FUNCTIONAL DISCOURSE GRAMMAR

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Functional Discourse Grammar is a functional-typological approach to language that (i) has a top-down organization; (ii) takes acts in discourse rather than sentences as the basic units of analysis; (iii) analyzes discourse acts in terms of independent pragmatic, semantic, morphosyntactic, and phonological modules, which interact to produce the appropriate linguistic forms; (iv) is systematically linked to a conceptual, a contextual, and an output component. A summary of the various properties of this model may be found in Hengeveld (forthcoming); a full presentation of the model is given in Hengeveld & Mackenzie (in preparation).

1. A functional-typological approach to language

Functional Discourse Grammar (FDG) is the successor to Functional Grammar (FG; Dik 1997a, 1997b), a theory of the organization of natural languages developed by Simon C. Dik and his colleagues since the late seventies. FDG retains the strengths of FG, in particular by combining typological neutrality with formal rigor; at the same time FDG expands the scope of FG by taking the pragmatic and psychological adequacy of the theory

very seriously, adopting as its starting point the communicator's intention to influence his/her interlocutor through the use of linguistic discourse. These notions impose extralinguistic explanatory constraints on the theory: an FDG will succeed to the extent that it clarifies the relation between the instrumentality of the language system in creating and maintaining communicative relationships (pragmatic adequacy) and to the extent that it obeys general cognitive restrictions on the production and interpretation of discourse (psychological adequacy). FDG occupies a position halfway between radically functional and radically formal approaches to grammar. In Butler's (2003) terms, it is a structural-functional grammar.

Linguistic typology, the study of the principles underlying formal variation across the languages of the world, is an essential source of inspiration for FDG, since the theory aims at developing a framework for the systematic description of all possible human languages. At the same time, FDG offers a coherent theoretical framework for typological work which goes beyond the 'basic linguistic theory' to which many typologists ascribe (Dryer forthcoming). Most importantly, the distinction between the different components of FDG forces the typologist to study the pragmatic and semantic typology of languages systematically, and not merely their syntactic and morphological typology.

Despite the centrality of discourse notions, FDG is not a discourse-analytical but a grammatical model: it captures the formal properties of linguistic units in terms of the world they are used to describe and the communicative intentions with which they are produced. This is precisely why FDG can be called a functional model of language.

2. General overview

FDG is the grammatical component of a wider theory of verbal interaction. Where linguistic structure is determined by verbal interaction, this is captured as interaction between the grammatical component and a conceptual, a contextual, and an output component; see Figure 1. Within the grammatical component itself, ovals contain **operations**, boxes contain **primitives** (the basic building blocks used in operations), and rectangles contain the **levels of representation** produced by operations. In line with the top-down organization of FDG, we start our discussion of Figure 1 at the top.

At the prelinguistic conceptual level a communicative intention (e.g. issuing a warning) and the corresponding mental representation (e.g. of the event causing danger) are relevant. The operation of formulation converts these into interpersonal (= pragmatic) and representational (= semantic) representations. These in turn are translated into morphosyntactic and phonological representations through the operation of encoding. Just like the rules used in encoding, those used in formulation are language-specific, i.e. FDG does not presuppose the existence of any universal pragmatic or semantic notions. As a result, similar conceptual representations may receive different interpersonal and representational representations across languages, e.g. warnings are in some languages formulated as a distinct type of speech act, whereas in others they receive the same treatment as orders (see section 4).

The output of the grammar is input to the operation of articulation, which, in the case of an acoustic output, contains the phonological rules necessary for an adequate phonetic utterance. Each level of representation within the grammar furthermore feeds into the

contextual component, enabling subsequent reference to the various kinds of entity relevant at each level as soon as they are introduced into the discourse. The formulator draws on this component, so that the availability of antecedents and visible referents may influence the composition of (subsequent) discourse acts.

