation onto which subsequent information is mapped. First-
mentioned participants have, in one psycholinguistic view, the “privilege of
primacy” because it is through them that the foundation is laid and subsequently is
mapped into the developing representation (Gernsbacher—Hargreaves 1992: 96).

No instances were found of the introduction of a new entity from a prior frame.
The reason for this may lie partly in the fact that in the greater part of the material
topic frames were controlled by the moderator or survey-taker, and therefore
reintroduction of entities or concerns previously talked about would be discouraged.
Such active discouraging only forms part of the more general requirement of
relevance (Grice 1975), in terms of the existing topic framework. Just how far
dislocations must be linked semantically to the preceding discourse (Ashby 1988:
215) and where acceptability wanes may have to be tested by other instruments
than corpora.

With regard to the fifth function (floor-seeking), a distinction was noted between
pronominal types. When initial, the personal forms, in which yo predominates,
mark a topic shift to the relevant participant, allied to a floor seeking function. More generally, however, they signal that the following utterance marks the relevance of speaker's contribution to the general discourse topic. LD is in such cases a relevance-marker. The non-personal pronoun LDs, on the other hand, combine floor-seeking with retrospective reference to an entity in the immediate discourse record. LD is here a continuity-marker.

In addition to the illustrating subfunction of LD entities, I also found worthy of note (i) the occasional use of LD to achieve or lead to topic closure, and (ii) the frequent co-occurrence of the Theme constituent with specific P1 realizations, in particular “scene-setting” adjuncts and wh-clefts, making for combinations which have a strongly orientational function, combining both clause-internal and clause-external vantage-points (Hannay 1994).

In a wider dimension, LD appears to provide an economical means of identifying and incorporating discourse material into the larger concern; in fact it is frequently the wider discourse concern, rather than an entity, that triggers the LD entity. Both within speakers' turns and across turn boundaries, LD entities are introduced with maximum precision and a minimum expenditure of what Keenan and Schieffelin call “conversational space” (1976: 373). This may account to a great extent for the rapid “latching on” of speakers' turns in Spanish and the relatively small amount of hesitation within a speaker's turn. There is little overt recognition of acceptance by an interlocutor of new referents, such as is claimed by Geluykens for English (1992), even when hedging occurs; relevant in this respect may be the fact that (i) in Spanish conversation pauses are minimal, compared with English, and (ii) hedging is highly syntacticized, leaving few empty spaces.

In the maintenance of GivTops across turns, LD is equally a strong collaborative device.

Taking a discourse rather than a sentence perspective, the number and frequency of LD items in this relatively small sample of Spanish educated speech suggests that left-dislocation in Spanish, far from being disruptive, is integrating, collaborative and discourse-cohesive. It is also extensive and recursive, which make for a type of syntactic complexity unfamiliar to English speakers. Altogether these conclusions carry interesting implications for pedagogical and discourse-sensitive grammars.

Notes

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2. I wish to thank Elena Martínez Caro for recording and selecting examples of left-dislocated items, and Soledad Pérez de Ayala and Carmen Santamaría for providing recordings of spoken Spanish.
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Infinitivals initially: Theme/Topic/Focus

Yael Ziv

10.1. Introduction

Modern Hebrew displays an unmarked SVO pattern with predictable, pragmatically motivated word order deviations. Studies of the variety of word order options mostly involve constructions with NP, adverbials or PP initially. Sentences introduced by verbal entities have been observed to appear in restricted types of contexts such as happenings, occurrences and appearances on the scene. In these contexts a finite verb occurs sentence initially.\(^1\) The current study examines special construction types introduced by infinitivals. Two such constructions will be distinguished in the present context and the characteristics of each specified. We will focus particularly on one of these, the relevant properties of which appear to be puzzling in view of certain tenets of FG. It will be shown to display conflicting features with respect to the assignment of such functional categories as Focus, Topic and Theme. The proposed solution of the apparent dilemma appears to lie in a diachronic perception of the properties evident in the construction under investigation.

10.2. Background: the two constructions

The following sentences constitute instances of the constructions in question:

(1) likro hi lo roca
to read she not want
‘She does not want to read.’

(2) likro hi lo koret bixlal
to read she not read (F.sg) at all
‘She does not read at all.’

For ease of analysis we will divide the sentences into 2 parts in the following manner: the infinitival will be referred to as part I and the rest as part II. The two constructions are identical with respect to part I, but differ crucially with respect to the structure of part II. In (1), which displays the structure we will refer to as (A), we seem to have a sentence with one of the elements “fronted”.\(^1\) Part II in (A) does not stand for a full sentence, it requires the infinitival to count as a full sentence. The structure evident in (2), which we will refer to as (B), displays a full sentence in part II. Part I seems to be super-added on to an already grammatically well-formed, complete sentence.\(^4\)
In what follows I will concentrate on the characteristic features of (B) in terms of the predictions of FG with respect to the functional categories Theme, Focus and Topic.

10.3. Theme, Focus, Topic

10.3.1. FG characterization

Following the tenets of FG (Dik 1981, 1989), clause structure may be realized by the following pattern:

\[ \text{ECC} + \text{CLAUSE} \]

The ECC (extra-clausal constituent) may fulfill the function of Theme, and the clause proper may contain Topic and Focus. The discourse properties of Theme and Topic can roughly be said to be defined in terms of ABOUTNESS features whereas Focus seems to be associated with SALIENCE. This can be summarized as in the following representation:

\[ \text{ECC} \quad \rightarrow \quad \text{THEME} \quad > \quad \text{ABOUTNESS} \]
\[ \quad \text{TOPIC} \]
\[ \text{CLAUSE} \quad < \quad \text{FOCUS} \quad \rightarrow \quad \text{SALIENCE} \]

The FG characterization of these functional categories states, minimally, that Theme and Topic must necessarily be terms but Focus can be realized by any constituent. Likewise, it seems that Theme and Topic as well as Theme and Focus must be mutually exclusive. The first set due to the clausal versus extra-clausal characteristics and the second both due to the distinct clausal status, and due to the apparent incompatibility in terms of discourse functions. The question with regard to a potential overlap between Topic and Focus is answered in the positive in Dik (1989: 266), where the following graphic representation is displayed:

Topicality

\[ \text{---} \]

Focality

It is evident from this representation that for Dik certain Topics may simultaneously be focal to the information in terms of what he refers to as "further development of the discourse" (Dik 1989: 266). Dik suggests that New Topics constitute such cases, where a non-given topical entity which is also salient in the discourse is introduced (1989: 269). An alternative approach which would preserve the integrity of the relevant functional categories, might call for a finer Focus sub-
Infinitivais initially: Theme/Topic/Focus classification. Given the sub-categories of Contrastive or Parallel Focus which take into account the previous and current discourse segments along with the situational context, the concept of topicality need not be resorted to in such cases. At this point it becomes evident that the question of the proper characterization of these functional categories in FG is essential. The use of these functional categories in the current context could count as a contribution towards a more refined characterization.9

Attempting to apply the current framework to Modern Hebrew (MH), Theme, Topic and Focus are clearly relevant functional categories. All three may occur in sentence-initial position. Their co-occurrences are constrained, however, by certain linearity restrictions. Thus, if Theme occurs in a given construction it necessarily appears initially, potentially followed by Topic and Focus in that order, in cases where they are “fronted”. No sentence in MH is well-formed with the initial Focus preceding the Topic.10 When interrogatives introduce the sentence, they can be preceded by Themes. The characterization of interrogatives in terms of Focus makes the correct distributional predictions with respect to the well-formedness of Top Foc and ill-formedness of *Foc Top in MH.11 What follows is a discussion of the structure under investigation.

10.3.2. The construction in question

The construction in B seems to offer interesting challenges to the theory of FG. On the face of it, it seems to raise questions with respect to some of the basic functional category generalizations. Thus, it appears to be the case that the initial infinitival displays properties characteristically associated with Themes, Topics and Foci. This state-of-affairs appears to be inconceivable within the existing conception of FG. It will be mostly around this issue that the rest of the investigation will revolve. Following is the evidence pointing to the three way functional characterization of the initial infinitival in B.

10.3.2.1. The infinitival as Theme

Under the assumption that the structure in B involves an ECC, and in conformity with the range of recognized potential pragmatic discourse functions fulfilled by the ECC (cf. footnote 5), the most likely function with which the infinitival in B can be identified is Theme. The characterization of Theme in Dik (1981) specifies that the pertinent properties in discourse pragmatic terms are that it “presents a domain or universe of discourse with respect to which it is relevant to pronounce the following predication” (1981: 130).12 Trivially, this is true with respect to the initial infinitival in B. So, in (2) (repeated here),

(2) likro ha lo koret bixlal
to read she not read (F.sg) at all
‘She does not read at all.’
likro (to read) constitutes the domain with respect to which the predication in the following clause is relevant. The formal properties which may be associated with Theme could serve as better indicators of the Theme characteristics of the initial infinitival in B. Thus, Dik states that “the Theme cannot be regarded as being part of a predication” (1981: 132). Examining the clause following the initial infinitival in (B) clearly shows that the sentence is formally complete, requiring no complementation of any type. The strict optionality of the initial infinitival gives it an ECC status and conforms with the characteristic of not constituting part of the predication. The rejection of the so-called “extraction hypothesis” with respect to Themes, evident in Dik (1981), is equally applicable to the construction in B. The initial infinitival could not have originated from any position internal to the clause immediately following it. The immediately following clause is complete, and need not even contain any available position for an infinitival (such seems to be the case in (2)).

The relevant construction with which we may compare B is an instance of Left Dislocation (LD) as portrayed in Dik (1981). In the latter construction, the ECC, fulfilling Theme function, displays unmarked case, rather than a specific case associated with clause internal terms. By analogy, the infinitival in question does not display any formal verbal features associated with finiteness. The nominal caselessness in the LD constructions can thus be likened to the verbal nonfiniteness in the construction at hand. And again, by analogy, the example of Theme provided by Dik being the caseless NP in the LD construction, the infinitival in the construction at hand — B — ought to serve the same function.13

An additional argument for the Theme status of the infinitival in question is evident from the following distributional pattern, where the infinitival precedes the Wh-element:

\[(3) \quad ve-laS\text{-}ir \quad \text{matay hu} \quad \text{Sar}\]
\[\quad \text{and to sing when he sing}\]
\[\quad \text{‘And when does he sing?’}\]

Assuming, as seems to be the case, that the Wh-interrogatives occupy PI position in MH, the precedence of the infinitival in constructions like (3) over the Wh-element suggests that the infinitival is an ECC. Such a conclusion would be consistent with our generalizations about Wh in MH, on the one hand, and ECC on the other. Dik (1981) mentions the occurrence of the Theme entity outside the scope of the illocutionary (which he dubs “performative”) modality, as an argument for its special ECC status. The instances of Theme which he quotes occur external to the imperative, interrogative or declarative sentences. The sentences in (2) and (3) (above), as well as the following sentence in (4), suggest that this is true with respect to the infinitival at hand.

\[(4) \quad \text{liStok, al tiStok, aval...}\]
\[\quad \text{to shut up not will shut (2-sg) up but}\]
\[\quad \text{‘Do not shut up, but..’}\]
The surprising fact, however, is that in addition to the Theme characteristics which the infinitival in question shows, it also displays certain properties associated with Topics and with Foci. These are discussed below. 

10.3.2.2. The infinitival as Focus

Foci in MH may either occur sentence-initially with a prominent intonation contour or else they may co-occur with so-called focusing adjuncts like “only” (rak) and “even” (afilu). The co-occurrence of the infinitival in B with the appropriate focus markers as in the following thus serves as evidence for its focus properties.

(5) afilu likro hi lo koret maspik
   even to read she not read enough
   ‘She doesn't even read enough.’

(6) rak likro hi af paam lo koret maspik
   only to read she even once not read enough
   (= never)
   ‘Only reading, she doesn’t ever do enough.’ (approximate)

The context in which the structure in B occurs may provide additional evidence for the Focus status of the infinitival in question. Consider:

(7) What do you want to do now?

(8) likro ani ekra axarkax,  
    to read I will read later
    ‘As for reading, I will read later,’

    aval lepatpet ani muxan axSav
    but to chat I ready now
    ‘but I am ready to chat now.’

Both the salience of the information in the infinitival in the context of a question like (7) and the contrastive nature with the parallel structure evident in (8) support the Focus assignment analysis.

10.3.2.3. The infinitival as Topic

The following distributional properties evident with respect to the initial infinitival in B point to its Topic characteristics. The context where Topic is associated with givenness is evident in the following interchange:

(9) Do you want to read?
Givenness being associated with Topicality, via the subclassifications of Topics into: New, Given, Resumed, and Sub-Topics (Dik 1989), the contextual features evident in (9-10) may serve as evidence for the topic status of the infinitival in question (cf. footnote 7).

