Non-verbal predication: theory, typology, diachrony

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1. Some basic principles of Functional Grammar

1.0. Introduction

Functional Grammar, full descriptions of which can be found in Dik (1989) and Siewierska (1991), is a theory of grammar which aims at providing a model for describing language in terms of its communicative function, i.e. as an instrument of social interaction, and tries to do so in a typologically, pragmatically, and psychologically adequate way.

Functional Grammar starts with the construction of underlying semantic structures, which are converted into linguistic expressions through expression rules. The basic mechanisms of Functional Grammar, in so far as relevant for the ensuing chapters, are explained step by step in the following sections. More detailed descriptions of crucial aspects of Functional Grammar will be given at the relevant places.

1.1. Predicate frames

All basic lexical elements of a language are stored in the lexicon in the form of predicate frames, which, apart from a predicate, contain a number of argument positions, representing the participants that obligatorily[1] take part in the state of affairs designated by the predicate. The predicate is provided with an indication of its categorial status. Each argument position is provided with a semantic function, indicating a participant role. Some examples:

(1) $read_{V}\ (x_1)_{Ag}\ (x_2)_{Go}$
(2) $old_{A}\ (x_1)_{\emptyset}$
(3) $man_{N}\ (x_1)_{\emptyset}$
(4) $brother_{N}\ (x_1)_{\emptyset}\ (x_2)_{Ref}$

The verbal (V) predicate *read* in (1) has two argument positions (x_n) with the semantic functions Agent (Ag) and Goal (Go). The adjectival (A) predicate *old* in (2) and the nominal (N) predicate *man* in (3) have one argument position with the semantic function Zero (Ø), which is used for participants carrying the property designated by the predicate. The nominal predicate *brother* in (4) has two argument positions with the semantic functions Zero and Reference (Ref). The latter is used for participants with reference to which the relation designated by the predicate holds (Mackenzie 1983: 38).

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1. Note that under certain restricted conditions, in particular recoverability from the context, these participants may remain unexpressed.

Besides basic predicate frames such as those in (1)-(4) there are derived predicate frames. These are created by means of predicate formation rules which have predicates as their input and derived predicates as their output. Predicate formation rules thus take care of derivational morphology but may also yield combinations of words which function as unified predicates. Both basic and derived predicates are contained in the fund, which, apart from predicates, also contains terms.

1.2. Term formation

In the argument positions of a predicate frame terms can be inserted. Terms are referring expressions of the following general format:

(5) $(x_i: \Phi_1(x_i): \Phi_2(x_i): \ldots :\Phi_n(x_i))$

in which x_i is a term variable which represents the referent set of the term and each $\Phi(x_i)$ constitutes an *open predication in* x_i which further restricts the set of potential referents of the term. The predicates necessary for the construction of these open predications are taken from the fund. Consider the following example:

(6) *the old man reading a book*
$(x_i: man_N\ (x_i)_\emptyset: old_A\ (x_i)_\emptyset: [\text{sim}\ read_V\ (x_i)_{Ag}\ (x_j: book\ (x_j)_\emptyset)_{Go}])$
sim = simultaneity operator

Three different qualities are predicated of the referent of the term in (6) by means of the open predications listed in (7):

(7) a. $man_N\ (x_i)_\emptyset$
'x_i is a man'
b. $old_A\ (x_i)_\emptyset$
'x_i is old'
c. $[\text{sim}\ read_V\ (x_i)_{Ag}\ (x_j: book\ (x_j)_\emptyset)_{Go}]$
'x_i is reading a book'

1.3. The representation of states of affairs

In order to arrive at a predication, which designates a state of affairs, terms are inserted into the argument slots of a predicate frame. The resulting structure is applied to a variable (e) which represents the particular state of affairs towards which the speaker wants to direct the addressee's attention (Vet 1986: 2-3), as in the following example:

(8) *The old man reads a book.*
$(e_i: [read_V\ (x_i: man_N\ (x_i)_\emptyset: old_A\ (x_i)_\emptyset)_{Ag}\ (x_j: book_N\ (x_j)_\emptyset)_{Go}]\ (e_i))$