Figure 1. General layout of FDG

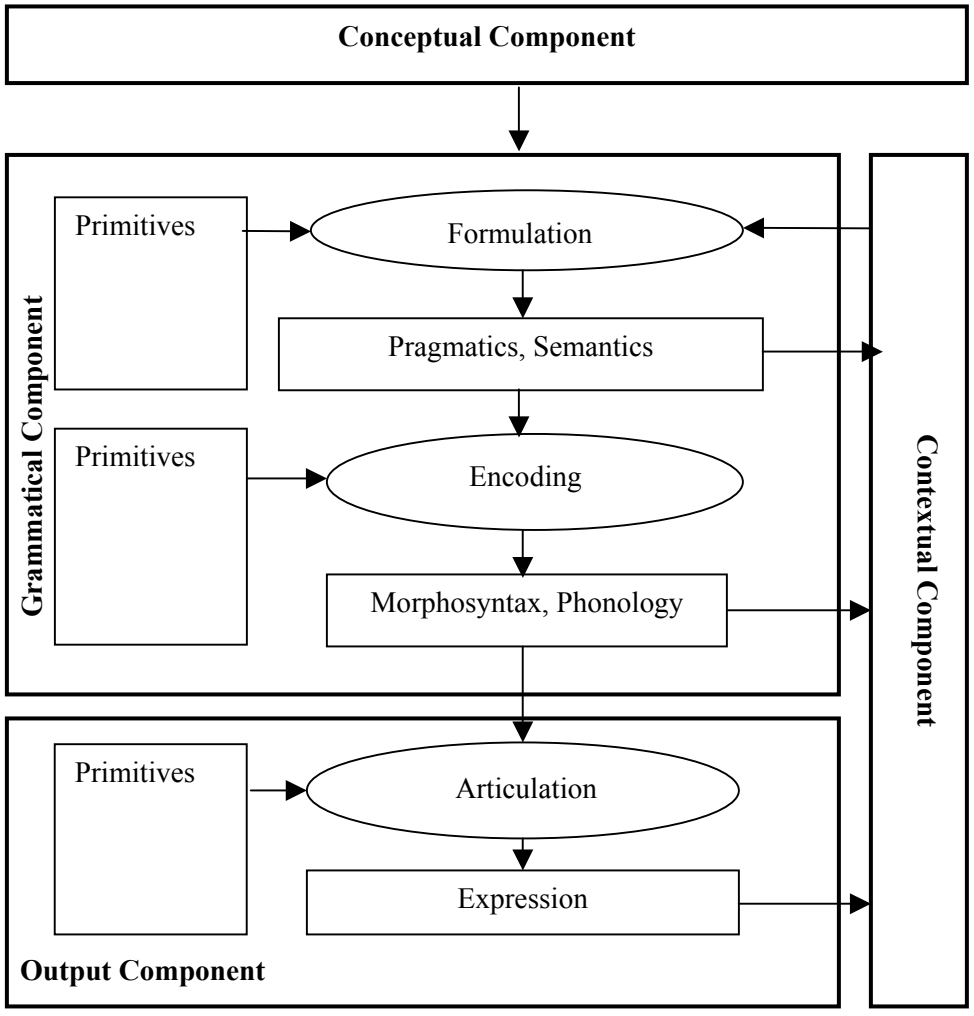


Figure 2 gives a more elaborate representation of the grammatical component as such. It shows the presence of four different levels of linguistics organization: the interpersonal, the representational, the morphosyntactic and the phonological, which will be discussed one by one in the following sections. It also specifies the various sets of primitives feeding the operations of formulation and of morphosyntactic and phonological encoding, which we shall discuss here.

The set of primitives relevant for formulation consists, firstly, of **frames** which define the possible combinations of elements at the interpersonal and representational levels for a certain language. Secondly, this set of primitives contains **lexemes**. In the implementation of the grammar, frames are selected first, and then lexemes are inserted into these. This reflects the options available to the speaker to describe one and the same entity through a variety of lexemes with different connotations and/or denotations. Thirdly, this set of primitives contains **primary operators**, Which symbolize those pragmatic and semantic distinctions grammaticalized in the language under description (e.g. identifiability or evidentiality).

