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KEES HENGEVELD & J. LACHLAN MACKENZIE

## Interpersonal functions, representational categories, and syntactic templates in Functional Discourse Grammar

### 1. Introduction

Functional Discourse Grammar (FDG) (Hengeveld 2005; Hengeveld & Mackenzie *forthc.*, in prep.) is a new version of Functional Grammar (FG) (Dik 1997). It is characterized by the following properties:

- (i) FDG models the grammatical competence of individual language users. It is envisaged as the grammatical component, alongside a conceptual, a contextual, and an output component, of a larger model of the language user;
- (ii) FDG takes the discourse act as its basic unit of analysis. It is thus a discourse rather than a sentence grammar and is capable of handling discourse acts both larger and smaller than a sentence;
- (iii) FDG distinguishes an interpersonal, a representational, a structural, and a phonological level of linguistic organization;
- (iv) FDG orders these levels in a top-down fashion. It starts with the representation of the linguistic manifestations of the speaker's intentions at the interpersonal level, and gradually works down to the phonological level;
- (v) FDG structures each of the levels of linguistic organization hierarchically.

By organizing the grammar in this way, FDG takes the functional approach to language to its logical extreme: within the top-down organization of the grammar, pragmatics governs semantics, pragmatics and semantics govern

morphosyntax, and pragmatics, semantics and morphosyntax govern phonology. This organization furthermore enables FDG to be a discourse grammar rather than a sentence grammar, since the relevant units of communicative behaviour form its point of departure, whether they are expressed as sentences or not.

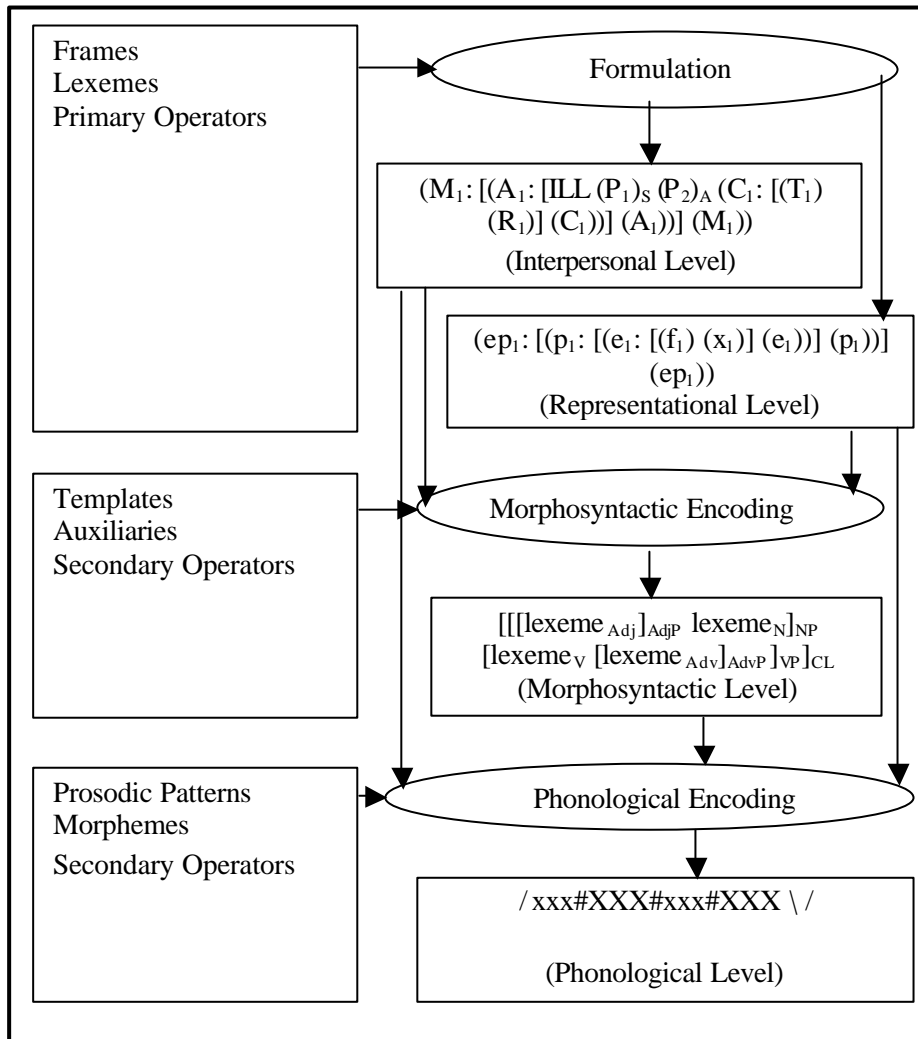
Since the model strictly separates the interpersonal, representational, morphosyntactic, and phonological characteristics of every discourse act in terms of different levels, the interaction between these levels of linguistic organization can be studied systematically. This article explores the extent to which this separation of levels leads to a better understanding of linguistic phenomena, both within a single language and across languages. The focus is on the use of dummy elements and on ordering discrepancies. The phonological level will not be considered in this article.