The second topic characteristic that the infinitival at hand displays pertains to the co-occurrence constraint on Topic and Focus in MH whereby the two must necessarily be ordered such that the Topic would precede the Focus, with the order Focus — Topic being ill-formed. This constraint lies behind the distinction in well-formedness in the following instances where Foci and Topics are realized by nominal entities.

(11) sratim rak/afilu im ruti ani muxan lirot movies (Top) only/even with Ruth(Foc) I ready to see ‘I am ready to watch movies only/even with Ruth.’

(12) *rak/afilu im ruti sratim ani muxan lirot only/even with Ruth(Foc) movies(Top) I ready to see

The infinitival in structure B displays the same distributional pattern, as is evident from:

(13) laSir rak/afilu layladim ani Sara to sing only/even to the kids I sing ‘I sing only/even to the kids.’

(14) * rak /afilu layladim laSir ani Sara only/even to the kids to sing I sing

It follows then that in (13) the infinitival shows Topic properties and hence can precede the Focus. Likewise the ill-formedness of (14) is accounted for by the violation of the Topic Focus constraint, (14) displays the ill-formed Focus Topic pattern.\(^7\)

An additional argument for the analysis of the infinitival as Topic consists of examining its potential co-occurrence with Themes. Dik (1981) uses initial “as for X” phrases as prototypical instances of Theme. To test the co-occurrence of the infinitival in question with Theme, we will utilize the same type of “as for” construction. The co-occurrence at hand may be construed as an argument for the Topic status of the infinitival in question, under the assumption that there may be only one ECC of the Theme type per sentence. If this is indeed the case, then the co-occurrence of the structure in B with the prototypical ECC Theme “as for X” would indicate that the infinitival in question cannot be the Theme, but ought to be either Focus or Topic. If, additionally, we introduce a potential non-infinitival Fo-
In infinitivals initially: Theme/Topic/Focus

In the sentence (as in (15")) then the infinitival at hand will be shown to constitute the Topic. The following pattern emerges:

(15') benogea leruti, laSir hi lo taSir
concerning/as for Ruthie to sing she not will sing
'As for Ruthie, to sing, she won't sing.' (approximate)

(15'') benogea leruti, laSir, rak iti hi taSir
as for Ruthie to sing only with me she will sing
'As for Ruthie, she will only sing with me.'

(16) *laSir benogea leruti hi lo taSir
to sing as for Ruthie she not will sing

It must be noticed in this context that the Theme can be preceded by a true parenthetical (ECC or a third or fourth order satellite) as in:

(17) lecaari harav, benogea leruti, laSir hi lo taSir
to my sorrow much as for Ruthie to sing she not will sing
'To my great sorrow, as far is Ruthie goes, she won't sing.'

The ill-formedness of (16), thus, cannot be attributed to the non-occurrence of any constituent prior to the Theme; rather the unacceptability of (16) indicates that it is the sentential Topic realized by the infinitival that cannot precede the Theme. We have thus argued that the infinitival in structure B manifests Topic properties.

The evidence gathered so far indicates that there are arguments pointing out the Thematic nature of the infinitival in question alongside arguments suggesting that it may be Focus or even Topic.  

10.4. Sentential versus extra-sentential status: partial resolution

The evidence considered in this paper has largely concentrated on the status of the infinitival in constructions like B. Data were quoted which pointed to its Thematic, hence extra-clausal status, in addition to evidence which indicated that it has Topic and Focus properties, and hence is to be regarded as a sentence-internal constituent. The co-existence of sentential and non-sentential properties with respect to the same constituent, albeit not simultaneously, seems most problematic and the current section will be devoted to an attempt to resolve the apparent conflict in the sentential status of the infinitival in question.

It has been suggested to me (L. Goossens and L. Mackenzie, personal communication) that what we are witnessing in the case under investigation is an instance of grammaticalization, whereby an entity that is originally associated with an ECC, and hence by definition does not partake in any sentential processes (cf. Ziv 1985), becomes more closely integrated within clause structure and shows several sentential properties. This diachronic shift from a pragmatically, discourse-functionally
conditioned entity to a syntactically and even morphologically evident reality is a characteristic evident in natural languages generally. To quote a relevant example, let us consider Left Dislocation. The initial constituent in LD has been analyzed as the prototypical ECC Theme by Dik (1981). However, in certain dialects of languages like German and Italian the initial NP that is conceived of as an ECC may show case marking, alongside instances where it does not. This is evident in the following (cf. Ziv 1994):

\[
\begin{align*}
(18') & \quad \text{Der Professor, sie lobten ihn} \\
& \quad \text{The professor (NOM) they praised him (ACC)}
\end{align*}
\]

\[
\begin{align*}
(18'') & \quad \text{Den Professor, sie lobten ihn} \\
& \quad \text{The professor (ACC) they praised him (ACC)}
\end{align*}
\]

The existence of such instances in the relevant dialects seems to be indicative of the process of integration of the initial NP in LD into the clause structure.

The naturalness of such diachronic processes in general, as well as the particular instance of LD integration, seem to argue for a diachronic interpretation of the data in the construction under investigation. The initial infinitival which constitutes an instance of a proper ECC in certain cases, has, in other cases, apparently, acquired the conceptual status associated with a regular sentential constituent and has been perceived as integrated within sentence structure. The Topic and Focus properties with which it appears to be associated in these latter instances may be due to this integration or reinterpretation of its sentential status.

Notes

1. I should like to thank Lachlan Mackenzie and Louis Goossens whose comments on an oral version of this paper were instrumental in my rethinking it.
3. Note that this terminological choice does not reflect any analytical cline in the present context. It is merely intended to stress the syntactic property of discontinuity evident in this structural pattern.
4. The two constructions display additional differences which require explanation. In the current context I will only mention one such distinction: A, but not B, may be introduced by a negative infinitival. Part II in A may occur with either polarity irrespective of the polarity of part I. The following distributional pattern seems to be evident:

\[
\begin{align*}
(i) & \quad \text{lo likro hi lo roca} \\
& \quad \text{not to read she not want} \\
& \quad \text{`She does not want not to read.'}
\end{align*}
\]
(ii) lo likro hi davka dey roca
not to read she despite quite want
'Not to read she is (davka = counter to expectations) quite willing.'

(iii) * lo likro hi lo koret bixlal
not to read she not read at all

(iv) * lo likro hi davka koret
not to read she despite read

This can be represented as in:

Structure A: (neg) Infinitival — (neg) rest of sentence
Structure B: (*neg) Infinitival — (neg) full sentence

5. There are a variety of additional pragmatic functions which ECCs may fulfil; they can serve as initiators, parentheticals, address forms, tags, tails and clarifiers. Theme seems to be the relevant function in the case at hand.


7. Dik (1989) distinguishes further types of Foci and Topics mostly in conformity with their communicative content characteristics. The Foci are subclassified into:

\[
\begin{align*}
\text{New (Compleative)} & < \text{Parallel} \\
\text{Contrast} & < \text{Replacing} \\
& < \text{Expanding} \\
& < \text{Restricting} \\
& < \text{Selecting}
\end{align*}
\]

and the Topics into:

\[
\begin{align*}
\text{New} & < \text{Given} \\
& < \text{Resumed} \\
& < \text{Sub-Topic}
\end{align*}
\]

8. Such a view seems to be consistent with the prototypicality approach to categories evident in Lakoff (1987). Accordingly, the New Topics in question would show some, but not all, of the characteristic properties of Topicality and Focality.

9. Naturally, a variety of additional studies within FG point to the need for
such a refinement. For a recent study cf. Buth (1994).

10. Cf. Ben Horin (1976) for interesting data. Examples will be quoted in section 10.3.2.3, following.

11. In fact, the generalization with respect to the occurrence of Top — Wh, on analogy with the well-formedness of the Top — Foc order elsewhere, requires some modification. The occurrence of Top — Wh seems to be constrained such that we have to add the conjunction “and” (ve) or “but” (aval) as an indication of discourse continuation, as in:

(i) ve im Ruti matay at medaberet
and with Ruthie when you (F) speaking
‘And when are you speaking with Ruthie?’

The absence of the conjunction renders the sequence unacceptable (cf. Ziv (forthcoming) for the discourse structural considerations relevant in this context).

An additional comment would pertain to the exceptional nature of “why” interrogatives, which appear to allow the otherwise inadmissible Wh — Top sequence. Further research is required to assess the system that “why” satellites abide by.

12. This discourse functional definition is evidently very vague and is confusingly similar to the one used with respect to Topic. To come up with a more accurate and non-vague functional definition it might be important to investigate the usefulness of the Sperber and Wilson conception of Relevance (1986), since this term is utilized in the definition of Theme. Alternatively, the functional definition alone should not be used to distinguish these two functional categories, and formal characteristics will have to be utilized in drawing the distinction between the two.

13. Cf. Ziv (1994) for arguments for the extra-sentential status of the initial NP in Left Dislocations. Specifically, the relevant Left Dislocations would show a verb 3rd position in German, in contradiction with the overall verb 2nd position generalization, unless the initial NP is analysed as external to the sentence.


15. The evidence pointing to the Topic nature of the infinitival in part presupposes the interaction of Topics with Foci. It is for this reason that I have chosen to present the evidence for the Focus status of the infinitival in B before its Topic status.

16. The occurrence of the infinitival “to read” in this context seems to be counter-presuppositional. The rejection or postponement of the reading choice at the current moment amount to an understanding that this is an available option. Since no such option is mentioned explicitly in the pre-
ceeding context, it is presumably supplied on the basis of previous context, or knowledge of the state-of-affairs, i.e. the relevant options available.

17. The same co-occurrence constraint can be used to argue for the Focus status of the infinitival in question in the appropriate context as in:

(i) im rut afulu lilmud ani lo lamed maspik
    with Ruth(Top) even to study(Foc) I not study enough
    'With Ruth I do not even study enough.'

18. The option that I have adopted and made explicit with respect to the analysis of structure B likens it to its nominal construction counterpart — Left Dislocation. The alternative is to regard the structure in B as the Hebrew counterpart of VP preposing in English. VP Preposing is evident in the following (Ward 1990: 746-7):

(i) Of all Maria’s children, only John joined the Nazi Party, but join it he did.

(ii) Sharon doesn’t visit her father often, but visit him she does.

This is substantiated if we remember that the Hebrew counterparts of so-called VP ellipsis are realized by the repetition of the verbal form, as in:

(iii) a. John doesn’t drink beer, but Jack does.
    b. Ron lo Sote bira, aval Jacky Sote.
    Ron not drink beer but Jacky drinks.

It would be interesting to investigate the consequences of this assumption for FG. This I leave for future research.

19. Cf. in this context Givón’s (1984, 1990) generalization, stated informally, that “yesterday’s discourse function is today’s syntax and tomorrow’s morphology” and Keenan’s (1976) specific application of such a principle to the study of subjecthood, where behavioural properties are shown to be evident before structural and morphological (coding) properties are.

20. Dik (1989: 265) considers the co-occurrence of case on an ECC and on an internal element within clause structure to be a property which may be associated with ECC. I believe that this is to be accounted for diachronically, as a sign of initial integration of the ECC within clause structure.

21. The parallel RD construction shows a fair amount of integration in several languages. Thus, MH may provide evidence for its advanced integration in terms of case assignment, as in:
(i) natati la et hasefer, ledorit.
gave(l-sg) to her(DAT) ACC the book, to Dorit
º gave her the book, Dorit.

or:

(ii) natati oto ledorit, et hasefer.
gave(l-sg) it(ACC) to Dorit ACC the book
º gave it to Dorit, the book.

Additional evidence for its sentential integration may come from its interaction with such grammatical constraints as subjacency (Ziv 1994; Ziv—Grosz 1994).

22. When a diachronic process is in the making, it is hard to predict where it will end. But the following marginally acceptable sequence which I occasionally witness in oral conversations as an echo, may be suggestive of the upcoming stage:

A: Ruti roca lavo itanu?
º Ruthie want to come with us
‘Does Ruthie want to come with us?’

B: roca, hi lo bediyuk roca, aval hi tavo.
º want she not exactly want but she will come
‘She does not exactly want to, but she will come.’

Note that in B’s reply the initial verb is finite, in agreement with the clause internal verb and subject.

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The function and typology of coordinating conjunctions:
evidence from discourse and language-contact situations

Yaron Matras

11.1. Introduction

Coordinating conjunctions have traditionally occupied a somewhat ambiguous position in linguistics. Structural descriptions of languages rarely devote more than a few lines to this domain of grammar, taking it for granted that the terms "additive", "adversative" or "alternative" conjunctions are generally sufficient to capture the function of the expressions in question. Functional theory, on the other hand, has taken a deeper interest in the phenomenon. Taken as an obvious domain of syntax, coordination provides an experimental field in which formal models of syntax can be challenged, and where a case can be made for the incorporation of semantics as well as of strategies for intra-sentential or discourse structuring into the descriptive model.

Rather than present a review of various functional approaches to coordination, however, this paper aims at stimulating the discussion on coordination by interpreting data of actual speech and prose, encompassing typologically different languages, as well as data collected in language-contact situations. By doing so, I attempt to show that coordination could be looked at from a new angle, namely one which combines aspects of typology, discourse pragmatics, and the study of language contact and grammatical interference.