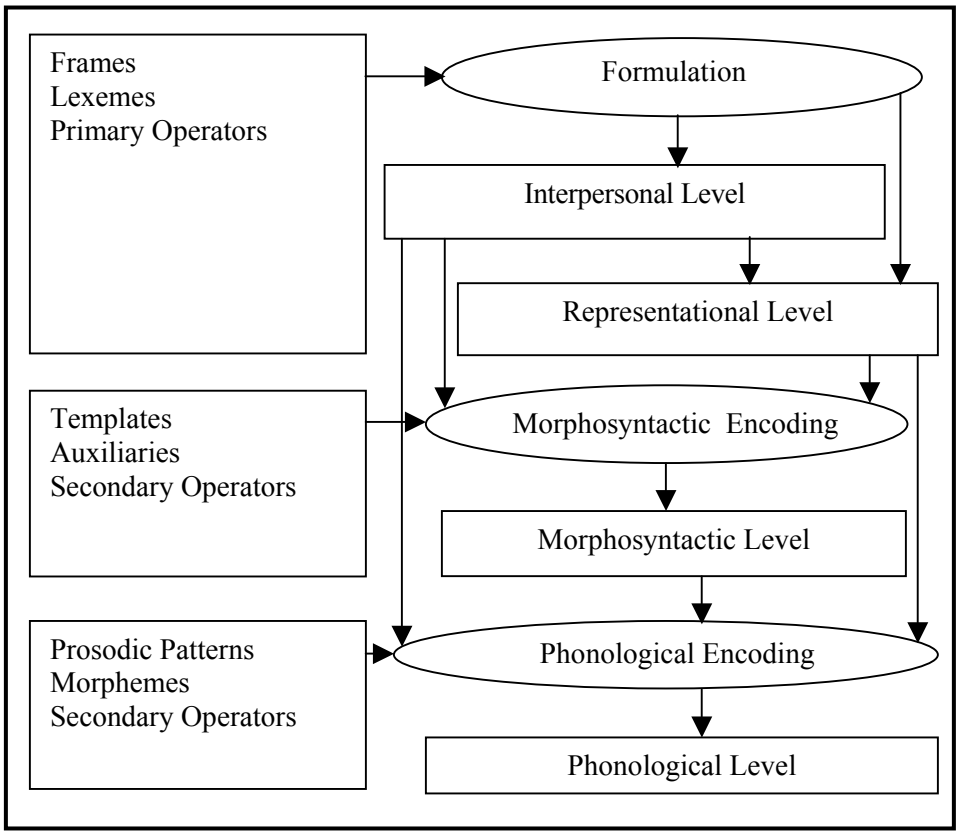
Morphosyntactic encoding makes use, first of all, of a set of **templates** for words, phrases, clauses, and sentences, and possibly larger units such as paragraphs. The primitives available for this operation also include all **free grammatical morphemes**. These have to be introduced at the structural level, since they occupy slots in the syntactic configuration, which is determined at this level. The third set of primitives relevant at the morphosyntactic level consists of **(morphosyntactic) secondary operators**. These

anticipate morphological means of expression, the form of which will eventually be selected at the phonological level.

The primitives used in phonological encoding consist, firstly, of a set of **prosodic patterns**, which organize the linguistic information coming in from higher levels into coherent blocks. The second set of primitives consists of **bound grammatical morphemes** that correspond to the primary or secondary operators specified at the higher levels of organization. Bound grammatical morphemes are introduced at the phonological level since in many languages the form of grammatical morphemes may be affected by the syntactic configuration in which they occur. A third set of primitives potentially relevant at the phonological level consists of **(phonological) secondary operators**. These anticipate acoustic (signed, orthographic) means of expression that are not a direct reflection of a primary operator, as when phonological phrasing is sensitive to the syntactic organization of a linguistic unit.

There are systematic correspondences across the three sets of primitives. Within each set there is a subset of units with a structuring function: the frames used in formulation, the templates in morphosyntactic encoding, and the prosodic patterns used in phonological encoding all serve the purpose of providing an overall structure for their respective levels. Within each set there is furthermore a subset of units in phonemic form: the lexemes used in formulation, the free grammatical morphemes used in morphosyntactic encoding, and the bound grammatical morphemes used in phonological encoding all contribute to the cumulative segmental specification of the underlying representations. Finally, within each set of primitives there is a subset of operators: primary operators are relevant to the operation of formulation, secondary operators to the operation of encoding.

Figure 2. The grammatical component of FDG



The various levels of linguistic organization are all hierarchical in nature, and are displayed as a layered structure. In its maximal form the general structure of layers within levels is as follows:

(1) $(\pi\ \alpha_1$: [(complex) head] (α_1): $\sigma\ (\alpha_1))_\varphi$

Here α_1 represents the variable of the relevant layers, which is restricted by a possibly complex head and further restricted by one or more optional modifiers σ, and/or is further specified by an operator π and/or a function φ. Modifiers represent lexical strategies, operators and functions grammatical strategies. The difference between the latter two is that functions are relational while operators are not.