The article is organized as follows. Section 2 provides a brief description of the various units that make up the interpersonal, the representational, and the morphosyntactic level in FDG. In section 3 we then discuss a number of non-verbal predication types, focusing on the configurations allowed across languages and on the role of dummy elements in their expression. Section 4 studies various ordering discrepancies between levels of representation commonly known as 'displacement', 'raising', and 'extraposition', terms which we avoid for reasons that will be explained later. Some final remarks are presented in section 5.

## 2. The interpersonal, representational and morphosyntactic level in FDG

Figure 1 gives a general overview of the FDG model. A summary of the various properties of this model may be found in Hengeveld (2005) and Hengeveld & Mackenzie (forthcoming); a full presentation of the model is given in Hengeveld & Mackenzie (in preparation).

Figure 1. Outline of FDG



At the interpersonal level the hierarchical structure given in (1) applies:

$$(1) \quad (M_1: [(A_1: [ILL (P_1)_S (P_2)_A (C_1: [...(T_1) (R_1)...]) (C_1))] (A_1))] (M_1))$$

The hierarchically highest unit of analysis given here is the move (M), which may contain one or more discourse acts (A). A discourse act is organized on the basis of an illocutionary frame (ILL), which has two speech act participants (P, the speaker S and the addressee A) and the communicated content C evoked by the speaker as its arguments. The communicated content, in turn, contains a varying number of ascriptive (T) and referential (R) acts. Note that the latter two units are operative at the same layer, i.e. there is no hierarchical relation between them. In general, then, at the interpersonal level units are analysed in terms of their communicative function.

At the representational level the layers presented in (2) are relevant:

$$(2) \quad (ep_1: [(p_1: [(e_1: [(f_1) (x_1)] (e_1))] (p_1))] (ep_1))$$

At this level of analysis linguistic units are described in terms of the entity type they designate. These entity types are of different orders: third-order entities or propositional contents (p); second-order entities or states of affairs (e); first-order entities or individuals (x); and zero-order entities or properties (f). Propositions may furthermore be joined into episodes (ep). Note that first-order and zero-order entities belong to the same layer, i.e. there is no hierarchical relation between them.

At the structural level, constituent structure representations at the clausal, phrasal and word levels are given, such as for instance in (3):

$$(3) \quad [ [ [ [lexeme_{Adv}]_{AdvP} lexeme_N]_{NP} [lexeme_V [lexeme_{Adv}]_{AdvP}]_{VP} ]_{CL}$$

At this level underlying units become more language-specific, but the assumption is that differences between languages can be described systematically along typological parameters.

An important property of the model in the context of the present discussion is that the interpersonal, representational, and morphosyntactic levels of linguistic organization are built up using different sets of primitives. The interpersonal and representational levels of organization are structured on the basis of pragmatic and semantic frames, into which lexemes and primary operators (i.e. operators that are defined in terms of their meaning) are inserted. The morphosyntactic level is organized in terms of structural templates, into which, apart from lexical material from the preceding levels, grammatical words and morphosyntactic secondary operators (i.e. operators anticipating bound grammatical expressions) are inserted.

Finally, it is important to note that levels are related to each other through operations, represented in circles in Figure 1. There is a fundamental distinction between FORMULATION on the one hand, and ENCODING on the other. The process of formulation is concerned with specifying those pragmatic and semantic configurations that are encoded within the language. In terms of formulation, languages may differ in e.g. the kind of pragmatic and semantic functions that are relevant for a description of their grammatical system, irrespective of whether these functions are encoded through syntax, morphology, etc. The process of encoding is concerned with the morphosyntactic and phonological form pragmatic/semantic configurations take in the language. In terms of encoding, languages may differ in e.g. their word order, morphological types, phoneme inventory, etc. This distinction is relevant for what follows, as it will be shown that some differences between languages reflect differences in formulation, whereas others should be attributed to the operation of encoding. This is directly relevant for the way in which typological research is carried out within the FDG framework.