Recent work in FG has been devoted to investigating the function of coordinators as "discourse markers", that is, as elements which help establish cohesion in discourse, whose description needs to take into consideration communicative terms (see Kroon, this volume; cf. also Mosegaard Hansen 1994). This interest in the communicative dimension of connectors or conjuncts in turn relates to the general growing interest in dimensions of language beyond the representational and the interpersonal levels, at what has recently been termed the "rhetorical level" of discourse or text structure (see Hengeveld, this volume). In this context, the formal units affected by the operational scope of conjuncts may be considered to be units of discourse such as paragraphs or "ideas", rather than representational or sentential units such as terms, predicates, or predications. Although not arguing strictly within an FG framework, I propose a possible direction for further research on a domain of grammar which has always been of special interest to FG (see Dik 1968).

By concentrating on the discourse aspects of coordination, this paper is intended to connect to the ongoing discussion within FG concerning the position of categories of discourse arrangement in the FG model and their relation to the choice of grammatical forms on the sentence or utterance level.

In interpreting the data presented below, I draw heavily on contributions to
coordination as a discourse phenomenon, especially on the notion of grammatical categories as triggers of “knowledge-processing procedures” developed in Functional Pragmatics (see Ehlich—Rehbein 1986; Redder 1990). In this context, there are two basic claims I wish to make. First, I illustrate that Dik’s (1968) claim that coordinating conjunctions involve more than just plain semantics, if taken seriously, has methodological consequences for a cross-linguistic analysis of the expressions concerned. As an example, I discuss two cases of languages in which there is an obvious opposition within the so-called “additive” or “combinatory” domain, i.e. where there are two distinct expressions for and. I claim that postulating a simple semantic opposition between these expressions is not a satisfactory solution, and I try instead to account for the operations involved in terms of communicative tasks of processing knowledge, or so-called “procedures”. I show that coordinating conjunctions assume functions which have to do with the categorization of pieces of knowledge in discourse.

Second, I suggest that the opposition of the type and versus but, which may be encountered almost universally, is not merely an opposition between different semantic qualities. Rather, I propose to treat the opposition and versus but as an arrangement of features with a hierarchical nature. In other words, and and but are not simply different semantically, one being purely “combinatory”, the other purely “adversative”, nor do they differ primarily with regard to the direction of the flow of the discourse or the arrangement of turns, the first signalling “continuation”, the second “return”, as postulated by Schiffrin (1987). Rather, drawing on Ehlich’s (1984) analysis of German aber, I propose that conjunctions of the and and but types differ gradually with respect to the intensity in which the hearer’s internal processing operations are infiltrated by the speaker, calling for both a revision of ongoing interpretations, and for a continuation of an inaugurated presentation of propositional content.

In postulating this hierarchy-hypothesis I also draw on clues provided by the behaviour of the respective expressions in language contact situations. Where a language is found to be exposed to heavy grammatical interference by a second language, it seems to be universally the case that expressions of the but type are the first elements in the conjunctival system to be replaced by borrowed expressions. And conjunctions may follow in situations of extremely heavy contact, but borrowed and expressions are much more rare. This fact may serve to confirm that, at least with regard to the processing operations that are involved in the two expressions, and and but are arranged along a hierarchical ranking with regard to a number of shared features.

11.2. Distinctive features involved in coordination

In order to help locate the context of this investigation and the background for the analysis of the data presented here, I wish to draw attention to three different functional approaches to coordination and their concepts of the distinctive features involved in determining the oppositions between single coordinating conjunctions.
Closest to sentential grammar, and yet fundamentally critical of formal and transformational theory, is Dik's (1968) approach to coordination. Dik suggests that coordination both of functions and of members of a syntactic function can be described in terms of a few basic semantic values of low specificity. Unlike logical connectors, grammatical connectors, according to Dik's claim, in fact depend on their semantic oppositions. This can be shown most clearly with the case of and and but, which are logically equivalent, connecting two propositions both of which are true, but semantically differentiated. Although the phenomenon involved in such connectors in language is understood to constitute a very complex processing mechanism, for the sake of grammatical description the basic semantic notions "combinatory", "alternative", "adversative", and "causal" are chosen.

Coordination as an intra-sentential, discourse phenomenon is the main point of focus in Schiffrin's (1987) analysis of "discourse markers". Here, coordination is regarded as a combination of functions, which are split analytically. On the content or propositional level, Schiffrin, much like Dik and other analysts, postulates basic semantic oppositions. The innovative part of her analysis pertains mostly to the interactional level. Conversational analysis makes it possible to trace the processing tasks assumed by the speaker while resorting to conjunctional expressions. It reveals that there are actional goals pursued by the expressions involved. In the case of the opposition between and and but, these goals are metaphorically conceived of as the speaker's movement along the surface of the discourse. And, in this respect, signals the speaker's continuation of the speech action. But, on the other hand, marks the speaker's return to a previous position in the discourse.

The notion behind these terms suggests that, while continuing an action, the speaker draws on the hearer's understanding of the content, whereas suspected lack of sufficient understanding on the part of the hearer motivates the speaker to return to a previous point. Thus, in addition to the semantic differences between the expressions, some of the processing mechanisms involved are considered in the definition by incorporating the discourse-planning feature of continuation versus return. Schiffrin's concept of "discourse markers" lacks an attempt at a thorough theoretical definition of the category; nevertheless, taken as part of a class of "discourse markers", conjunctions such as and, but or or are dealt with from the point of view of their contribution to structuring actions of speech in actual communication, rather than on the basis of their linear position in the sentential frame.

Somewhat more radical in its attempt to derive the function of coordinating conjunctions from the processing tasks they trigger in actual communicative interaction is the Functional Pragmatics approach in German linguistics. A basic feature of the approach, distinguishing it from the Schiffrin type of conversation analysis, is its attempt to consider not only the speaker's verbal activities and planning strategies, but also to incorporate the hearer's mental processing activities in a systematic manner. Redder (1989) and Rehbein (1989), in their respective analyses of German und, each point to the aspect of continuation involved. Redder (1989), in her analysis of school-class communication, regards the teacher's question und? as a call for continuation of the current pattern of speech actions.
Rehbein (1989: 190ff.), in looking at biographical narration, mentions a category of knowledge the verbalization of which is to be continued and concluded. However, both analyses also emphasize the recurrent character of the conjunction: it returns the hearer to a previous position in the discourse, where the verbal presentation of an idea has begun, but has not yet been fulfilled. Thus, continuation and return are conceived of in Functional Pragmatics as two complementary aspects of the so-called “additive” or “combinatory” conjunction. They therefore cannot qualify as features characterizing the opposition between and but. There is yet no contrastive analysis of the additive and adversative conjunctions in Functional Pragmatics, but Ehlich’s (1984) study of German aber is regarded as standard to the theory. In short, Ehlich determines aber as a contradiction of the hearer’s expectations. It is regarded as an “explicit verbal treatment of the discontinuity in the hearer’s expectation structures”. Thus, the difference between and but may be seen in the intensity in which hearer-expectations are treated and processed by the speaker.

11.3. Categorizing pieces of discourse: And in Arabic and Romani

Let us turn to a preliminary analysis of and expressions in two languages which show an opposition within the “additive” or “combinatory” system. Arabic has two expressions for and: fa and wa. Examples (1-3) are taken from a novel by Salman Natur, which is based on oral testimonies in Palestinian Arabic. It represents a compromise variety between standard literary Arabic and the Palestinian dialect. First, we notice that fa rarely corresponds to a coordinating conjunction in English. We can conclude from that that fa appears where in English there is no need for explicit marking of connectivity. Second, although fa seems to appear clause-initially in the examples chosen, this is not necessarily the case in general. There are no obvious structural restrictions on the appearance of the two expressions. Rather, their distribution is connected to the degree to which continuation of an opened category of knowledge is expected by the hearer. Wa connects entities which constitute a single category of knowledge. Fa intervenes after the presentation of such categories of knowledge has been completed. It then re-opens the concluded category, making it explicit for the hearer as a point of departure for the initialization of the next unit:

(1) a. awqaf-ni wa sa’al-ni: ila ‘ayn anta dāhib?
stopped-1.Sg.Obj and asked-1.Sg.Obj to where you go-PART
‘He stopped me and asked me: where are you going?’

b. fa qul-t la-hu: ila xirbat l-jalame.
and said-1.Sg to-3.Sg.Obj to ruin DEF-Jalame
‘(And) I said to him: to the Jalame ruin.’
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c. *fa* saʿal-ni: hal ma zil-t t-ahlum bi
   and asked-1.Sg.Obj Q not stopped-2.Sg 2.Sg-dream on

l-jalame?
DEF-Jalame

‘(And) He asked me: do you still dream about Jalame?’
(Salman Natur: *wa ma nasayna*)

Here, *wa* connects two integrated actions of the same actor, while *fa* coordinates the reconstructed turns in the original dialogue, each of those being a concluded statement or action of speech by one of the actors. Consider the next example:

(2) a. *raḍwān, allah yi-rḥam-o, kān yi-trnašša bāb*
   Radwan God 3.Sg-mercy-3.Sg.Obj was 3.Sg-go gate

l-knise.
DEF-church

‘Radwan, God have mercy over him, was walking in front of the church.’

b. *fa qatal-ū-h bi dam bārid.*
   and killed-3.Pl-3.Sg.Obj in blood cold

‘(And) They killed him cold-blooded.’
(Salman Natur: *wa ma nasayna*)

There is no immediate connection between the two states of affairs described in a. and in b. *Fa* signalizes a return to the previous position, not in order to continue the same idea, but in order to re-establish the previous state of affairs as the scene of the subsequent occurrence. It links two distinct categories in a rather loose and less obvious connection. Finally, consider (3):

(3) a. *jaʿa zābit wa qāl la-na ibq-ū fi buyūt-kum.*

‘An officer came and said to us, remain in your houses.’

b. *fa saddaq-nā-h.*
   and believed-1.Pl-3.Sg.Obj

‘(And) We believed him.’

c. *wa jaʿa zābit āxar wa qāl: xilāl 48 sār a mā
   and came officer other and said within 48 hour not

bidd-i a-šūf ḫada fi l-balad.
want-1.Sg 1.Sg-see somebody in DEF-town
'And another officer came and said: within 48 hours I don’t want to see anybody in the village.'

d. *fa* šaddaq-ñá-h *wa* ġamal-na kull mā and believe-1.Pl-1.Sg.Obj and carried-1.Pl all what

istath-ñá-na an n-ahmil-ô.
could-1.Pl that 1.Pl-carry-3.Sg.Obj

'(And) We believed him and we took everything we could take with us.'
(Salman Natur: *wa ma nasayna*)

At a first glance, there seems to be a connection between the distribution of the conjunctions and the continuity of actor/topics: *wa* signals continuity, whereas *fa* appears when topics are switched. This is indeed a frequent feature accompanying the distribution of the forms, but certainly not their invariant character. In segment c. in the same example, *wa* appears at the beginning of a clause with a switch in topic identity. However, what *wa* does in this case is return the hearer to the category which we may entitle for analytic purposes “the arrival of officers”. It signals that this category, in retrospect, has not been concluded after all, and is re-opened for further processing. Thus, what *fa* and *wa* do is convey distinct instructions with regard to the categorization of propositional entities across the closer scope of the discourse. Both are combinatory, both involve continuation and return, and they appear syntactically in similar environments. But they involve distinct means of capturing the hearer’s expectations. *Fa* admits that a previous category has been concluded successfully, and is re-opened merely to make an established point of departure more explicit. It therefore tends to lack a counterpart in English *and*, which stresses recurrent treatment of the same category before its conclusion, much more like Arabic *wa*.

Romani too has two combinatory or additive expressions, *taj* and *aj*. *Taj* is clearly Indic in origin. The etymology of *aj* is less obvious, and although it bears certain similarities in form to Slavic *a*, it is found to function quite differently. Unlike Arabic, where the difference between the two conjunctions was said to be re-treatment of an open category versus explicit re-orientation toward a concluded category of knowledge, in Romani both forms signal continuity of the same category. However, with *taj* continuity is expected, while with *aj* the fact that the category of knowledge is to be continued does not align with hearer expectations, and must therefore be made explicit:

(4) a. Sode phral sas la?
   how.many brother was her
   ‘How many brothers did she have?’

b. Sas o káko Tino, káko Beko, o Sasa, Dono, ja,
    was the uncle Tino uncle Beko the Sasa Dono yes
In segment a., an interviewer asks the speaker about the number of her brothers. The Romani word for brothers, *phral*, may also mean “brothers and sisters”. Taking this ambiguity into account, the speaker begins answering the question by counting the brothers. She then signals a possibly unexpected extension of the category of knowledge which has been addressed above by inserting *aj*, and then continuing to name the sisters. Once the narrow category “two sisters” is announced in the beginning of segment c., the hearer expects two names, hence the connection of *katika* and *my mother* through *taj*. Similar functions appear in example (5):

(5)  a. *Taj* kade astarde e phurani policija te kerel maj
    and so they-began the old police that do more
    dur buči tela demokracija.
    far work under democracy

    ‘*And* so the old police started to continue its work under democracy.’

b. *Aj* bišolas na ma “Zigeunerpolizei”, numa “Landfahrer”
    and was-called not more “Zigeunerpolizei”, but “Landfahrer”
    — policija le nomadi.
    police of-the nomads

    ‘*And* it was no longer called “Gypsy police”, but “Traveller” — the
    nomads’ police.’