In (8) the intended state of affairs e_i is defined as one which concerns the reading of a book x_j by an old man x_i. The part between square brackets is called a nuclear predication, the structure as a whole an extended predication.[2]

1.4. Syntactic and pragmatic functions

Apart from semantic functions, arguments may carry syntactic and pragmatic functions. Syntactic functions specify the (grammatical) perspective from which a state of affairs is presented. The syntactic function Subject is assigned to the term which serves as the primary vantage point from which the state of affairs is presented. The syntactic function Object is assigned to the term which serves as the secondary vantage point from which the state of affairs is presented. This can be illustrated by means of the following sentences:

(9) *John* (AgSubj) *read the book* (Go).
(10) *The book* (GoSubj) *was read by John* (Ag).
(11) *John* (AgSubj) *gave the book* (GoObj) *to Mary* (Rec).
(12) *John* (AgSubj) *gave Mary* (RecObj) *the book* (Go).

The difference between (9) and (10) can be seen as conditioned by the fact that the syntactic function Subject is assigned to the Agent argument *John* in (9) and to the Goal argument *the book* in (10). The difference between (11) and (12) can be seen as conditioned by the fact that the syntactic function Object is assigned to the Goal argument *the book* in (11) and the Recipient argument *Mary* in (12).

Pragmatic functions specify the informational status of constituents. Constituents with Topic function refer to "entities "about" which information is provided or requested in the discourse" (Dik 1989: 266), constituents with Focus function constitute "the most important or salient parts of what we say about the topical things" (Dik 1989: 264). This is illustrated in the following sentences, in which capitalization indicates emphasis:

(13) *JOHN* (AgSubjFoc) *read the book* (GoTop).
(14) *John* (AgSubjTop) *read THE BOOK* (GoFoc).

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2. Dik (1989:57) furthermore recognizes a *core predication* consisting of a nuclear predication together with predicate operators and predicate satellites (see below).

The pragmatic function Focus, in this case expressed by intonational means, is assigned to *John* in (13) and to *the book* in (14).

Apart from the clause-internal pragmatic functions just illustrated, there are clause-external pragmatic functions. A constituent with the pragmatic function Theme presents an entity with respect to which it is relevant to pronounce the following clause. A constituent with pragmatic function Tail represents an afterthought. The following sentences illustrate these functions:

(15) *John* (Theme), *he didn't read the book.*
(16) *He didn't read the book, John* (Tail).

1.5. The representation of utterances

A theory of language which wishes to take into account the instrumental nature of language cannot content itself with a system which accounts for representational aspects of language only. Descriptions of states of affairs are put to use in utterances, in which the speaker offers these descriptions to an addressee. Utterances may contain, apart from a description of a state of affairs, linguistic elements through which the speaker indicates his attitude towards the information he is presenting, as well as his intention in producing the utterance. In order to account for these linguistic elements I propose in Hengeveld (1988, 1989, 1990a) to represent utterances by means of a multi-layered hierarchical structure, inspired by Foley—Van Valin (1984). The general format of this model is given in Figure 1.

The structure in Figure 1 as a whole gives a representation of the speech act (E_1). Within this speech act a propositional content (X_1) is communicated. This propositional content contains a description of a state of affairs (e_1) which involves one or more individuals (x_1) ... (x_n).

The highest level of this structure is called, following Halliday (1970: 325), the *interpersonal level*. It is structured on the basis of an abstract illocutionary frame (ILL), such as DECL (declarative) or INT (interrogative), which has the speaker (S), the addressee (A) and the propositional content (X_1) as its arguments. The lowest level is called the *representational level*, following Bühler (1934: 28). This level is structured on the basis of a predicate frame, which has one or more individuals (x_1) ... (x_n) as its arguments.