3. The interpersonal level

The interpersonal level accounts for all the formal aspects of a linguistic unit that reflect its role in the interaction between speaker and addressee. The purposiveness of interaction entails that each speaker will employ a strategy, more or less consciously, to attain his/her communicative aims. The formulator employs the interpersonal level to indicate how this strategy is realized, with regard to both the speaker's purposes and to the addressee's likely current state of mind. The units of discourse through which the interpersonal level operates are organized hierarchically, in keeping with the global architecture of FDG, as follows (for ease of reading, the hierarchical structure has been indicated by indentation):

(2)

$(\Pi M_1$: [	Move
$(\Pi A_1$: [	Act
$(\Pi F_1$: ILL (F_1): $\Sigma (F_1))_\Phi$	Speech occurrence
$(\Pi P_1$: ... (P_1): $\Sigma (P_1))_\Phi$	Speaker
$(\Pi P_2$: ... (P_2): $\Sigma (P_2))_\Phi$	Addressee
$(\Pi C_1$: [	Communicated Content
$(\Pi T_I [...] (T_I)$: $\Sigma (T_I))_\Phi$	Subact of Ascription
$(\Pi R_I [...] (R_I)$: $\Sigma (R_I))_\Phi$	Subact of Reference
] (C_1): $\Sigma (C_1))_\Phi$	Communicated Content
] (A_1): $\Sigma (A_1))_\Phi$	Act
] (M_1): $\Sigma (M_1))_\Phi$	Move

The highest layer in this hierarchy, the Move, describes the entire segment of discourse under analysis, with the various lower layers containing components of that segment. The hierarchy also represents the sequencing of linguistic actions: a Move may consist of several temporally ordered Acts; an Act may contain several temporally ordered Communicated Contents, and they in turn may contain multiple Subacts of Ascription and or Reference. To give a simple example, the positioning of an Act before or after a strategically more central Act determines whether it is understood as an Orientation (as in the first element of (3a)) or as an Afterthought (as in the last element of (3b)):

(3) a. Football, I don't really like it

b. I don't really like it, football

In conversations, Moves are contributions that either call for a reaction from the addressee or are themselves a reaction. The Move does not correspond exactly to any grammatically identifiable unit of discourse, but its status as Initiation or Reaction does impinge upon its form (e.g. its intonational contour). Moves are composed of one or more Acts of discourse (A_1, A_2, …), which make up the Head of the Move. An example of a Move containing two Acts is (4):

(4) Watch out, because there may be trick questions in the exam

The first Act issues a warning through an Imperative Illocution; the second, subsidiary Act provides a Motivation for the warning (signaled by the subordinator *because*).

FDG takes the Act rather than the clause to be the basic unit of analysis in grammatical theory. This is because there is at best a default correlation between Acts and clauses. A speaker will generally not express more of his/her communicative intention than is required to understand it; correspondingly, the analysis of a particular Act in FDG will show only those components that have actually been deployed by the speaker, reflecting the actional nature of this level. In this way it can be explained, for example, why the Turkish interrogative particle *mI* (which displays vowel harmony) can be attached to structural units of any type: a clause, as in (5a); an NP, as in (5b); or an interjection, as in (5c):

(5) a. Ahmet sinema-ya git-ti mi?

Ahmet cinema-DAT go-PAST INTER

'Did Ahmet go to the movies?' (Kornfilt 1997: 5)

b. Bugün mü?

today INTER

'Today?' (Lewis 1967: 105)

c. Tamam mı?

OK INTER

'OK?'

In the construction of an Act, the formulator chooses from three possible frames:

(6) a. $(A_1: [(F_1)\ (P_1)_S\ (P_2)_A\ (C_1)]\ (A_1))_\Phi$ (Illocutives)

b. $(A_1: [(F_1)\ (P_1)_S\ (P_2)_A]\ (A_1))_\Phi$ (Interpellatives, Interactives)

c. $(A_1: [(F_1)\ (P_1)_S]\ (A_1))_\Phi$ (Expressives)

Where a Communicated Content **(C_1)** is present, the Act belongs to the class of Illocutives. The familiar distinction between explicit and implicit performatives is reflected in the formulator's choice between assigning a lexical or an abstract predicate to the Head of the Speech occurrence **(F_1)**. Thus in (7a), the Head is the verb *promise* but in (7b) the abstract predicate DECL, as shown in the representations in (8):

(7) a. I promise to do the washing-up

b. I will do the washing-up

(8) a. $(A_I: [(F_I: \text{promise}_V\ (F_I))\ (P_I)_S\ (P_J)_A\ (C_I)]\ (A_I))_\Phi$

b. $(A_I: [(F_I: \text{DECL}\ (F_I))\ (P_I)_S\ (P_J)_A\ (C_I)]\ (A_I))_\Phi$

In keeping with the principles of FDG, no more abstract illocutionary primitives will be posited for each language than are justified by the grammatical distinctions present in that language. The primitives from which the world's languages make a selection appear to contain at least those in Table 1.