In a lecture on Romani history, the speaker addresses the continuity of police surveillance of Gypsies in Germany after World War II. Continuity, which is the extension of the state of affairs dealt with in the previous context, is signalled by *taj*. Discontinuity is, in this context, presented with irony, for it only applies to the label given to the special anti-Gypsy task force. It is marked by *aj*, the “unexpected” extension of the category.

These examples from both languages, I believe, show that terms such as “additive”, “combinatory”, “continuous” or “discontinuous”, and “expected”
versus "unexpected", are ambiguous if used as single labels to characterize the oppositions within the system of conjunctions. More promising are more detailed explanations of the procedures used to group propositional units as categories, and to instruct the hearer to treat those categories in accordance with his or her established discourse knowledge. Such definitions may be less universal and more language-specific, less abbreviated and more enhanced, but they may also contribute to a more accurate description of the mechanisms involved.

11.4. Discourse features of adversatives

Let us now turn to the domain of adversative or contrastive conjunctions, and to the claim that their status with respect to the additive or combinatory conjunctions is hierarchical, rather than purely semantic. Let us first examine what adversatives do, from a discourse-functional point of view. Consider the function of Romani ale in example (6):

(6) a. Ande če berš sas kodo sa, kodo kaj
    in which year was that all that where
    marde pe?
    they-fought REFL

    ‘In which year was all that, that when they had a fight?’

b. Anda/ angla o marimo.
   from before the war
   ‘From/ before the war.’

c. Sode beršengi sanas tu?
   how-many years you-were you
   ‘How old were you?’

d. Me? So simas, čavoro, te simas efta oxt o beršengi ...
   if I-was seven eight years
   ‘Me? What was I, a child, if I was seven eight years old ...’

e. Ale serav sa jekh sar adžes sa.
   but I-remember all one as today all
   ‘But nevertheless I remember everything as if it were today.’

The speaker has finished reconstructing an episode in her biography. By being asked to admit the long time lapse since the actual occurrence of the episode, as well as the fact that, at the time, the speaker was very young and possibly unable to interpret and store all the relevant facts, the speaker’s authority as a narrator is
being challenged, at least implicitly. She reacts to this challenge by blocking to the hearer possible options for interpreting the information which she herself has provided in the immediately preceding context (segment e).\(^5\)

Taken in opposition to a combinatory or additive conjunction, it seems that *ale* or *but* stretches across a larger portion of the discourse, treating the hearer's processing of an entire sum of propositional entities, rather than just single utterances. It also appears that *ale* treats hearer expectations with regard not just to the acceptability of the following proposition in e., but also with regard the non-acceptability of possible conclusions which the hearer himself may have drawn in advance, before being confronted with the contradicting utterance in e. Thus, there are two qualities of the *but* conjunction which allow gradual comparison with the *and* conjunction: its scope of scanning knowledge in the previous discourse context is greater, and its scope of infiltration into the internal processing operations carried out by the hearer in interpreting previous propositional content is more intensive.\(^6\) *Ale* structures the discourse beyond the propositional surface-level, monitoring possible interpretations by checking pieces of the discourse against an assessment of the general knowledge and inference options available to the hearer.

11.5. Adversatives and grammatical interference

It seems to be a universal of grammatical borrowing that devices responsible for structuring the discourse are borrowed first. These include sentence particles, interjections, tags, and often sentential intonation.\(^7\) Among the conjunctions highly affected by interference are adversatives or contrastives in the coordinating domain, and their concessive subordinating counterparts. A well known example is the distribution of the Arabic contrastives *lakin* and *amma* across a vast area of Arabic/Islamic influence, ranging from West Africa (languages such as Fulani, Haussa, or Kanuri), through East Africa (Swahili, Somali), on to the Iranian and Indic languages in the east, and via Turkish also in Caucasian and Balkan languages to the North and North-West. Stolz and Stolz (1994) also report on the prevalence of Spanish *pero* in native languages of Central America, compared to a lesser degree of borrowing in other conjunctural domains.\(^8\)

First-hand data in support of this observation are presented here. First, Romani, a language the dialects of which have been influenced by a variety of European languages, still derives most of its grammatical elements, including conjunctions, from a common Indic stock of inherited forms. However, no dialect of Romani seems to have retained an Indic adversative, and it is in the domain of adversatives that Romani dialects are found to differ quite radically. Thus, while Vlach Romani varieties, as quoted above, exhibit the West and South Slavic *ale* (also borrowed into Romanian, which has heavily influenced the Vlach dialects), Arli, as spoken in Macedonia, has *ama* (borrowed from Turkish, originally from Arabic), while the Sinti dialect spoken in German-speaking areas has German *aber*.

Ladino, or Judeo-Spanish, as spoken in the Balkans, has generally borrowed Turkish *ama*, as shown by this example from the speech of a Ladino-speaker from Istanbul, now living in Israel:
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(7) En kaza era español no savimos el ivrit, *ama* en Estanbol
in home was Spanish not we-knew the Hebrew but in Istanbul
la primera lengua era el turko.
the first language was the Turkish

‘At home it was Spanish, we didn’t know Hebrew, *but* in Istanbul the
first language was Turkish.’

Although language purists might prefer the adversative *ma* due to its Romance
origin and in fact *ma* can often be heard in Ladino broadcasts on Israeli radio,
Ladino *ama* clearly prevails, and although it is obviously an historical loanword
borrowed from Turkish, it may be considered the native Ladino form. Thus,
Ladino *ama* is comparable to borrowed adversatives in Romani dialects, in various
languages exposed to Arabic influence, and probably to the cases of Central
American languages discussed by Stolz and Stolz (1994).

The tendency of native adversatives to be replaced by those of a surrounding, and
perhaps dominant, second language can best be shown by so-called “spontaneous”
borrowing. Data collected by Berk-Seligson (1986) in the same community of
Ladino-speaking immigrants from Turkey in Jerusalem in which the above sample
(example 7) was taken, shows that “spontaneous” borrowing (discussed by Berk-
Seligson as “code-switching”) of the Hebrew adversative conjunction *aval* may
occur among speakers whose Ladino has remained intact:

(8) a. Yo bébo Néskafe.
I *drink Nescafe*
‘I drink Nescafe.’

b. *Aval* téngo kafé, *aval* ... bébo Néskafe.
but *I-have coffee but* *I-drink Nescafe*
‘*But I have coffee,* *but* ... *I drink Nescafe*.’
(Berk-Seligson 1986: 324).

My own data, collected in the same community, show that interference may in fact
occur in both directions. Consider example (9), where a speaker of Ladino, born
and raised in Bursa (Turkey), who has spent the last five decades in Jerusalem, uses
Ladino *ama* in a Hebrew discourse:

(9) a. kama šanim aten garot po, šxenot?
how-many years you-Fam.Pl live here, neighbours
‘How many years do you live here, as neighbors?’

b. ani xamišim šana.
I fifty year
‘I (have been here) fifty years.’
c. xamišim šana at kan?
   fifty year you here
   'Fifty years you've been here?'

d. po, ama hi ani xoševet lo esrim/šmona-esre šana.
   here but she I think not twenty eighteen year
   'Here, but she I think not twenty/eighteen years.'

Prior to the sequence of utterances documented in (9), the informant had been interviewed in Ladino. She was thus aware of the interviewer's knowledge of Ladino, and in fact appears to have assigned Ladino as her language of conversation with him. The interview in Ladino had been interrupted by the informant's neighbour, herself not a speaker of Ladino, who entered the room. Conversation switched into Hebrew, and after the neighbour left, the interviewer continued in Hebrew, asking the question which is documented in segment a. The informant replies in Hebrew, but uses Ladino ama in segment d.

What is the nature of the "adversative switches" documented in examples (8-9), and what do those suggest with regard to the function and properties of the adversative or contrastive conjunction? Adversatives, we see again in (8-9), involve, as do additive conjunctions, a continuity-return device which helps handle the realization of a categorization scheme at the propositional level: a category has been partly realized, and is to be continued, as seen in (9) where the speaker in segment d. acknowledges the realization of the first part, that concerning herself, but signals that more is yet to come, namely information regarding her neighbour and thus their neighbourly relationship. At the same time, continuity calls for a return to the point of departure, in the case of (9) to the interviewer's question in a., where the number of years the neighbour has been living at the place remains an unresolved issue after the first part of the answer is provided in b. and d.

But in addition to managing and categorizing explicitly verbalized propositional material, the adversatives also signal revision of (mental, i.e. non-verbalized) interpretation processes attributed to the hearer. When in (8) the speaker resorts to a contrastive conjunction, she is referring to shared cultural knowledge that "genuine" coffee is preferable to Nescafé, and that Nescafé is only served when ground coffee is not available. It is this cultural knowledge, which she attributes to the hearer, that leads her to block to the hearer a possible line of interpreting what she had said. In (9), contrastive ama processes a gap between actual reality and the interviewer's apparent interpretation of two separate states of affairs: the number of years the informant has been living in her house, and the number of years she has been living next door to her present neighbour. While there are actually two different time lapses involved, the interviewer, by joining po 'here', and š xenot 'neighbours', in his question in segment a., suggests that the two are integrated. This is resolved in d., where po 'here' in the speaker's answer is separated from hi 'she'.

In both examples there appears to be a gap between the language of immediate interaction and the language associated with tasks applied in order to monitor such
hearer-related interpretation processes. The switch reflects the point at which the speaker turns to grammatical operations which reach beyond the propositional surface-level of the current discourse, and on to monitoring mental processing activities carried out by the hearer. The latter infiltrate, as we said above, into "internal hearer processing", scanning general knowledge available to the hearer and checking it against the contextual propositional content in search for possible misleading conclusions. For the bilingual, there appear to be instances where such processes are negotiated in a language which is different from the current language of interaction, either owing to the general dominance of this language in negotiating complex knowledge, or else owing to the dominance of the language in a certain type of communicative situation.

11.6. Conclusion

"Spontaneous" interference affecting adversative conjunctions might lead, as do so-called nonce-borrowings in the domain of lexical or content items, to long-term replacement of the native grammatical expression (see discussion on convergence of discourse markers in Salmons 1990). A pre-condition for this borrowing process is of course a bilingual community, where borrowing from L2 does not imply loss of prestige, and does not bear the risk of interfering with comprehensibility. From a functional point of view, it seems that the more intensive monitoring of the hearer's processing activities is required from the speaker, the less control the speaker maintains over two coordinated systems, where different forms trigger similar processes. Possibly, the more discourse knowledge is incorporated into a linguistic procedure, the more complex this procedure is and the more structural triggers become identified with the processing tasks they initiate. The fact that replacement of contrastive conjunctions is frequent does suggest the functional similarity of the expressions involved across languages.

The above remarks should be considered as preliminary, since more comparable research into grammatical devices and related discourse strategies in various languages is still required. However, I hope to have illustrated the following points. First, the oppositions operating within the system of coordinating conjunctions involve more than plain general semantics. Second, these oppositions are also too complex to be portrayed as simple movements either forwards or backwards on the level of turns or speech actions. Third, the distinctive features which are involved in the system of coordinating conjunctions have to do with processing tasks of knowledge, applied simultaneously to (i) propositional contents which the speaker is trying to communicate, and (ii) the presuppositional basis, consisting of general knowledge, immediate context knowledge, and the sum of the hearer's discourse knowledge.

Finally, while each of the coordinating conjunctions is applied to treat both continuity and return, both the speaker's conclusion of an idea and monitoring of the hearer's expectations, it appears that their arrangement is hierarchical with respect to the degree to which the hearer's internal processing operations are infiltrated. This may help explain the apparent hierarchical behaviour of
coordinating conjunctions in language contact situations. This behaviour of the conjunctions suggests that further prospects for investigation could and should rely on a more systematic combination of approaches, integrating cross-language typology, discourse pragmatics, and language contact studies.

Notes

1. For a review and discussion of linear notions of coordination in FG see Bakker (1994: 238-257).

2. Cf. Lang (1977), who defines coordination as the operation by which a superordinate, common domain of classification (gemeinsame Einordnungsinstanz) is imposed upon the two conjuncts, thereby determining the semantic relationship between them. Both approaches thus share the notion that coordination is not simply an act of adding elements, but of categorizing them retroactively.

3. The Romani data are taken from a corpus of interviews, speeches, and free conversation in the Kelderäš/Lovari dialect (see Matras 1994).