Within the hierarchical structure presented in Figure 1 four layers, each provided with its own variable, can be distinguished. All variables are followed by restrictors of decreasing complexity, which contain the main information on their respective layers. The four layers are listed in (17):

(17) Layers (general format)

Clause:	$(E_1: [ILL\ (S)\ (A)\ (X_1: etc.\ (X_1))]\ (E_1))$
Proposition:	$(X_1: [(e_1: etc.\ (e_1))]\ (X_1))$
Predication:	$(e_1: [Pred_\beta\ (x_1)^n]\ (e_1))$[3]
Term:	$(x_1: Pred_N\ (x_1))$

Each of these four layers represents an entity of a different order (Lyons 1977: 442-447). A term (x_1) represents an *individual*, a first order entity, which can be located in space and can be evaluated in terms of its existence. A predication (e_1) represents a *state of affairs*, a second order entity, which can be located in space and time and can be evaluated in terms of its reality. A proposition (X_1) represents a *propositional content*, a third order entity, which can be located neither in space nor in time and can be evaluated in terms of its truth. A clause (E_1) represents a *speech act*, a fourth order entity, which locates itself in space and time and can be evaluated in terms of its felicity.

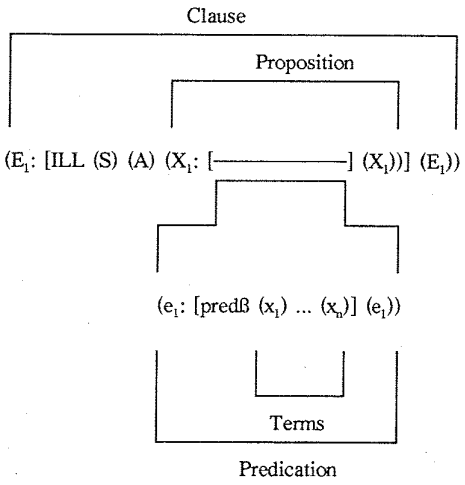


Figure 1. The representation of utterances

3. The ^{n} in this formula indicates that a predication may contain more than one term.

1.6. Terms and entities

So far it has been tacitly assumed that terms, i.e. referential expressions with a nominal head, refer to first order entities. There are, however, also terms that refer to second, third, and fourth order entities, i.e. the entity types that play an important role in the hierarchical organization of the clause as well. These terms are based on head nouns that designate non-first order entities.

Nouns such as *departure*, *mistake*, and *visit* designate second order entities and may therefore be called, following Lyons (1977: 446), second order nouns. Similarly, nouns such as *idea* and *reason* designate third order entities and may be called third order nouns, and nouns such as *order* and *question* designate fourth order entities and may be called fourth order nouns.

The differences between these nouns and the terms based on them may be accounted for using the different variables distinguished in the previous sections. Thus, the following representations may be used for first (18), second (19), third (20), and fourth order nouns and the terms based upon them:

(18) $man_N\ (x_1)_\emptyset \rightarrow (x_i: man_N\ (x_i)_\emptyset)$
(19) $mistake_N\ (e_1)_\emptyset \rightarrow (e_i: mistake_N\ (e_i)_\emptyset)$
(20) $idea_N\ (X_1)_\emptyset \rightarrow (X_i: idea_N\ (X_i)_\emptyset)$
(21) $order_N\ (E_1)_\emptyset \rightarrow (E_i: order_N\ (E_i)_\emptyset)$

Whenever a statement applies to terms regardless of the particular type of entity to which they refer, the variable α, which ranges over x, e, X, and E, will be used. For instance, the general representation of a predication should be as in (22):

(22) $(e_1: [pred_\beta\ (\alpha_1) \ldots (\alpha_n)]\ (e_1))$

The two argument positions within this predication are provided with an α-variable since in principle terms referring to entities of any order may fill these positions.

1.7. Operators

Each of the relevant units of clause structure discussed so far can be modified by operators. Operators are abstract elements representing semantic distinctions expressed by grammatical means. In Figure 2 the different types of operator are located in the model of the clause.