Table 1. Illocutionary primitives

DECLarative
INTERogative
IMPERative
PROHibitive
OPTATive
HORTative
IMPRecative
ADMOnitive
CAUTionary
COMMissive

An illocutionary predicate, be it lexical (9a) or abstract (9b), can be specified by a Modifier $\mathbf{\Sigma^F\ (F_1)}$, such as the adverb *sincerely*:

(9) a. Sincerely, this is not a trick

b. I promise you sincerely that this is not a trick.

(10) a. $(A_I: [(F_I: \text{DECL}\ (F_I): \text{sincerely}_{Adv}\ (F_I))\ (P_I)_S\ (P_J)_A\ (C_I)]\ (A_I))$

b. $(A_I: [(F_I: \text{promise}_V\ (F_I): \text{sincerely}_{Adv}\ (F_I))\ (P_I)_S\ (P_J)_A\ (C_I)]\ (A_I))$

Where the specification of the illocutionary predicate is grammatical rather than lexical, it is analyzed in FDG as an operator $\mathbf{\Pi^F}$. These operators account for grammatical reinforcement and mitigation of the illocution. Modifiers and operators have been identified for all the units recognized within the interpersonal level.

The Communicated Content $\mathbf{(C_1)}$ contains everything the Speaker wishes to evoke in his/her communication with the Addressee. Each Communicated Content contains one or more Subacts, so-called because they are forms of communicative action hierarchically subordinate to Acts. Subacts come in exactly two types. A Subact of Ascription ($\mathbf{T_1}$) reflects an attempt by the Speaker to evoke a property, while a Subact of Reference ($\mathbf{R_1}$) is an attempt by the Speaker to evoke a referent, i.e. a null, singleton or multiple set of entities or qualities. Evocation is thus a cover term for the actions of reference and ascription.

It is to these Subacts that pragmatic functions such as Topic and Focus are assigned. Every Communicated Content, no matter how brief, will have a Focused Subact, i.e. one that is communicatively salient. The Focus status will be reflected in the encoding of the Subact at the morphosyntactic and/or phonological levels. Communicative salience can be

attributed to three different factors: the speaker's strategic selection of new information (New Focus); the speaker's desire that the addressee should attend particularly to a Subact (Emphatic Focus); the speaker's desire to bring out the particular differences and similarities between two or more Communicated Contents (Contrastive Focus). Not all Communicated Contents will have a Topic, however: in minimal or holophrastic utterances, for example, the one Subact will necessarily bear Focus.

A final example will give an impression of the operation of the interpersonal level. The Move (11) will be analyzed as (12), in which an Interpellative Act is followed by an Illocutive Act:

(11) Hey, you dropped your wallet!

(12) (M_I: [

(A_I: [(F_I: hey (F_I)) (P_I)$_S$ (P_J)$_A$] (A_I))

(A_J: [(F_J: DECL (F_J)) (P_I)$_S$ (P_J)$_A$ (C_I: [(R_I) (T_I) (R_J)] (C_I))] (A_J)

] (M_I))

4. The representational level

The representational level accounts for all the formal aspects of a linguistic unit that reflect its role in establishing a relationship with the real or imagined world it describes, i.e. it concerns designation rather than evocation, the latter being the job of the interpersonal level. The representational level thus takes care of the semantics of a linguistic unit. The

semantic units through which the representational level operates are organized hierarchically, in keeping with the global architecture of FDG, as follows:

(13)	$(\pi p_1$:	[	propositional content
		$(\pi e_1$: [	state-of-affairs
		$(\pi f_1$: ... (f_1): $\sigma (f_1))_\varphi$	property
		$(\pi x_1$: ... (x_1): $\sigma (x_1))_\varphi$	individual
		$(\pi l_1$: ... (l_1): $\sigma (l_1))_\varphi$	location
		$(\pi t_1$: ... (t_i): $\sigma (t_i))_\varphi$	time
		] (e_1): $\sigma (e_1))_\varphi$	state-of-affairs
	] (p_1): $\sigma (p_1))_\varphi$		propositional content

The differences between units at this level may be made in terms of the ontological category designated. To the extent that ontological categories are reflected in the language system they have the status of semantic categories, each of which is provided with its own variable.