4. Mithun (1988: 332 ff.), in a cross-linguistic discussion of coordination strategies, points to intonational and other means used to join elements by classifying them either as a single conceptual unit or as conceptually distinct entities. I believe, however, that “conceptual units” must be defined in terms of interactional tasks, i.e. in terms of the procedures of sharing/activating versus enlarging/supplementing knowledge between a speaker and a hearer. “Expectation” is, in this context, admittedly a simplification, but it at least attempts to capture the interactive dimension.

5. Cf. Rosengren (1984: 217), who mentions that aber makes the hearer identify the contradiction by searching for a state of affairs which is not compatible with that represented by the aber-conjunct.

6. Lang (1977: 70ff.) hints at a hierarchical arrangement of und and aber, claiming that the latter, contrastive, includes the former, adding to the validity of both conjuncts the contrast between a possible and a preferable connection within the domain of classification.

7. Traugott and König (1991) show that pragmatic meanings are grammaticalized later than non-pragmatic or “purely semantic” ones. This could explain, at least from a descriptive point of view, the fact that discourse markers and pragmatic structuring in general are more vulnerable and subject to borrowing more often in situations of language contact. Maschler (1994) argues that switched discourse markers are employed as a strategy of metalanguaging (and so in a way highlighting) the frame of discourse.

8. Mithun (1988: 351 ff.) mentions that coordination in general is easily borrowed, and that bilingualism may be a significant factor encouraging the grammaticalization of coordinators. Especially exposure to languages with written traditions, or to literacy itself, may provide a stimulus for a shift.
from mere juxtaposition to a conventionalized marking of coordination by means of coordinating conjunctions.

9. Salmons (1990: 470), in a discussion of convergence of the German and American English systems of discourse markers in German-American, predicts convergence, and so a variable occurrence, of *aber* and *but* on account of the functional and distributional parallels between the two.

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Clauses as discourse operators in Tura

Thomas Bearth

12.1. Introduction

In many languages of the world, a type of clauses has been documented whose primary function appears to be to ensure cohesion between discourse constituents, especially in narrative and other chronologically oriented discourse. Following Grimes (1975: vii, 95ff), I shall use the terms “linkage”, “clausal linkage” and “linkage clauses” to refer to this kind of cohesive device.

In accordance with their alleged primary function as cohesion markers, linkage clauses have so far been described almost exclusively from the syntagmatic perspective. The main purpose of this paper is to look at such connective clauses from a complementary paradigmatic perspective. Evidence from Tura, a Southern Mande language spoken in Western Ivory Coast, will be adduced to show that linkage clauses may constitute a complex and highly grammaticalized system of discourse operators whose domain is clause sequences.

Grammatical markers serving to differentiate this “linkage paradigm” are “borrowed” to a large extent from the paradigm of tense-aspect markers (TAM) operating at clause and sentence level. However, it will be shown that the isomorphism prevailing between TAM markers and linkage operators must not be allowed to obscure the fact that the latter serve to express discourse-specific categories which are only partially derivable from categories operating at clause and sentence level. A number of seemingly erratic linkage markings which lack counterparts in the core TAM system provide additional morphological evidence for viewing clausal linkage as constituting a functionally autonomous paradigm of discourse operations.

To account for the semantics of linkage, the notion of “phasal aspect” as developed by Dik (1989: 190-192) may be taken as a useful starting point. The fundamental property of phasal aspect is that it is relational; it has in its scope not some internal property of the process expressed by the predicate but the relationship between a state-of-affairs and a reference point. The possibility that the latter may itself originate in a state-of-affairs established through the discourse — as is the case with linkage — is not stated explicitly by Dik, but may safely be extrapolated from the way phasal aspect is defined. The richness of the Tura linkage paradigm provides a valid testing ground for the applicability of this concept to larger segments of discourse. As will be seen, its examination in an axiomatically explicit framework in turn contributes to enriching the original notion of phasal aspect by extending its domain of application so as to include in its scope (i) intersequential relationships and (ii) non-chronological categories such as viewpoint and dramatic tension.
It is hoped that the evidence presented below will help consolidate an approach to discourse methodology which, while recognizing aspects of continuity between discourse and sentence grammar, does not look at the former as a simple extension of the latter.

Finally, it should be mentioned that, at least in Tura, the use of clausal linkage extends beyond event-centred discourse to include, for example, argumentative speech. Clausal linkage seems to be a characteristic of most types of connected discourse, to the extent that it might be said to constitute the normal way of signalling cohesion over larger stretches of discourse. However, for the purpose of this paper, I shall limit myself to narrative discourse — apparently the most typical environment in which the linkage phenomenon occurs in the languages of the world.

12.2. Narrative linkage clauses

In the specific context of narrative discourse, the term “linkage clause” denotes a transitional clause intervening between two clause sequences, each of which refers to a series of chronologically ordered events. Let us call these clause sequences “A” and “B”, and let us call the linkage clause “L”. The complex sequence resulting from the combination of these three entities may be represented as an ordered triplet of discourse constituents:

\[
\begin{align*}
(1) & \quad a. \quad \{ A, [L], B \} \\
\end{align*}
\]

The L-clause is contextually bound. It does not contribute information relevant to the progress of the story. In other words, it does not contain information which would not be derivable from the preceding context.\(^4\)

In (1a), the square brackets ([...]) indicate that syntactically, L is part of B. The braces ({...}), on the other hand, indicate that semantically, L refers back to A. The specific “clausal linkage effect” results from the combination of these two modes of integration. Given the syntactic relationship between L and B on the one hand, and the referential relationship between L and A on the other hand, L may be regarded as a representation of A in B.

The fact that L-clauses incorporate a double, lexico-grammatically explicit reference to the preceding and to the following sequence is the main feature distinguishing them in a systematic way from those types of adverbial clauses which, at a given point of the narrative, supply information about the local and/or temporal setting of the action.

The following notation (where “Sq” = ‘sequence’) captures the co-referentiality relationships established by L between clause sequences:

\[
\begin{align*}
(1) & \quad b. \quad S_{q_i} \ [L_j, S_{q_j}]_A \ [L_j, S_{q_k}]_B \ [L_\kappa, S_{q_l}] \ldots \\
\end{align*}
\]
The paradigmatic differentiation of the "linkage effect" which will be the main focus of this paper relies for its morphological expression on a variety of features associated with L and B:

- the predicate chosen for L (12.3);
- the connective which may constitute an explicit link from L to B (12.5.1);
- the TAM of L (12.5.2; Table 1);
- the TAM of B (12.5.2; 12.6.3; Table 2).

12.3. Types of linkage

Lexical choice bearing on the predicate of L determines three different ways of establishing back-reference to A via L:

(i) Repetitive linkage: L repeats the target clause of A. By "target clause" is meant the clause referring to the last event of the sequence relevant to the progress of the story. I shall symbolize this type of anaphoric relationship with the following formula ($A_f = \text{‘final phase of A’}$):

\[
(2) \quad a. \quad L = A_f
\]

Repetitive linkage is illustrated by clause (10) in Text 1. The event described in (11-12) corresponds to sequence B in (1a) above. It is linked to the event sequence (7-9) — which corresponds to sequence A in (1a) — by means of the linkage clause (10). From the syntactic point of view, (10) is the opening clause of sequence B; in terms of its lexical constitution, it is a copy of (9), the target clause of A.

(ii) Inferential linkage: The content of L is extrapolated or inferred from A:

\[
(2) \quad b. \quad L = A^-
\]

$A^-$ symbolizes a referential domain complementary to A. In chronological terms, L refers to an event taking place after the realization of the last event explicitly stated in A.

Inferential linkage is illustrated by clause (4) of Text 1. Rather than restating the last event of the preceding sequence (2-3), it expresses its expected continuation. Lô ‘to go’ and waa ‘to arrive’ are in a complementary relationship to each other within the scope of the expected sequence of action.

It is worth noting that the location expressed in (4) — a clearing in the forest — is not included in the information inferable from sequence A. The rule appears to be that, while the predication of the L-clause has to be derivable from context, its postverbal elements may introduce a new element to the setting.

Another example of inferential linkage is sequence (25-26) in Text 2: the heating up of the iron house is an expected consequence of the fire being lit under it (24).
L-clauses marking the transition from reported discourse to the ensuing narrated action are often a blend of linkage types (2a) and (2b). Thus, (18) in Text 2 repeats the propositional content of (15) and thus may be regarded as an instance of repetitive linkage. At the same time, it reflects the inferential relationship between an order and its expected execution.

Finally, it will be noted that linkage types (2a) and (2b) may be recursively applied to the same sequence. Thus, L-clause (2) of Text 4, which sets the stage for the B-event described in (3), is the inferrable consequence of (1), which is in turn constructed as a L-clause echoing the target event of the A-sequence.

(iii) Recapitulative linkage: Clauses (6) and (27) in Text 2 illustrate recapitulative linkage. The predicate is in this case expressed by the generic action verb ḫēr 'to happen'; the construction is impersonal. The scope of back-reference includes the whole of the preceding sequence:

(2) c. L ⊑ A

An important point I shall make is that the three types of anaphorization are not freely interchangeable, but correlate with distinct discourse-functions. This will become evident in comparing linkage type (2c) to types (2a-b) (cf. 12.7. below).

12.4. The discourse function of clausal linkage

As stated at the beginning, clausal linkage has usually been described as a cohesive device, “a mechanism for linear cohesion between adjacent event tellings” (Grimes 1975: 96, note 5). This cohesive function would seem to follow from the anaphoric relationship of the linkage clause to the preceding sequence of the narrative. But why should linkage clauses be necessary to achieve cohesion? “To think of them as merely cohesive will not do if such cohesion has further implications”, says Longacre (1990: 34). In fact, it has been noted in the literature that linkage can be relevant to the organization of narrative in a variety of domains such as:

- **Delimitation.** The use of linkage as a boundary marker between paragraphs contributes to the identification of conceptually or dramatically motivated units of action (Thompson—Longacre 1985: 206ff).
- **Anticipatory dramatization.** Linkage may serve to indicate the imminence of a change of orientation of the story (Longacre 1990: 35, 98).
- **Textual redundancy.** Linkage contributes towards “keeping the information rate low” (Grimes 1975: 297).
- **Story line resumption.** Linkage intervenes after a digression to mark a return to the main-line of the story (Thompson 1987: 447ff).

Yet all these facets of the linkage phenomenon and its use in discourse are tributary to an underlying prejudice of prevailing parataxis which takes into account only its syntagmatic role without exploring its paradigmatic dimension. A possible excep-
Clausal linkage is shown to represent a scale of chronological relationships between event sequences, ranging from straightforward succession to various degrees of temporal overlap of the actions referred to.

It turns out that in Tura, the paradigmatic diversity of linkage clauses is not limited to temporal relationships but covers a multi-dimensional paradigm of discourse operators whose function in narrative discourse is to situate sequences of states-of-affairs or of events (i) on the time axis through establishing their relative chronology, (ii) in relationship to speaker and actor perspective, and (iii) in regard to their impact on the orientation of the action.

12.5. Linkage clauses as operators of temporal connexity

12.5.1. The role of connectives in the linkage paradigm

In order to understand how linkage clauses serve to differentiate the chronological relationship between sequences, we need to look briefly at their morphological characteristics.

Clauses referring to nuclear events in canonical narrative texts are obligatorily introduced by a connective. Relations of consecution (i.e. "q follows p in time, and q presupposes p in terms of action logic") are expressed by the connective le, as illustrated in (2-3; 9; 15-17) of Text 1. Non-consecutive events are introduced by the connective ké, as in (12) of Text 1. By contrast, linkage clauses are characterized by the absence of an initial connective. At the same time, they are marked by a high tone subject pronoun, or by the high tone clitic which functions as predicative marker immediately after a nominal subject.

The connectives le and ké are the only two sequential operators resembling what we might call, from an European perspective, "conjunctions"; they serve to express intrasequential relationships, in contrast to linkage which functions at the level of intersequential relationships.

The range of values expressed by clause linkage hinges crucially on the interplay between the L-clause on the one hand, and the connectives introducing the initial narrative clause of the B-sequence on the other. This is illustrated for the connective le in sequences (4-5) and (10-11) of Text 1. B stands in a relationship of immediate consecution to L; in terms of the chronology of the story, L marks the beginning point of the event sequence B:

\[(3a) \quad T_L = T_{B_0}\]

Now L includes also, through its co-referentiality with A or with a part of A, a reference to the time of what may be called, for convenience, an "A-event". It follows that the temporal relationship between L and B — which is consecutive if the connective is le, and overlapping if the connective is ké — also contributes to define the temporality of B in relation to the time of A. The precise temporal relationship between A and B as mediated through L if the latter is followed by the con-
secutive connective le depends on the type of anaphora. With type (2a), the consecution between A and B is immediate ($\{T_L = T_A\} < T_B$). With type (2b) — since L is consecutive to A, and B to L ($T_A < T_L < T_B$) — the consecution between A and B is mediate.