All operator types have functions which are characteristic of the level at which they operate. Term operators (Ω) represent grammatical distinctions which specify additional properties of (sets of) entities, such as number and definiteness. Predicate operators (π_1) represent grammatical distinctions which specify additional properties

of states of affairs. Many aspectual distinctions are captured by this type of operator. Predication operators (π_2) represent grammatical distinctions which specify the setting of a state of affairs. They take care of e.g. tense distinctions. Proposition operators (π_3) represent grammatical distinctions which specify the propositional attitude of the speaker, as in the case of evidential modality. Illocution operators (π_4) represent grammatical distinctions which modify the force of a speech act, and thus take care of e.g. the reinforcing use of emphatic morphemes.

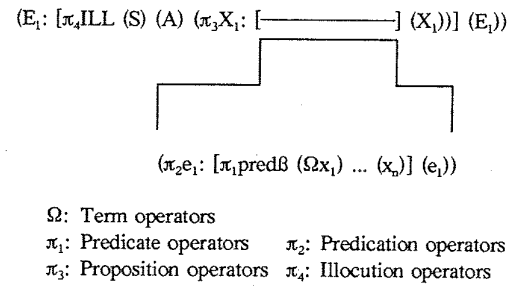


Figure 2. Operators

The example in (23) illustrates the functions of the different classes of operators:

(23) *The croupier might have been cheating.*

The individual *the croupier* is characterized as singular and definite. These properties are taken care of by term operators (Ω). The main predicate *cheat* is accompanied by several auxiliaries. The auxiliary *be* and the participial form of the predicate together express progressive aspect, an additional property of the state of affairs. This is taken care of by a predicate operator (π_1). The temporal setting of the state of affairs as a whole is given by means of the auxiliary *have*, which is taken care of by a predication operator (π_2). The speaker's attitude towards the information he is presenting is signalled by a form of the modal auxiliary *may*, the expression of a proposition operator (π_3). By putting this modal in the past tense the speaker expresses some reservations concerning his statement, which is the expression of an illocution operator (π_4).

1.8. Satellites

Just as every layer may be modified by operators, so it may be further extended by satellites (Dik et al. 1990: 27-30; Hengeveld 1990a: 12-14), which represent adverbial constructions. In Figure 3 the different types of satellite are located in the model of the clause, in which they are represented following the method proposed in Vet (1986).

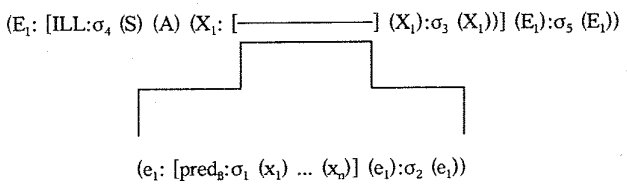


Figure 3. Satellites

The functions of these satellites are comparable to those of the corresponding operators. *Predicate satellites* (σ_1) specify additional properties of the SoA (e.g. Manner, Direction), *predication satellites* (σ_1) specify the spatial, temporal, and cognitive setting of the SoA (e.g. Location, Time, Reason), *proposition satellites* are concerned with the validity of the propositional content (e.g. Attitude), and *illocution satellites* (σ_4) have to do with the speaker's communicative strategy (e.g. Manner (of speech act)). Finally, in order to account for textual relations, there is a class of *clause satellites* (σ_5). Satellites of this class capture the lexical means through which the speaker locates his utterance within the context of the discourse and thus restricts the set of potential perlocutions of this utterance.

The example in (24) illustrates these functions:

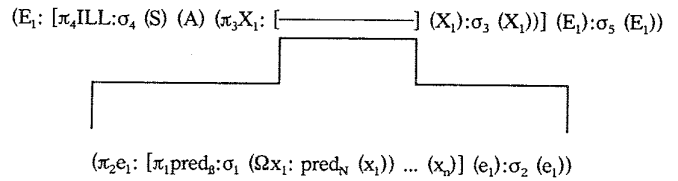
(24) *Honestly* (σ_4), *you certainly* (σ_3) *danced beautifully* (σ_1) *yesterday* (σ_2), *if I may say so* (σ_5).