The most frequently encountered semantic categories can be defined taking Lyons (1977: 442-447) as the starting point. Using a terminology different from Lyons's, three semantic categories may be distinguished: individuals, states-of-affairs, and propositional contents. An individual can be located in space and can be evaluated in terms of its existence. A state-of-affairs can be located in space and time and can be evaluated in terms of its reality. A propositional content, being an exclusively mental construct, can be located in neither space nor time. It can be evaluated in terms of its truth.

To these three basic semantic categories three others may be added: properties, locations, and times. Properties (see Hengeveld 1992; Keizer 1992) have no independent existence and can only be evaluated in terms of their applicability, either to members of other semantic categories or to the state-of-affairs they describe in general. Thus, the property 'green' applies to individuals, the property 'recent' to states-of-affairs, and the property 'undeniable' to propositional contents. Similarly, the concepts of space and time cannot be reduced to any of the primary semantic categories, but rather specify dimensions of members of those semantic categories and therefore constitute independent semantic categories themselves. This point has been argued in Mackenzie (1992) for location and Olbertz (1998) for time. The various semantic categories are listed and illustrated in Table 2.

Table 2. Semantic categories

Semantic category	Variable	Examples
Individual	X	chair, brother_of
State-of-affairs	e	meeting, cause_of
Propositional Content	p	idea, belief_in
Property/relation	f	colour, fond_of
Location	l	garden, top_of
Time	T	week, end_of

Various phenomena in the grammars of individual languages can be understood in terms of the semantic categories designated. Consider the examples in Table 3 of word-formation strategies in English. These examples show that, although there are exceptions, there is a clear relation between the form of this process on the one hand, and the semantic category designated on the other.

Table 3. Word formation strategies and semantic categories

Semantic category	Examples
f	mean-**ness**, kind-**ness**, false-**ness**
x	writ-**er**, employ-**er**, sing-**er**
e	explora-**tion**, deci-**sion**, deple-**tion**
p	hope-**Ø**, wish-**Ø**, belief-**Ø**
l	brew-**ery**, bak-**ery**
t	summer-**time**, day-**time**

The description of an entity type α_1 may take various forms. It may be described through a construction with a lexical head (14), or through a construction with a complex head, consisting of a combination of (other) semantic categories (15).

(14) $(\pi\ \alpha_1\colon (f_1\colon \text{Lex}\ (f_1)_\varphi)\ (\alpha_1)_\varphi)$

(15) $(\pi\ \alpha_1\colon [(\alpha_2)_\varphi\ \ldots\ (\alpha_n)_\varphi]\ (\alpha_1)_\varphi)$

Some specific instantiations of these general schemas are given in (16)-(17):

(16) $(1\ x_i\colon (f_i\colon \text{boy}_N\ (f_i)_\varphi)\ (x_i)_\varphi)$

'a boy'

(17) $(\text{Past}\ e_i\colon [(f_i\colon \text{read}_V\ (f_i))\ (1\ x_i\colon \text{boy}_N\ (x_i))_{Ag}\ (1\ x_j\colon \text{book}_n\ (x_j))_{Pat}]\ (e_i))$

'The boy read the book.'

In (16) a noun, itself designating a property (f_i), gives a simple lexical description of an individual (x_i). In (17) a combination of semantic categories, between square brackets, gives a compositional description of a state-of-affairs. The combinations of semantic categories allowed in a language, both in quantitative and in qualitative terms, are specified in terms of representational frames, which form part of the set of primitives that feeds the formulator.

Quantitative restrictions on representational frames in languages may determine the minimum number of arguments required, or the maximum number of arguments allowed. Thus, in some languages, such as Turkish, zero-place predicates do not exist, i.e. the minimum valency is one, whereas in other languages, such as Negerhollands, the maximum valency is two and alternative strategies have to be invoked to introduce additional participants, such as serialization. Qualitative restrictions on representational frames concern first of all the semantic categories of the component units, as when a language does

not allow a propositional content to occur as an argument of a matrix verb, but requires a paratactic strategy instead. A second type of qualitative restriction concerns the way the relations between the component units of a frame are expressed, in terms of their semantic functions.

Here we will just illustrate the latter type of restriction. In English a distinction is made between the locative relations *at*, *to*, and *from*, expressing Stative Location, Direction, and Source respectively. In Tariana (Aikhenvald 2003: 148) all three relations are expressed by the same case-suffix *-se.* These different ways of dividing the locative domain are captured through differences in the predication frames available for these languages. In Tariana, predication frames contain the general semantic function Location, as illustrated in (18):

(18) $(\pi\ e_1\colon [(f_1)\ (x_1)_{Ag}\ (l_1)_{Loc}]\ (e_1))$

English predication frames contain the more specific functions Stative Location, Direction and Source:

(19) a $(\pi e_1: [(f_1) (x_1)_{Ag} (l_1)_{StLoc}] (e_1))$

b $(\pi e_1: [(f_1) (x_1)_{Ag} (l_1)_{Dir}] (e_1))$

c $(\pi e_1: [(f_1) (x_1)_{Ag} (l_1)_{So}] (e_1))$

Although predication frames are language-specific, the expectation is that important typological generalizations can be made in the form of implicational statements.