### 3. Non-verbal predication

#### 3.1. Introduction

In this section we will now discuss a number of constructions pertaining to the domain of non-verbal predication, in order to show how differences between languages may be described in terms of the distinctions just made. In each case a combination of examples from three different languages will be used, two of which contrast in terms of formulation, and two in terms of encoding.

#### 3.2. Property assignment

Since FDG distinguishes systematically between interpersonal functions and representational categories, it is relatively easy to account for the predicative and non-predicative uses of the same lexeme, as illustrated in (4)-(5):

##### *Turkish*

- (4) Öğretmen gel-iyor-Ø-Ø.  
 teacher come-PROGR-PRES-3SG  
 'The teacher is coming.'
- (5) Erkek öğretmen-Ø-Ø  
 man teacher-PRES-3.SG  
 'The man is a teacher.'

The expression *öğretmen* is the instantiation of a referential act in (4), and of an ascriptive act in (5). Ignoring operators etc., this may be represented as in (6)-(7):

- |     |   |                |  |  |
|-----|---|----------------|--|--|
|     | C <sub>i</sub>  | T <sub>i</sub> | R <sub>i</sub>   |  |
| (6) | (p <sub>i</sub> : [(e <sub>i</sub> : [ (f <sub>i</sub> : geɫ (f <sub>i</sub> )) |                | (x <sub>i</sub> : (f <sub>j</sub> : <b>ö retmen</b> (f <sub>j</sub> ) (x <sub>i</sub> )) <sub>∅</sub> ] (e <sub>i</sub> ))] (p <sub>i</sub> )) |  |
|     | C <sub>i</sub>  | T <sub>i</sub> | R <sub>i</sub>   |  |
| (7) | (p: [(e: [ (f: <b>ög retmen</b> (f <sub>i</sub> ))                              |                | (x <sub>i</sub> : (f <sub>j</sub> : erkek (f <sub>j</sub> ) (x <sub>i</sub> )) <sub>∅</sub> ] (e <sub>i</sub> ))] (p <sub>i</sub> ))           |  |

In (6) it is indicated that the property *ögretmen* is used within a referential act, whereas in (7) it is used within an ascriptive act. There is a straightforward mapping from the interpersonal to the representational level, and the two units relevant at these levels are furthermore reflected directly in morphosyntactic structure.

Some languages do not allow this configuration, in the sense that they prefer phrases headed by nominal elements to occur referentially rather than ascriptively. Consider the following example from Abkhaz:

*Abkhaz* (Hewitt 1979: 46)

- (8) Wʔy rc'ayʔʔ˘ s dʔ˘ q'o-ø-w-p'.  
 DEM teacher-ADV 3.SG.SBJ-EX.PREV-COP-PRES-DECL  
 'That one is (there) as a teacher.'  
 'He is a teacher.'

In cases in which tense has to be expressed on a nominal predicate, Abkhaz resorts to a lexical existential verb, and the notional predicate is realized as a complement to that verb. This may be represented as in (9):<sup>1</sup>

- |     |   |                |   |  |                                       |
|-----|---|----------------|---|--|---------------------------------------|
|     | C <sub>i</sub>  | T <sub>i</sub> | R <sub>i</sub>  | R <sub>j</sub>   |                                       |
| (9) | (p <sub>i</sub> : (e <sub>i</sub> : [ (f <sub>i</sub> : q'o- (f <sub>i</sub> )) |                | (x <sub>i</sub> : wʔy (x <sub>i</sub> )) <sub>∅</sub> | (x <sub>j</sub> : rc'ayʔʔ˘ (x <sub>j</sub> ) <sub>Role</sub> ] | (e <sub>i</sub> )) (p <sub>i</sub> )) |

---

<sup>1</sup> In this and later representations the lexical material is given at the representational level. In some cases (pronouns, proper names) lexical material could actually be said to pertain to the interpersonal level, but in order to facilitate comprehension we refrain from applying that distinction here.



The situation is quite different in English. Consider the following equivalents of (5):

(10) That man is a teacher.