12.5.2. The role of tense-aspect markers in the linkage paradigm

The description of the temporal connection between narrative sequences given in the preceding section which was based on the type of anaphoric relation between L and A turns out to be too simple. It overlooks the fact that the temporal relationship between A and B mediated by L is established with reference to a phase of the A-event rather than with reference to the A-event as such. It is at this point that the notion of phasal aspect (cf. 12.1) comes to bear on the semantics of linkage.

Tense-aspect markers in the L-clause interact with the type of L-anaphora on the one hand and the B-initial connective on the other hand so as to constitute a scale of relative tense values referring to phases of the A-event.

The phasal aspect schema in Table 1 distinguishes five degrees of realization of the process, ranging from Anterior (implying no realization of A to any degree) via Ingressive, Progressive and Egressive to Posterior. Except for the difference between Egressive and Posterior, this scale reflects — in the same order — the distinctions of the core TAM system of Tura, defined in relation to the situation in which the act of communication takes place: Indefinite Future, Ingressive Future, Progressive, Perfect and Remote Past. However, the basic schema of the core TAM schema is modified so as to accommodate the specific discourse-functional needs of the tense logic of connected action. Let us look at each case in turn, proceeding from right to left.

12.5.2.1. Clause (18) of Text 2 illustrates the phase labelled as Posterior. Before the order to close the door can be given, the hero and his companions must have entered the house. Similarly in (23), the closing of the door must be understood to be effective prior to the lighting of the fire underneath the house (lest the people trapped inside might escape). It will be noted that in both cases, a periphrastic construction involving the completive past form of the verb bo 'to finish' occurs. In (23), the auxiliary verb bo replaces the main verb which remains understood. The correlation between the use of the bo-periphrasis and the discrete transition criterion is further confirmed by clauses (10) of Text 1 and (1) of Text 2.

12.5.2.2. By way of contrast, the sequence (24-26) of Text 2 shows a gradual transition between the lighting of the fire, its spreading over the whole building, and finally, the reddening of the iron floor and the walls due to the heat. The predicate of the linkage clause (25) is expressed by the non-periphrastic main verb which is marked for Completive past (COMPL). This corresponds to the Egressive shown in the third column from the right in Table 1.

However, the feature of gradual transition from A to B is not a necessary condition for the use of egressive linkage, which may be said to represent the unmarked case of consecution. The precise difference between the Posterior and the Egressive
may be stated in terms of the triple relationship between the beginning and the final points of the A-event and the beginning point of B:

(i) In all cases of consecutive linkage involving the connective le, the beginning point of the A-event to which L refers, and the beginning point of B stand in a sequential temporal relation (A₀ < B₀).

(ii) Posterior marking indicates that it is essential to the story that B begins after the final point of the A-event (A₁ < B₀).

(iii) Egressive marking leaves the precise temporal relationship between the final point of the A-event and the beginning point of B unspecified (A₁ ~ B₀).

Table 1. Aspectsal phases in L-clauses

<table>
<thead>
<tr>
<th>Phase of A-event represented in L</th>
<th>Anterior</th>
<th>Ingressive</th>
<th>Progressive</th>
<th>Egressive</th>
<th>Posterior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of anaphora</td>
<td>L₀</td>
<td>L₂</td>
<td>L₃</td>
<td>L₄</td>
<td>L₅</td>
</tr>
<tr>
<td>L = A₀' A₃'</td>
<td>L₀</td>
<td>L₂</td>
<td>L₃</td>
<td>L₄</td>
<td>L₅</td>
</tr>
<tr>
<td>L = A₃'</td>
<td>májọ bọ lọa</td>
<td>m̀áyè lọ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L ⊂ A</td>
<td>L₀</td>
<td>L₂</td>
<td>L₃</td>
<td>L₄</td>
<td>L₅</td>
</tr>
<tr>
<td>L = A₅'</td>
<td>L₀</td>
<td>L₂</td>
<td>L₃</td>
<td>L₄</td>
<td>L₅</td>
</tr>
<tr>
<td>Viewpoint (cf. 12.6.1)</td>
<td>L₀</td>
<td>L₂</td>
<td>L₃</td>
<td>L₄</td>
<td>L₅</td>
</tr>
</tbody>
</table>

(See Table 2; ... ke B)

(Linkage-specific markers are underlined)
12.5.2.3. The Progressive (L_m, 4th column from the right) indicates that sequence B begins while the A-event is in the process of realization, without any reference to its terminal point, thus implying simultaneity of the two events. The initial linkage clause of Text fragments 3 and 4 both illustrate this type of unbounded temporal overlap. However, there is a difference between the two cases. From the morphological viewpoint, the verb in the first case carries what in the source TAM paradigm is present progressive aspect, whereas the verb in the second example carries what in the source TAM system is past progressive.

Due to the fact that the L-clause receives its basic temporal specification from the narrative context, the present/past tense distinction of the core system becomes redundant in the narrative linkage environment. The difference between the two forms is therefore reanalysed and used for differentiating linkage-specific values: present progressive linkage expresses bifurcation of parallel actions developing from the same situation (Text 3-1), whereas past progressive linkage indicates continuity of a single action across overlapping processes (Text 4-1).

12.5.2.4. Ingressive linkage (third column from left) implies that the beginning of the B-sequence interferes with the initial phase of the L-event. In regard to A, the L-clause in this case necessarily manifests the inferential type of linkage (type 2b: L = A") since reference to an A-event whose realization has already been asserted, as is the case in linkage types (2a) and (2c), would imply a step backwards in terms of realized narrated time. The typical role of ingressive consecutive linkage is to indicate that an expected or intended course of action is suspended due to interference by the event sequence that follows the connective: Miné yée ló tééj, le é wu' ye ... (Youngster 3s-INGR go time-when, CONN 3s-SEQ say-COMPL 3s-LOC) 'When the young man was about to leave, he said: ...' Ingressive linkage maintains a consecutive sequence between L and B inasmuch as the beginning point of B follows the incipient phase of L (L_0 < B_0).

12.5.2.5. By contrast, Anterior linkage (second column from left) assigns the B-sequence to a temporal domain prior to the initiation of the L-event over which it takes precedence. An example of this is Text 2-10ff. In terms of narrative structure, this kind of linkage indicates an interpolation of a sequence B between a sequence A and the latter’s expected or conceivable continuation. In terms of narrated time, the beginning point of B is prior to that of L (L_0 > B_0). Anterior linkage thus introduces a temporal discontinuity incompatible with the canonical pattern of consecution. This is reflected by the fact that in this case the connective le is replaced at the beginning of B by asyndeton and the non-sequential predicative marker ké, as illustrated in clause (12) of Text 2.

The verb form associated with anterior linkage does not occur as such in the basic TAM paradigm. Its hybrid morphology reflects the specific relational properties of the discourse-functional category of linkage:

(i) From the vantage point of B, the realization of the event expressed by L lies in the future. This is reflected in the verb form ló-à (stem + suffix -à) which in the basic system refers to contingent action.
(ii) From the vantage point of A' — the complementary posterior time space extrapolated from A — the event expressed by L is a bounded past negative, implying the shift of the time of its realization beyond a given point of reference. In the core system, this value is represented by the form do lô be ‘he/she has not yet gone’.

By integrating bounded negative morphology with future morphology, the linkage-specific TAM-form do lô-á be categorizes the event to which it refers as negatively bounded in regard to “post-A”, and as prospective in regard to B.

Anterior linkage is to be distinguished from the metanarrative strategy of flashback. Anterior linkage represents an anticipation of an ulterior event with the sole purpose of introducing a point of temporal reference. Flashback, on the other hand, involves a backwards movement of the narration along the axis of narrated time; morphologically, it is represented by a higher order type of linkage which habitually serves to mark a change of chronological setting.

12.5.2.6. In sum, the paradigm of linkage clauses operating over temporal variables shows undeniable formal and semantic analogies with the basic tense-aspect paradigm operating at sentence level. At the same time, the linkage paradigm provides, both in terms of its morphological constituency and in terms of the values which it exhibits, evidence for a discourse-functionally conditioned regrammaticalization of the basic paradigm.

12.6. Linkage as an operator of viewpoint

Let us now turn to the cases where linkage is combined with the connective ké. It is possible to mistake ké for just another chronological marker, indicating simultaneity between events rather than consecutivity. This idea is indeed supported by examples such as (12) of Text 1 where ké introduces a state-of-affairs concomitant with the preceding (11). However, the event to which the ké-clause (14) refers is clearly prior in time to the state-of-affairs described in (13). One could argue that simultaneity in this case refers not to the event described in (14) but to the resultant state which becomes relevant to the story at the time of the realization of (13). This is reflected in the use of the perfect in the ké-clause, which according to a commonly accepted definition, serves to express present relevance of a past event. But this “explanation” begs the question. What is it that makes an anterior event B relevant to a later event A? Obviously, chronological structure alone is not enough to explain this type of connection.

What really underlies the use of ké may be termed commonality of viewpoint. By using ké to connect A and B, the narrator tells the hearer that at a given point of the story, A and B, whether temporally simultaneous or not, are simultaneously relevant to its further progression.

12.6.1. The need for recognizing viewpoint as a grammatical category sui generis can be demonstrated from the linkage markings in Text 5. The story features the
adventures of an apprentice-hunter, in particular the mysterious happenings surrounding his encounter with a chimpanzee. This key event is first told by the narrator (part A), then by the apprentice who reports it to his master (part B), and thirdly, it is retold by the narrator from the angle of its result as perceived by the master who accompanies the apprentice on the scene in order to verify the latter’s report (part C).

In part B, not only does the person reference (the subject of the L-clause construed with the inferential predicate waa ‘to arrive’) change from the 3rd to the 1st person — a trivial consequence of the fact that it is the apprentice who speaks — but the L-clause, and it alone, also undergoes a change of aspect marking: completive aspect as it occurs in (A-1) and (A-6), is replaced by the ingressive form in (B-1) and (B-4). Now it was shown in 12.5.2.4 above that the shift from completive to ingressive aspect signals a definite change in the temporal relationship between A and B. But if the same change of aspectual form occurs in a L-clause preceding the connective ké — as it does in the parallel passages of parts A and B of Text 5 — the chronological relationship of the two events remains unaffected; the temporal relationship between A and B being the same whether completive or ingressive aspect is used in the linkage clause.

What the replacement of the completive by the ingressive signals in this case is alternation of viewpoint: narrator’s viewpoint is expressed by completive aspect in the L-clause before ké, participant’s viewpoint by ingressive aspect. This is evident in comparing (A-1/6) with (B-1/4). What, then, explains the use of ingressive aspect in (C-1) where it is not the apprentice but the narrator who speaks? Obviously, the focus of part C is not on reporting an event to an audience to which this event has already been reported in part A, but on the result of this event as perceived by the hunter to whom it is new. The ingressive in the L-clause of (C-1) clearly has the effect of assigning viewpoint to its subject.

12.6.2.2. It follows from these observations that viewpoint is a distinct discourse-grammatical category whose attribution is independent of the attribution of speaker roles. The sequence (38-40) in Text 2 lends further support to this claim: the state-of-affairs reported in (39-40) is not new to the audience; it has already been reported in (32-35). But it is now presented from the village people’s perspective, which is marked by ingressive aspect in the linkage clause (38).

Any L-predicate may support viewpoint linkage; no explicit reference to perception is required. On the other hand, the L-predicate may be realized by an ingressive verb of perception, in particular (ts)gaa ‘to look at’, as illustrated in sequences (7-8) of Text 1, and (1ff) of Text 6. While this points to the semantic domain of perception as the lexical source of this type of linkage and provides additional support in favour of its interpretation as a grammatical representation of the viewpoint category, reference to any specific perceptual activity does not seem to be necessarily implied in the use of this construction.

12.6.3. Let us now look more closely at Text fragment 6: it tells the story of the metamorphosis of a young man as witnessed by his beloved. What she is able to observe is the result of the transformations but not the changes as they take place
(2-7), and then the coming of the young man (8). The former events are referred to in the Perfect aspect, the latter in the Progressive. The connective *le*, which would have been used, had the sequence been told as a primary narrative, is replaced by *ke*, which functions throughout the sequence as viewpoint agreement marker.

Shift of viewpoint involves by definition a shift of situational deixis: phasal aspect and tense values are defined with respect to the viewpoint attributed to a participant at a given point in the narrative. Viewpoint as a source of time reference and relevance to a given situation is reflected in the B-sequence in an obligatory shift from the objective TAM paradigm characteristic of primary narrative sequences to what may be called the subjective TAM paradigm. The latter is not to be equated with the well-known phenomenon of relative tense; rather it mobilizes — except in the domain of neutralization constituted by the present tense — an entirely different set of tense-aspect markers from those associated with "objective" narration.

The subjective linkage paradigm is shown in Table 2.