The nature of an entity type and the way its description is built up are not indicative of how the linguistic unit representing that entity is used within a discourse act. Entity types are categories, not functions. The functional analysis is given at the interpersonal level. Thus, the same property (f) may be either ascribed (T) to an entity, or it may be referred to (R). The following examples illustrate this point:

(20) a The teacher is **tall**.

(Ascription of zero-order entity: T/f)

b **Tallness** impresses the teacher.

(Reference to zero-order entity: R/f)

(21) a Sheila is **a friend of mine**.

(Ascription of first-order entity: T/x)

b **A friend of mine** visited me last night.

(Reference to first-order entity: R/x)

A more elaborate representation of (20) is given in (22):

(22)a (C_I: [T_I R_I] (C_I))

(p_i: (e_i: [(f_i: **tall**$_A$ (f_i)) (x_i: teacher$_N$ (x_i))$_Ø$] (ei)) (p_i))

b (C_I: [T_I R_I R_I] (C_I))

(p_i: (e_i: [(f_i: impress$_V$ (f_i)) (f_i: **tall**$_A$ (f_i))$_{Ag}$ (x_i: teacher$_N$ (x_i))$_{Exp}$] (e_i)) (p_i))

Examples like these show that, though there are regular correspondences between the interpersonal and the representational levels, the two are basically independent of each other, allowing for a wide variety of interactions between them.

5. The morphosyntactic level

The morphosyntactic level accounts for all the linear properties of a linguistic unit, both with respect to the structure of sentences, clauses, and phrases, and with respect to the internal structure of complex words. The set of primitives used in morphosyntactic encoding provides the appropriate templates on the basis of which the morphosyntactic level is structured. Like other levels, the syntactic level and the templates it uses are hierarchically organized. It uses bracketed structures and category labels to capture the relevant formal properties of linguistic units within the language concerned, as in the following example:

(23) The girl danced beautifully.

[	Sentence
[	Clause
[the$_{Art}$ girl$_{N}$-SG]$_{NPi}$	Noun Phrase
[dance$_{V}$-PAST [beautifully$_{Adv}$]$_{AdvP1}$]$_{VPi}$	Verb Phrase
]$_{CLi}$	Clause
]$_{Si}$	Sentence

As this example shows, the morphosyntactic representation captures the constituent structure of the sentence as well as the internal ordering of elements within words. Thus, there are secondary operators serving as place-holders for the expression of singularity (SG) and past tense (PAST), which will receive their final phonemic expression at the phonological level.

Given the functional orientation of FDG, the expectation is that often the ordering properties of languages can be explained in terms of the meaning and use of linguistic units. The fact, however, that many other ordering properties are governed by independent principles warrants the postulation of a separate morphosyntactic level within the grammar, rather than as the output of the grammar as in FG. Further motivation for the presence of this level within the grammar is the fact that anaphoric reference can be made to morphosyntactic units, as in the following reaction to (23):

(24) **That**'s not what I would call **it**.

In this example *that* refers to the morphosyntactic syntactic unit selected for description (here $AdvP_i$), whereas *it* refers to the property described by that syntactic unit, which is represented at the representational level by means of an f-variable. By providing morphosyntactic constituents with an index, anaphoric reference can be established with each of them.

The existence of independent interpersonal, representational, and morphosyntactic levels within FDG is particularly useful when there is a discrepancy between them, i.e. in those cases in which morphosyntax does not mirror the semantic representation directly. A case in point is the phenomenon known as 'raising', as in the following examples:

(25) a It seems that Sheila has arrived.

b Sheila seems to have arrived.

'Raising' is functionally motivated, since the information structure of the discourse act as represented at the interpersonal level is decisive: in (25a) the constituent Sheila is part of the new information, in (25b) it is not. This factor is used in FDG to trigger the selection of the appropriate syntactic template, in which the Subject of the embedded clause in (25a) is treated as the Subject of the main clause in (25b) when provided with the pragmatic function Topic at the interpersonal level. At the same time the semantic units underlying the embedded clause in (25a) has to be broken up, in the sense that elements logically belonging together end up in different places in order to meet the requirements of the

interpersonal level. This is indicated in (26a-b), which shows the correspondences of the syntactic units involved in (24a-b) with interpersonal and representational units.