There are two important differences between (5) and (10): First of all, English does not allow the predicative use of bare nouns, but has to turn them into noun phrases first; secondly, English requires the use of a copula. The first difference is reflected in the fact that at the semantic level the property *teacher* in (10) restricts an x-variable, as illustrated in (11):

$$(11) \quad \begin{array}{cc} C_I & T_I \\ (p_i: [(e_i: [ (x_i: (f_j: \text{teacher } (f_j)) (x_i)) (x_j: (f_j: \text{man } (f_j)) (x_j))_{\emptyset}] (e_i))] (p_i)) \end{array} \quad R_I$$

The second difference is more crucial here. The copula required in (10) is semantically empty, unlike the existential verb in Abkhaz (8), which means it is not present at the interpersonal and representational level. Therefore the introduction of the copula creates a discrepancy between the interpersonal/representational levels on the one hand and the morphosyntactic level on the other. Consider the following morphosyntactic representation of (10):

$$(12) \quad \begin{array}{ccc} C_I & R_I & \emptyset & T_I \\ p_i & x_j & \emptyset & x_i \\ [ & [[\text{that}_{\text{part}}] [\text{man}_N]]_{\text{NP}} & [\text{is}]_{\text{Aux}} & [[\text{a}_{\text{part}}] [\text{teacher}_N]]_{\text{NP}} & ]_{\text{CL}} \end{array}$$

This representation shows that the two-term pragmatic and semantic configuration is mapped onto a three-term structural configuration.

The three languages discussed here thus differ from one another along two different parameters. Abkhaz is different from Turkish and English in that in certain circumstances it does not allow the predicative use of nominals, i.e. a nominal phrase cannot realize an ascriptive act. This difference obtains at the level of the formulator (see Figure 1) in Functional Discourse Grammar. The difference between English and Turkish concerns the



Hewitt analyses the verbal form *-a/-ak<sup>m</sup>* as a copulative stem restricted to identifying equative constructions. But there are two problems with this analysis. The first, noted by Hewitt (1979: 105) himself, is that the personal prefix *l-* '3.SG' is not a subject but an object prefix. The second, noted by Spruit (1986: 124), is that in certain tenses the stem *-a/-ak<sup>m</sup>* may itself be accompanied by the copula *zaa*, as in the following example:

*Abkhaz* (Spruit 1986: 124)

- (16) D-z-ak<sup>w</sup>?´ zaa-lak' g ?  
 3.SG.M.SBJ-REL.OBJ-ak<sup>m</sup>-COP-ever  
 `whoever he is'

If *-a/-ak<sup>m</sup>* is analysed as a copulative stem, it is hard to explain why it should itself receive support of another copulative stem. Spruit (1986: 107) therefore analyzes *-a/-ak<sup>m</sup>* as a two-place lexical stem meaning `identical to (OBJ)' rather than as a copulative stem. Within this approach, (15) and (16) are to be analyzed as in (17) and (18):

*Abkhaz* (Hewitt 1979: 46, Spruit 1986: 124)

- (17) W?y Zaira ø-l-a-w-p'.  
 DEM Zaira 3.SG.NH.SBJ-3.SG.F.OBJ-identical-PRES-DECL  
 "That is identical to Zaira."  
 `That's Zaira.'
- (18) D-z-ak<sup>w</sup>?´ zaa-lak' g ?  
 3.SG.M.SBJ-REL.OBJ-identical-COP-ever  
 "whoever he is identical to"  
 `whoever he is'

The analysis of *-a/-ak<sup>m</sup>* as a lexical rather than a copulative stem thus accounts for both the object marking and the fact that *-a/-ak<sup>m</sup>* may itself be accompanied by a copula. Example (17) may now be represented as in (19):

- |      |                 |            |          |                                |                                  |                  |
|------|-----------------|------------|----------|--------------------------------|----------------------------------|------------------|
|      | $C_I$           | $T_I$      | $R_I$    | $R_J$                          |                                  |                  |
| (19) | $(p_i: (e_i: [$ | $(f_i: a-$ | $(f_i))$ | $(x_i: w?y (x_i))_{\emptyset}$ | $(x_i: Zàira (x_i))_{\emptyset}$ | $](e_i)) (p_i))$ |

The difference between Hixkaryana and Abkhaz thus obtains at the level of formulation: identificational constructions in Abkhaz require an ascriptive act, instantiated by a lexical verb, whereas in Hixkaryana simple juxtaposition of two referential acts is sufficient.