*Table 2. Phases of B following ke*

<table>
<thead>
<tr>
<th>Phases of B-event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anterior 2</td>
</tr>
<tr>
<td>&quot;B₂&quot;</td>
</tr>
<tr>
<td>L ke</td>
</tr>
</tbody>
</table>

Like the objective paradigm applied to consecutive linkage (cf. Table 1), the subjective TAM paradigm distinguishes five phases. Nevertheless the isomorphism of the two paradigms in terms of their conditions of usage is far from complete. Thus, the categories labelled Posterior 1 and Posterior 2 in Table 2 both denote a process to which one looks back at viewpoint time. They differ by their temporal closeness to or remoteness from the situation defined by the viewpoint: the former case is illustrated by sequence (2-7) of Text 6, the latter by Text 5A-5 (where, incidentally, the time lag separating the event from the time of reference is explicated: ... yē yālē nē ‘the day before’). By contrast, as we have seen in 12.5.2.1-2 above, degree of completion is the critical feature distinguishing Egressive and Posterior in the context of consecutive linkage.
It is noteworthy that, as is the case with consecutive linkage, the Anterior of viewpoint linkage is expressed by an aspectual form not found outside the linkage paradigm. However, this form is different from that used to represent the consecutive Anterior (12.5.2.5). As far as the other categories are concerned, the two paradigms are isomorphic, except for the subcategorization of recapitulative linkage to which we shall return in 12.7 below.

**Table 3.** The core TAM system as a source of intersequential mapping of temporal relations

<table>
<thead>
<tr>
<th>TAM of L</th>
<th>TAM of B</th>
</tr>
</thead>
<tbody>
<tr>
<td>B phase of B relative to phase of A is:</td>
<td>B relative to ( {L = \text{phase of A}} ) is:</td>
</tr>
<tr>
<td>Posterior</td>
<td>Anterior 2</td>
</tr>
<tr>
<td>Egressive</td>
<td>Anterior 1</td>
</tr>
<tr>
<td>Current Situation</td>
<td>Simultaneous</td>
</tr>
<tr>
<td>Objective TAM Axis</td>
<td>Subjective TAM axis</td>
</tr>
<tr>
<td>Values removed from current situation</td>
<td>Values related to current situation</td>
</tr>
<tr>
<td>Posterior +bo' ... lóá-periphrasis</td>
<td>REMOTE PERFECT ( \text{woo ló} )</td>
</tr>
<tr>
<td>Egressive ( \text{COMPLETIVE ló'} )</td>
<td>PERFECT ló</td>
</tr>
<tr>
<td>Simultaneous FUTURE lóà</td>
<td>Simultaneous</td>
</tr>
<tr>
<td>Anterior +ó lóá bē</td>
<td>Posterior 1</td>
</tr>
<tr>
<td>Posterior +ê nù ló</td>
<td>Posterior 2</td>
</tr>
</tbody>
</table>

Core TAM system
12.6.4 Dovetailing the connecting operations represented separately in Table 1 and Table 2 results in complex linkage effects which are essentially predictable by combining the values obtained from both. Table 3 offers a synopsis of L-based and B-based linkage values; at the same time, it shows their relation to the source TAM paradigms. The linkage values (left- and rightmost columns) are defined in reference to the consecutive sequence A < L < B, which is considered to be the unmarked case of the narrative sequence since it reflects the iconic relationship between telling time and event time. This explains why in the rightmost column of Table 3 the values of Table 2 are inverted, i.e. Posterior becomes Anterior, etc.

The Table shows that the distinction between objective and subjective marking is neutralized in the overlapping (simultaneous) categories which, in the core TAM system, correspond to the general domain of the Present.

The core TAM paradigm (as revealed through studying sentence and clause structure) can only partially be considered to be the source of linkage marking. In addition to those parts of the core system which are reflected in the linkage system without obvious modification, there are, as we have seen, a number of cases of secondary grammaticalizations such as the ingressive and the progressive aspects. And finally, there are tense-aspect markers specific to linkage clauses: these originate under discourse-specific conditions and are marked in the Table with "+".

We shall limit ourselves to giving just one example of the degree of complexity resulting from the combination of the two linkage mechanisms. The viewpoint from which one looks back to a B-event may itself be situated prior to the realization of the A-event referred to by L. This case is illustrated in Text 7: the B-events — the burning and destruction of the village — are presented from the viewpoint of the inhabitants who eventually will return to the village (2-3), but this viewpoint itself is identified to an event occurring some time prior to the return (1).

![Figure 1. Multiple mapping of temporal reference mediated by L](as illustrated by Text 7)
12.7. Linkage as dramatic tension operator

As shown at the bottom of Table 1, recapitulative linkage, where L refers to the A-sequence as a whole (type 2c: L ⊆ A), is limited to the egressive and posterior options when used in combination with consecutive le, and to concomitance when occurring in combination with kē.14

We shall only consider here consecutive recapitulation. Text 2 will serve to illustrate its typical use. Recapitulative linkage, by contrast to repetitive and inferential linkage, occurs at points where a change in general orientation of the story or a reassignment of participant roles takes place. The first token of recapitulative linkage occurs in (6) following the victory of the hero; it opens a paragraph orienting the story towards an anti-denouement in which his destiny, contrary to what the preceding paragraph led to expect, is in jeopardy. The second token of recapitulative linkage in (27) initiates the reversal of this peril in favour of a new situation which will lead to the final victory.

A perusal of Tura narrative texts shows that verb focus in linkage clauses is another means of marking dramatic structure. However, as is the case with linkage paradigms functioning in non-narrative discourse types, this must be left for further study.

12.8. Conclusion

Undeniably, clausal linkage does contribute in a significant manner to textual cohesion. But its discourse function does not end there. A view of linkage phenomena which takes into account their paradigmatic dimension reveals a vast field of operations which it serves to perform on discourse referents, relating them in various ways to referential and interactional coordinates which structure the universe of discourse, such as time and viewpoint, as well as factors of communicative prominence and dramatization. Up to a certain point, these operations can be seen as extensions of values conventionally associated with tense-aspect systems operating at sentence level. But in order to fully understand phenomena of linkage and to describe their function in discourse, one needs to refer to relational categories not already contained in sentence grammar, such as parallel action, viewpoint alternation or dramatic inversion.

From the specific discourse-functional properties of linkage clauses, some observations of a typological nature follow:

(i) The rich array of grammatically marked categories characterizing the Tura linkage system — some of which are without a counterpart in the core TAM-system — accounts for a paradigmatic diversity of procedures for relating sequences in discourse to each other which is not easily reconciled with a frequently held simplistic view of parataxis as a pervasive characteristic of African languages.
The richness of the linkage paradigm in Tura is offset by an equally remarkable poverty of the word class of conjunctions. The inventory of word-size sentence-level connectives, apart from the linking particles \textit{le} and \textit{kē}, is limited to an adversative and a concessive pragmatic marker. This observation would seem to justify posing the hypothesis of a typological distinction between languages such as Tura which privilege the grammaticalization of clause-level constructions as the means of expressing relationships between units above the sentence, and languages which resort to a stock of word-type expressions for the same purpose.

A remarkable property of clause linkage-based systems is their transparency: the operations underlying the use of the linkage clauses tend to be directly reflected in their morphology, and also, partly at least, in the lexical choices affecting them. As a result, while languages of the conjunction-prefering type tend to express intersentential and intersequential relationships through a variety of word-type elements not easily reducible to a set of homogeneous semantic features, this same function appears to be fulfilled in linkage-prefering languages by paradigms of operators resulting from the interaction between a small number of axiomatically defined discourse-functional parameters.

The concept of clauses as discourse-functional operators which has been the focal point of this study would seem to lend itself without much difficulty to incorporation into the theoretical framework of Functional Grammar. Affinities between clausal linkage operators as described above and \textit{p}-operators (Dik 1989: 324) — in particular \textit{p}_2 and \textit{p}_3 — suggest that further research on linkage phenomena in the languages of the world might lead to fuller integration of clause- and discourse-analytical tools within this framework. At the same time, pursuing research on clausal operators in this and related domains, will contribute, perhaps through methodological extrapolation as already suggested in the discussion of the scope limitations of earlier Functional Grammar in Bearth (1984: 99; 125), to enhance its capacities for handling successfully critical aspects of discourse structure from a unified functional-theoretical perspective.

Notes

1. By contrast, Longacre (1968: 8 and \textit{passim}), in his seminal study of the "linkage phenomenon" in Philippine languages, subsumes other cohesive markers such as particles and conjunctions under the notion of \textit{interparagraph linkage}. In his more recent work on African languages (Longacre 1990: 34), he uses the term \textit{subordinated clauses in backreference function} to refer to "linkage clauses" in the restricted Grimesian sense.

The terms "linkage" and "clause linkage" are generally used for a wide range of phenomena relating to clause conjunction, the formation of
complex sentences, as well as verb serialization (cf. Lehmann 1989: 181f; Ebert 1993). The same or similar terminology is used here in a related but specialized sense to focus on the organization of larger discourse units rather than on the clause itself and its relationship to units of the next higher level.


   For treatments of linkage clauses from a similar viewpoint in a number of African languages, see Gratrix (1978), Howard (1978), Longacre (1990), and Serzisko (1993). On Tura, see Bearth (1986, ch. 2), where the French term *charnière* is used to denote linkage clauses. For an earlier descriptive treatment of the material presented below, see Bearth (1986: ch.4).

3. Clause linkage patterns similar to those found in Tura have been reported in many languages from all over the world, both in narrative texts and in other chronologically-oriented discourse types (procedural, hortative etc.). But very little attention is generally being paid to them in typological literature dealing with phenomena of cohesion beyond the sentence. For instance, a 600-page volume on *Text and discourse connectedness* edited by M.-E. Conte et al. (1989) completely ignores clause linkage.


5. Conditional linkage, a fourth type mentioned by Grimes (1975: vii), occurs in descriptive and instructional types of Tura discourse; it will not be discussed here.


7. References are to the text samples provided in the Appendix. The samples are extracted from a large corpus of narratives from Tura oral tradition which is currently being keyboarded and processed, using the Shoebox interlinearization program (version 1.2, cf. Wimbish 1990). A grant by the *Wissenschaftliche Stiftung* of the University of Zürich in support of this research is gratefully acknowledged.

   The original recordings of the texts represented in this volume were taken during field trips between 1964 and 1974. Speakers were: Lou Siaba Etienne (M, 18; Texts 1 and 2); Tia Boniface (M, 35; Texts 3 and 6); Guéhi Sidibé (M, 23; Text 4); Fahan Poué (M, age unknown; Text 5); “Gonsé náá” (F, over 90; Text 7).

   In the samples, linkage clauses are shown by left-indentation. For reasons of limitation of space, non-linkage material is presented in abbreviated form, except where grammatical detail is directly relevant to the discussion.

8. *lo* is the completive form.

9. This rule reflects the natural focus hierarchy of the Tura sentence; cf. Bearth (1992: 81f).
10. Among the subtypes of inferential linkage, one should mention what
Thompson and Longacre (1985: 213) call "reciprocal coupling", which
occurs with lexical pairs such as give/take and say/hear.

Longacre (1990: passim) subsumes all these cases under the notion of
"script-predictability".

11. This may, of course, be seen as a special case of the preceding category.
For the notion of anticipatory dramatization as part of a general theory of
dramatization, see Bearth (1994: 35).

12. Central Tura dialects use the unmarked mid-low tone pronoun in both
independent and dependent clauses. This explains the absence of the
dependent high tone marking in Text 3-1.

13. This notion is introduced as a means of subsuming under a single label all
three types of anaphorization of A (cf.12.3 above).

14. Dik's (1989: 190) seven-phase schema distinguishes Prospective,
Immediate Prospective, Ingressive, Progressive, Egressive, Recent
Perfect, and Perfect. However, no more than five distinctive values seem
to be required for describing the formal properties of temporal linkage in
Tura.

15. At this point, I am neglecting the fact that the basic tense-aspect paradigm
in Tura is split into an objective and a subjective subset. But see 12.6..3
and Table 3.

Furthermore, I am not dealing here with linkage operations over non-
unique narrative events. This sub-paradigm of the linkage system still
awaits detailed description. For a cursory treatment, see Bearth (1986:
259ff).

16. Vocabulary: án’m... 'Is', e/yéè/do '3s', ló 'to go', kēē 'to happen',
bo 'to finish', lēgaa 'to look at'.

17. The precise mode of transition may be inferred in each case from the
wider context and from the type of event involved in the linkage
operation.

18. The remote ingressive yéè woo ló tēei, le ... would imply that the course of
action initiated by L is not only suspended but definitively superseded by
the B-event: 'He was going to leave, but then ...'

19. Episode level linkage is marked by a periphrastic construction introduced
by the auxiliary clause é nuu kē ... 'It was when ...'. Cf. Text 1-1. For an
example of flashback, see Bearth (1986: 233f).

20. Tōlō dɔ 'to listen' may alternatively be used as a predicator of generic
viewpoint linkage. This possibility of choice between predicates reflecting
different kinds of perception would seem to indicate that
desemanticization of the perceptual notion is not absolute in this type of
linkage.