(26) a

$(C_I$:[(T_I) $(R_I$: [$(R_J)_{FOC}$ $(T_J)_{FOC}$] $(R_I))$] $(C_I))$

$(p_i$: [(f_i) $(p_j$: [(x_i) (f_j)] $(p_j))$] $(p_i))$

[$[It]_{NPiSubj}$ $[seems]_{VPi}$ $[[that]$ $[Sheila]_{NPjSubj}$ $[has\ arrived]_{VPj}$ $]_{CLi}$ $]_{Si}$

b

$(C_I$:[$(R_J)_{TOP}$ (T_I) $(T_J)_{FOC}$] $(C_I))$

$(p_i$: [(x_j) (f_i) (f_j)] $(p_i))$

[$[Sheila]_{NPiSubj}$ $[seems]_{VPi}$ [to $[have\ arrived]_{VPj}$ $]_{Cli}$ $]_{Si}$

In this way syntactic configurations can be seen as the outcome of an interplay between interpersonal and representational considerations.

6. The phonological level

The phonological level accepts input from the Interpersonal and Morphosyntactic levels and provides input for the extragrammatical processes of articulation. In a complete FDG, the phonological level will be supplemented by a graphological and a gestural level, for written and signed communication respectively.

FDG concentrates on those aspects of phonology that reflect the functioning of language in communication. Aspects directly influenced by the Interpersonal level include

the phonological reflection of the division of Moves into Acts. FDG distinguishes, in terms that anticipate the actional, temporally sequenced nature of phonetic activity, phonological Moves and phonological Acts, which in general correspond one-to-one with their congeners at the interpersonal level.

Within the phonological Act, the choice of Illocution type in many languages impacts upon the intonation: in languages like Spanish, DECL and INTER Illocutions are rendered as distinct intonation contours, whereas in others (e.g. Japanese), this distinction is handled morphosyntactically, with little or no effect on the phonology. Similarly, the selection of the operator EXCLamative may bring about the selection of a marked word order template (for example), but is frequently encoded at the phonological level by relatively wide-ranging pitch movement; similarly, languages may systematic use of phonological means to indicate an ironic intention.

Within the Act such interpersonal functions as Topic and Focus, especially in languages where these have no morphosyntactic repercussions, must be indicated by relative accentual prominence. Distinctions between New, Contrastive and Emphatic Focus may all be handled phonologically, as in English, cf. (1), where capitalization indicates the strongest accent:

(27) a. She bought this beautiful DRESS (New Focus)

b. She bought this BEAUTIFUL dress (Emphatic Focus)

c. SHE bought this beautiful dress (Contrastive Focus)

In other languages, these Focus contrasts may be reflected in morphosyntactic constructions or even lexically (i.e. via a Modifier).

The linear sequence emerging from the morphosyntactic template may be differently partitioned at the phonological level. Thus the template for Dutch subordinate clauses will place the complementizer *dat* in clause-initial P1 position and a 3rd person masculine pronominal subject in the following S position, as independent constituents; the phonological level will merge them into one phonological word:

(28)	MsL:	Ik	wou	dat	hij	kwam
		1ps	*want.PAST*	*COMP*	*3ps*	*come.PAST*
				P1	S	Vfin
		‘I wish he would come’				
	PhL:	/[kʋɑu]		[dɑti]		[kʋɑm]/

It is at the phonological level that segmental information about bound inflectional morphemes becomes available on the basis of paradigmatic knowledge. In Latin, for instance, the abstract suffix [–ACC.SING] will be placed at the morphosyntactic level but only at the phonological level will receive its form, e.g. /*-am*/ in the context of /*femin-*/ ‘woman’ and /*-um*/ in the context of /*uir-*/ ‘man’.

7. Conclusion

Functional Discourse Grammar is a functional-typological theory of language that strives for psychological and pragmatic adequacy. This is reflected in its top-down organization, and in the fact that it takes discourse acts rather than sentences as the basic units of analysis. Within the underlying structure of utterances, four levels of analysis are distinguished. The form of utterances is accounted for as the outcome of the interaction between these levels. FDG has been developed on the basis of typological work, but at the same time offers important tools not only for typologists interested in syntactic and morphological typology, but also for those interested in pragmatic and semantic typology.

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