English is like Hixkaryana in that it does not require an ascriptive act, but it is different from Hixkaryana in that it requires the insertion of an auxiliary verb at the morphosyntactic level. Example (20) makes use of the morphosyntactic template in (21):

- (20) That man is the president

- |      |       |                          |                                    |                     |                         |  |
|------|-------|--------------------------|------------------------------------|---------------------|-------------------------|--|
|      | $C_I$ | $R_I$                    | $\emptyset$                        | $R_J$               |                         |  |
|      | $p_i$ | $x_i$                    | $\emptyset$                        | $x_i$               |                         |  |
| (21) | [     | [[that <sub>Part</sub> ] | [man <sub>N</sub> ]] <sub>NP</sub> | [is] <sub>Aux</sub> | [[the <sub>Part</sub> ] | [president <sub>N</sub> ]] <sub>NP</sub> ] <sub>CL</sub> |

The difference between English and Hixkaryana thus obtains at the level of morphosyntactic encoding, rather than at the level of formulation.

### 3.4. Locative constructions

A third non-verbal predication type in which languages differ as regards both formulation and encoding is the one expressing location. Consider the following Dutch examples:

*Dutch*

- (22) Jan is in Frankrijk.  
 Jan COP.3SG.PRES in France  
 'Jan is in France.'

- (23) \*Het boek is op tafel.  
 the book COP.3SG.PRES on table  
 'The book is on the table.'
- (24) Het boek ligt op tafel.  
 the book lie.3SG.PRES on table  
 'The book is lying on the table.'

The predicative use of a locative phrase in Dutch is allowed when the phrase involved designates a spatial region rather than an object. Thus *in Frankrijk* 'in France' in (22) can be used predicatively, but *op tafel* 'on the table' in (23) cannot. In order to attribute this location to the subject a lexical predicate, such as *zit-* 'sit' in (24) has to be used. The difference between spatial regions and objects is captured in FDG through the use of distinct variables: 'l' for locations and 'x' for individuals.<sup>2</sup> The sentences in (22) and (24) may thus be represented as in (25)-(26):

- (25)  $C_I \quad T_I \quad R_I$   
 $(p_i: (e_i: [ (l_i: \text{Frankrijk } (l_i))_{Loc} \quad (x_i: \text{Jan } (x_i))_{\emptyset} ] (e_i)) (p_i))$
- (26)  $C_I \quad T_I \quad R_I \quad R_J$   
 $(p_i: (e_i: [ (f_i: \text{lig- } (f_i)) \quad (x_i: \text{boek- } (x_i))_{\emptyset} \quad (x_j: \text{tafel- } (x_j))_{Loc} ] (e_i)) (p_i))$

Now compare this with the situation in Turkish and in English:

*Turkish* (Kornfilt 1997: 242)

- (27) Kitap masa-da-Ø-Ø.  
 book table-LOC-PRES-3  
 'The book is on the table.'

*English*

- (28) The book is on the table.

---

<sup>2</sup> See Mackenzie 1992 for a range of arguments for the use of these variables.

Both Turkish and English allow the predicative use of a locative phrase designating an object rather than a spatial region, i.e. both of the following configurations are allowed by the formulators of these languages:

$$(29) \quad \begin{array}{ccccc} C_I & & T_I & R_I & \\ (p_i: (e_i: [ & (l_i)_{Loc} & (x_i)_{\emptyset} & ] (e_i)) (p_i)) \end{array}$$

$$(30) \quad \begin{array}{ccccc} C_I & & T_I & R_I & \\ (p_i: (e_i: [ & (x_i)_{Loc} & (x_j)_{\emptyset} & ] (e_i)) (p_i)) \end{array}$$

The difference is again that in Turkish under certain circumstances no support verb is required, whereas English under all circumstances requires copula support, which applies at the level of morphosyntactic encoding, using a template similar to the ones illustrated earlier in (12) and (21):

$$(31) \quad \begin{array}{ccccccc} C_I & R_I & & \emptyset & & T_I & \\ p_i & x_i & & \emptyset & & x_j & \\ [ & [[the_{Part}] [book_N]]_{NP} & [is]_{Aux} & [on_{Prep}] & [[the_{Part}] [table_N]]_{PrepP} & ]_{Cl} \end{array}$$