21. For a systematic account see Bearth (1986: ch. 3).

22. Vocabulary: see footnote to Table 1.
23. It could be argued against this assumption that under the conditions of viewpoint linkage (marked by \( \textit{k\'{e}} \)), the Anterior should be considered to be the unmarked case. However, it can be shown that the grammatical expression of viewpoint as such is a marked option within the canon of Tura narration. Pursuing this further would lead us into considerations about features of oral art which are beyond the scope of this article.

24. The closed and highly grammaticalized inventory of narrative recapitulative linkage clauses comprises a number of additional terms not limited to unique reference. See Bearth (1986: 242) for the full paradigm. Other types of recapitulative linkage appear to constitute a defining feature of the argumentative discourse type.

25. \( \textit{k\'{e} \sim \textit{k\'{e}} \) ‘but’; \( \textit{s\'{e}e} \) ‘or; and yet’. A few sentence connectives borrowed from Jula and, more recently, from French, may indicate a tendency to make up for this scarcity of word level conjunctive operators. However, from a cursory observation, it would seem that their textual function remains marginal, except in French-Tura diglossic discourse.

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Appendix: Texts (excerpts)

Text 1

[The adventures of a pregnant woman fleeing from the despotic rule of her husband.]

1. é nuu kwengei kë von' daa
   it-DEP was one-day CONN famine-PRF enter

2. le nõxne lââ gie'
   CONN woman DEF she-SEQ pass-COMPL

3. le é lô' ligó guo-å le.
   CONN she-SEQ go-COMPL food look-GER TM

4. é waa' kaaëëëë kë tâ
   she-DEP arrive-COMPL clearing INDEF on

5. le ye:
   CONN she(-said)

6. âà, goõnèbô tò, kââ do gbâagbââa
   Poor-me! Ancestor-spirits all you-NEG put please
   kë kâ ñ gba yi lefiëë-å è?
   CONN you me give water at-least-INST INT

7. èè lrgaa
   she-INGR watch

8. kë yi gulu tiinë kë ke doo e
   CONN water hole black-small INDEF PM standing her
   wala
   under

9. le é à mi' le.
   CONN she-SEQ it drink-COMPL TM

10. é bô' yi mi-å
    she-DEP finish-COMPL water drink-GER

11. le é lô' e liélé
    CONN she-SEQ go-COMPL herself ahead
1. One day there was a famine. 2. The woman went out and went looking for food. 4. When she came to a clearing, 5. she said: "You ancestor-spirits, wouldn't you at least give me a little water?" 7. As she looked, 8. there was a small black water hole at her feet. 9. She drank. 10. When she had finished drinking, 11. she went on, 12. still hungry. 13. When she arrived at some other place, 14. far away from the water place, 15. her labour-pains overcame her, 16. and she sat down and gave birth to a child ....'

Text 2

The hero wins the race against the king's daughter which his father, the "old man", had lost. Thus he gains the right to marry her and to take with him the king's goods. The king's people try to eliminate the successful suitor, but their strategem is outwitted by the prowess of one of the latter's companions.

1. á lû' bô' waa-á bì tò 3s daughter-DEP finish-COMPL arrive-GER there finally

2. le gwiline' wu' zoânn-ë láà à nè CONN king-SEQ ay-COMPL young-man DEF 3s to

ye:
3s(-said):
Clauses as discourse operators in Tura

3. I pe poon' i zuu pé,
   2s POSS-CTR thing REL 2s mind besides

4. bè à nàà pe tò
   2s-IMP its limit tell now

5. kè án à nu i nè....
   CONN 1s it give 2s to

6. évê kwèi
   it-DEP happen-COMPL thus

7-8. le zoânñè lâà, à pe poon pàipài'
   CONN young-man DEF 3s POSS-CTR thing all-REL
   sev' à nè, év à tò pè'
   please-COMPL 3s to 3s-SEQ it all tell-COMPL

9. le wó à bân' 6òlọ-bọ lâà à gí le.
   CONN 3p-SEQ it put-COMPL sack-PL DEF it inside TM

10. wòo lò-à 6e
   3p-NEG go-FUT yet

11. àŋ ya' nuu kwii' gi lâà,
    3p abode-DEP was house-REL inside DEF

12. à lènò ké nuu peê-á do gbâlànłe,
    its everywhere PM was iron-INST one all-over

13. à wala lè lè ké nuu fià-
    its under place PM was empty-QUAL

14. le wò:
    CONN 3p(-said)

15. kà daa kwíle liè
    2p-IMP enter in(to)-the-house first

16. kè kà ka fàgò
c Conn 2p 2p rest

17. kè wò ka tàmò paán lú zìàn.
c Conn 3p 2p baggage rest-of prepare meanwhile
18. wo bö' daa-á kwile
   3p-DEP finish-COMPL enter-GER in(to)-the-house

19. le mengge' wu' ye:
    CONN somebody-SEQ say-COMPL 3s(-said)

20. kà dò 21. kê án kwii léta ka tà
    2p-IMP wait CONN 1s house close 2p on

22. kê nàô wòo nù ka zov dun.
    CONN children 3p-NEG SC 2p mind suspend

23. é bö'
    3s-DEP finish-COMPL

24. le wò pai lékün' kwii wala lè
    CONN 3p-SEQ fire light-COMPL house under place
    fu láà à gi le.
    empty DEF it inside TM

25. pai' daa' à lé kpáa-á dùdùlè
    fire-DEP enter-COMPL it up big-QUAL licking

26. le kwii dò-á pèëë láà à tô'
    CONN house build-INST iron DEF it all-SEQ
    taan' tèën-á gbàngbànle le.
    redden-COMPL red-QUAL very-red TM

27. é kèë' kwei
    it-DEP happen-COMPL thus

28. le mòân gbe ye:
    CONN old-man son 3s(-said)

29. sápó-mèë, bè i pe báálá kë tô.
    hat-man 2s-IMP 2s POSS-CTR work do now

30. le é sápó yaa' zué le.
    CONN 3s-SEQ hat put-COMPL middle TM

31. pèëë-bò' à tô' wòo taan tèën-á láà,
    iron-PL-REL it all-PRF REM redden red-QUAL DEF
32. le to' to' Conn it all-SEQ stay-COMPL
33. le é tala' sáaá bi do Conn it-SEQ blacken right-away there one
34. le níní' to' Conn cold-SEQ stay-COMPL
35. le é moo' an tâ le. Conn it-SEQ prevail-COMPL 3p over TM
36. ké ké pëe mëë-bô-le ké woo wii-ii but Conn village man-PL-FOC PM REM say-PROG
wo: 3p(-said)
37. pai' nù an tó ze. fire-PRF EVI 3p all kill
38. wôô kwii lépôló an tâ tô laá 3p-INGR house open 3p on finally FOC
39. ké pai åa an do ké ze-yêa Conn fire it-NEG 3p one INDEF kill-STAT
40. ké ké wô kôkô' gô-li níní nê le. but Conn 3p trembling-FOC manifest-PROG cold for TM
41. le gwilinc laâ' é wu' ye ... Conn king DEF 3s-SEQ say-COMPL 3s(-said)

1. When his (the king's) daughter arrived there finally, 2. the king said to the young man: 3-4. "Tell us now which things you want for you 5. so that I can give you them." ... 6. Thereupon, 7-8. the young man listed all the things he wanted, 9. and they put them in the sacks. 10. Before they left, 11. the house where they stayed 12. was made of iron all over, 13. and underneath it was hollow. 14. They said: 15. "Go into the house for now 16. and have a rest, 17. while they prepare the rest of your baggage." 18. When they had entered the house, 19. somebody said: 20. "Wait, 21. let me close the door 22. so that the children do not disturb you." 23. When he had finished (closing the door), 24. they lighted a fire in the hollow space underneath the house. 25. When the fire became intense, 26. the iron with which the house was built became red-hot. 27. Thereupon, 28. the son of the old man said: 29. "You man with the hat, now do your job!" 30. The man put his hat on top of his head. 31. All the iron pieces had already turned red-hot. 32.
Immediately, 33. it all became black right away, 34. and all of a sudden, 35. they felt a penetrating cold. 36. But meanwhile the villagers were about to say: 37. "The fire must have killed them all." 38. When they finally opened the house, 39. the fire had not killed even one of them. 40. But they were shivering from the cold. 41. The king said ...

Text 3

The young man refuses the cola nut which the girl posing as a market woman offers him. Vexed, she packs her merchandise in a hurry and returns to her village. (From the story of the Transformed Lover.)

1. e ló-ii tééi an yii zaa lââ, 3s-DEP go-PROG time-when 3p spend-the-night direction-of DEF
2. le zuanne lââ à lekini' be le CONN young-man DEF 3s self-REL be-there CONN
   é lô' 3s-SEQ go-COMPL
3. le é waa' pââa à lélé. CONN 3s-SEQ arrive-COMPL encampment-LOC 3s before

'1. While she was on her way home, 2. the young man also went (there) 3. and arrived at the encampment before her.'

Text 4

Spider has been let down by his cousins, the monkeys. He is going to take revenge but wants to spare two little monkeys who had treated him with respect. He puts them into his pocket and goes off.

1. é nuu ló-à, 3s-DEP COP go-GER
2. é waa déc wô' gbë:n-bô-à buu lââ à gi, 3s-DEP arrive new do-COMPL dog -PL-POSS field DEF POSS in
3. le é mini maa zi ké gô' CONN 3s-SEQ rice beat around INDEF take-on-COMPL vâvâvâlé. violently.
'1. While he was on his way, 2. when he came again to the field of the dogs, 3. he began again to batter the rice violently.'

Text 5

An apprentice hunter goes hunting into the forest.

A.
1. é waa' lenge gi
   3s-DEP arrive-COMPL somewhere in

2. kè kwêê kè yalá-yèa gwêê lé
   CONN chimpanzee PM sit-down-STAT stone on

3. kè e géê 6cle-ií
   CONN 3s banana eat-PROG

4. le é à zè kù-à
   CONN 3s-SEQ 3s kill-COMPL gun-INST

5. kè ya woo ébà nóò wùn sán
   CONN 3s-PRF REM 3s-POSS children head shave
   yè yáálé nè.
   like yesterday for.

6. é waa' kwêê géê lià
   3s-DEP arrive-COMPL chimpanzee corpse at

7. kè à wùn kè sán-yèa
   CONN 3s head PM shave-STAT
   yè ébà nóò pe nè.
   like 3s-POSS children POSS-CTR for

B.
1. màà waa' lenge làà à gi
   1s-INGR arrive somewhere DEF 3s inside

2. kè kwêê kè yalá-yèa 6ì
   CONN chimpanzee PM sit-down-STAT there

3. le án kù daa' à 6à le
   CONN 1s gun enter-COMPL 3s on TM
4. mā̀ waa ã̀ ã̀ ã̀ lià
1s-INGR arrive 3s corpse at

5. kè án ñàà nàò wùn bëen gígò' CONN 1s 1s-POSS children head design draw-COMPL
kë̀ò' gí yàálé lià manner-REL in yesterday DEF

6. kè à pe kè kwëi zí. CONN 3s POSS-CTR PM thus also

C.
1. wòò waa bì 3p-INGR arrive there

2. kè wii làà à wùnbíli kè këò dó CONN animal DEF 3s head PM manner same
làà à gí DEF 3s in

‘A. 1. When he came to some place, 2. a chimpanzee sat there on the rocks. 3. and was eating a banana. 4. He shot it 5. while (it was the case that) he had shaved his children the day before. 6. When he approached the dead chimpanzee, 7. its head was shaved like that of his children. (He reports the puzzling experience to the hunter:)

B. “1. When I came to some place (known to me), 2. a chimpanzee was sitting there. 3. I shot it. 4. When I approached the dead animal, 5. Now, the design I had made in shaving the heads of my children yesterday, 6. the chimpanzee's was exactly like it.” ...
(The hunter accompanies him to the scene in order to verify the truth of the report.)

C. 1. When they arrived there, 2. the head of the animal was exactly like that.’

Text 6

From the story of the Transformed Lover.

1. èè lègaa, 3s-INGR place-look-at

2. kè ãbhà gòò n lekini' 6e làà CONN 3s-POSS husband self-REL be-there FOC
'1. Then suddenly (lit.: as she looked), 2. her suitor himself, he had dressed himself up 3. and his leprous skin had fallen off from him, 4. and his own clean skin, he had taken it 5. and had put it on 6. and had mounted his horse 7. and was now coming ...'

**Text 7**

[From an old woman's memories of precolonial warfare.]

1. kö nù waa pée
   1p-DEP SCP arrive (in/to-the-) village

2. kê wa pai daa kö pe pée-á
   CONN 3p-PRF fire enter 1p POSS-CTR village-INST

3. kê wo lee wi-yèa wèwèlè dò kwèi
   CONN 3p place destroy-STAT radically one thus

'1. Before we returned to the village, 2. they (the soldiers) had burnt down the whole village. 3. They had totally destroyed the place.'
Symbols and abbreviations

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Other abbreviations

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