### 3.5. Existential constructions

A last type of non-verbal predication that shows interesting variation across languages is the existential non-verbal predication type and its equivalents. Some languages allow constructions in which the existence, presence, or availability of an entity may be asserted by simply presenting that entity through a first-order entity description, whereas in others the existence itself has to be ascribed to that entity through a separate lexical expression, as shown in the following examples:

*Tagalog* (Schachter & Otnes 1972)

$$(32) \quad \begin{array}{ll} \text{Marami-ng} & \text{pera.} \\ \text{lot-LNK} & \text{money} \\ \text{'There is a lot of money.'} \\ \text{'A lot of money'} \end{array}$$

*Yagaria* (Renck 1975)

- (33) Sole' yale bei-d-a-e.  
 plenty people sit-PST-3.PL-IND  
 'There were many people.'  
 "Many people sat."
- (34) Yo' bogo-ko' hano-d-i-e.  
 house one-LOC exist-PAST-3.SG-IND  
 'There's only one house.'  
 "One house exists."

The example from Tagalog contains just a noun phrase, which is evident from the fact that in (32) the linker *-ng* is used, which systematically joins head and modifier within noun phrases. In *Yagaria* existence is expressed by lexical verbs. The lexical nature of these verbs may be derived from the fact that different verbs are used for animate (33) and inanimate (34) subjects. This means that the underlying interpersonal/representational configurations for Tagalog and *Yagaria* are radically different. These configurations are given in (35) and (36), formalizing (32) and (33), respectively:

- $$(35) \quad \begin{array}{c} C_1 \\ (p_i: (e_i: [ \end{array} \quad \begin{array}{c} R_1 \\ (x_i: \text{pera } (x_i): \text{marami } (x_i))_{\emptyset} ] (e_i)) (p_i)) \end{array}$$
- $$(36) \quad \begin{array}{c} C_1 \\ (p_i: (e_i: [ \end{array} \quad \begin{array}{c} T_1 \\ (f_i: \text{bei } (f_i))_{\text{Loc}} \end{array} \quad \begin{array}{c} R_1 \\ (x_i: \text{yale } (x_i): \text{sole'} (x_i))_{\emptyset} ] (e_i)) (p_i)) \end{array}$$

Again we may contrast these different pragmatic/semantic configurations with a comparable syntactic one. Consider the following example:

- (37) There is beer without alcohol.

In the absence of a semantic ascriptive predicate, English uses the dummy *there*. Since this is a semantically empty element, we may say that from a semantic perspective English allows predicate-less predications, like Tagalog, but that, different from Tagalog, it requires the insertion of an

element in the predicate slot at the structural level. This dummy predicate then requires copula support, so that a second element without lexical meaning is brought into the construction. This leads to the following discrepancies across levels:

	$C_I$	$\emptyset$	$\emptyset$	$R_I$
	$p_i$	$\emptyset$	$\emptyset$	$x_i$
(38)	[	[there <sub>Part</sub> ]	[is] <sub>Aux</sub> ]	[beer <sub>N</sub> [without <sub>Prep</sub> [alcohol <sub>N</sub> ]] <sub>PrepP</sub> ] <sub>NP</sub> ] <sub>CI</sub>

#### 4. Ordering discrepancies

##### 4.1. Introduction

The existence of independent interpersonal, representational, and morphosyntactic levels within FDG is particularly useful when there is a discrepancy between them, as in those cases in which the order of elements at the morphosyntactic level does not mirror the pragmatic and/or semantic representation directly. The phenomena we will look at are commonly referred to as 'displacement' or 'raising', but we prefer not to use these terms since they suggest the transformation of one basic configuration into another derived one, where we prefer a solution in which underlying pragmatic and semantic representations are mapped directly onto the appropriate morphosyntactic template.

We do not aim to give a full treatment of the construction types involved here, but will just illustrate how FDG would deal with discrepancies caused by pragmatic factors (4.2.), and by semantic factors (4.3). In 4.4. we go into discrepancies that are the result of operations internal to the morphosyntactic component (4.4).

##### 4.2. Discrepancies caused by pragmatic factors



The following examples from Hungarian illustrate the alternative placement of a constituent from a subordinate clause in a main clause position:

Hungarian (de Groot 1981: 51)

- (39) János azt mond-t-a, hogy a taxi öt-re jöjjön.  
 János DEM say-PAST-OBJ CONJ DEF taxi five-SUBL come  
 'János said that the taxi would come at five.'
- (40) János öt-re mond-t-a, hogy a taxi jöjjön.  
 János five-SUBL say-PAST-OBJ CONJ DEF taxi come  
 'János said that the taxi would come at five.'

Two features of Hungarian are relevant for the interpretation of this example. First of all, Hungarian has special positions for topical and focal elements. Topical elements are in clause-initial position, focal elements in preverbal position. Secondly, in cases of complementation such as those illustrated in (39) a demonstrative element refers cataphorically to an appositional complement clause that follows the main clause. These two facts taken together show that in (39) the demonstrative occupies the focus position of the main clause, signalling that the complement clause is focal, while the temporal expression *öt-re* 'at five' occupies the focus position of the complement clause itself. Under these circumstances placement of the focal constituent of the complement clause in the focus position of the main clause is allowed, in which case the demonstrative doesn't occur, as illustrated in (40).<sup>3</sup>

The placement of the focused constituent in a main clause position, and the conditions allowing this placement, may thus be represented as follows:

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<sup>3</sup> Note that, similarly, placement of the topic of a topical complement clause in the topic position of the main clause is possible.



#### 4.4. Discrepancies caused by syntactic factors

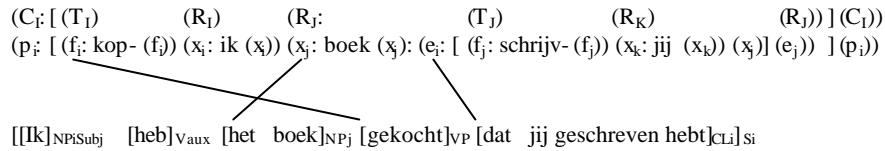
A final situation to be discussed concerns apparent discrepancies that do not seem to be triggered by pragmatic and semantic factors. Consider the following pair of examples:

- (43) Ik heb het boek dat jij geschreven hebt gekocht.  
 I have the book that you written have bought  
 'I have bought the book that you have written.'
- (44) Ik heb het boek gekocht dat jij geschreven hebt.  
 I have the book bought that you written have  
 'I have bought the book that you have written.'

In (44) the main clause constituent *gekocht* interrupts the complex noun phrase *het boek dat jij geschreven hebt*. This is a result of the fact that the syntactically heavy relative clause is preferably placed at the end of the main clause for processing reasons (cf. Dik 1997). Semantically equivalent but syntactically lighter participial modifiers do not allow for placement at the end of the main clause, as shown by the following examples:

- (45) Ik heb het door jou geschreven boek gekocht.  
 I have the by you written book bought  
 'I have bought the book that you have written.'
- (46) \*Ik heb het boek gekocht geschreven door jou.  
 I have the book bought written by you  
 'I have bought the book that you have written.'

Thus, it is the syntactic weight of the modifying clauses that determines the possibility of the discontinuous placement of constituents illustrated in (44). This sentence may be represented as follows:



## 5. Final remarks

This article has demonstrated how the separation of the various levels recognized in FDG and the interaction of those levels help to elucidate observable differences between languages. In particular, it has emerged that languages may differ in relatively ‘deep’ ways or in more ‘shallow’ ways. The ‘deep’ ways relate to differences in encoding, in how the conceptual content is translating into communicative content and into propositional representation. We have seen, for example, that certain languages permit the ascription of a property by means of a nominal predicate, whereas others do not: this entails differing representations at the interpersonal and representational levels. The ‘shallow’ differences between languages apply where the content is encoded in parallel fashion but is formulated differently. We saw that certain languages require copula insertion, where others do not: this rather superficial difference causes the languages in question to differ at the morphosyntactic level, whereas they remain quite similar at the interpersonal and representational levels. Our remarks on ordering discrepancies show that these cannot be simply lumped together: some are attributable to pragmatic factors and arise from distinctions at the interpersonal level; others are due to semantic distinctions, shown at the representational level; and others have to do with syntactic factors, such as the desire to avoid too early placement of syntactically heavy constituents. Taken together, the observations in this article support an architecture such as that of FDG in which formulation is separated from encoding and itself

subdivides into the creation of two structures, one pragmatic and the other semantic in nature.

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