In this sentence the manner satellite (σ_1) *beautifully* specifies an additional property of the SoA. The temporal satellite (σ_2) *yesterday* specifies the setting of the SoA. Through the attitudinal satellite (σ_3) *certainly* the speaker expresses his commitment

with respect to the propositional content. Through the manner satellite (σ_4) *honestly* the speaker reinforces the basic illocution of the utterance. Through the conditional satellite (σ_5) *if I may say so* the speaker contemplates the felicity of the speech act within the actual communicative setting.

1.9. Clause structure

In Figure 4 the full structure of the clause, including operators and satellites, is given.



Layers and frames		*Operators*	*Satellites*
E_1:	Clause		σ_5: Clause satellites
ILL:	Illocution	π_4: Illocution operators	σ_4: Illocution satellites
X_1:	Proposition	π_3: Proposition operators	σ_3: Proposition satellites
e_1:	Predication	π_2: Predication operators	σ_2: Predication satellites
$Pred_8$:	Predicate	π_1: Predicate operators	σ_1: Predicate satellites
x_1:	Term	Ω: Term operators	

Figure 4. The structure of the clause

In following chapters only those parts of this structure which are relevant to the points made will be given. By way of illustration one full representation is given in Figure 5, which is the clause structure underlying sentence (25).

(25) *The croupier might have been cheating yesterday.*

The semantic function *Ag* (agent) in Figure 5 has been discussed in 1.1, the operators *mit* (mitigation), *poss* (possibility), *past*, and *progr* (progressive) in 1.7, the satellite *yesterday* in 1.8. No attention is paid here to syntactic and pragmatic functions.

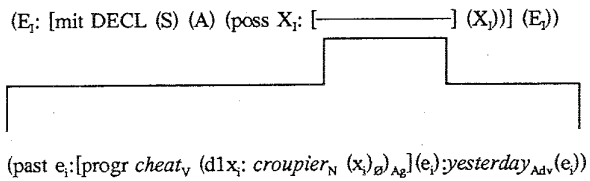


Figure 5. Sample clause structure

1.10. Subordination

Within the representations of clause structure given so far terms and predicates have been the main building blocks. To these should be added more complex constructions, in particular subordinate constructions in argument, satellite or restrictor position. These can be subclassified according to their internal complexity using the model that has been applied to main clauses (Hengeveld 1989: 144-150, 1990a: 14-19; Dik—Hengeveld 1990: 234-237). For instance, each of the layers in this model may not only be modified by operators and satellites, but may also be turned into the argument of a higher predicate. Consider the following examples:

(26) *Hopefully you will pass the exam.*
(27) *I hope you will pass the exam.*

In both sentences the proposition *you will pass the exam* is characterized as being a fulfillable wish of the speaker. In (26) this is achieved by providing it with the modal adverb *hopefully*, in (27) by turning it into the complement of the verb *hope*, as is represented in (28)-(29), respectively:

(28) (X$_1$: [*you will pass the exam*] (X$_1$): *hopefully*$_{Adv}$ (X$_1$))
(29) *hope*$_V$ (1.sg)$_{Exp}$ (X$_1$: [*you will pass the exam*] (X$_1$))$_{Go}$

Just as a proposition may be turned into the argument of a higher predicate, so may all other layers be governed by a higher predicate. Consider the following examples:

(30) *He said: "John is leaving".*
(31) *He believed that John was leaving.*
(32) *He saw John leave.*
(33) *He hit John.*

Utterance predicates used for direct speech reports have a fourth order argument, the quoted speech act (30); believe predicates have a third order argument, the believed propositional content (31); immediate perception predicates have a second order argument, the witnessed SoA (32). Predicates with first order arguments only, such as *hit* in (33) conclude the scale. The arguments of these predicates are of decreasing internal complexity, as is shown in (34):

(34)

say$_V$	(x$_1$)$_{Ag}$	(E$_1$)$_{Go}$
believe$_V$	(x$_1$)$_{Exp}$	(X$_1$)$_{Go}$
see$_V$	(x$_1$)$_{Exp}$	(e$_1$)$_{Go}$
hit$_V$	(x$_1$)$_{Ag}$	(x$_1$)$_{Go}$

A comparable subclassification could be made for subordinate constructions occupying satellite and restrictor positions, although the possibilities are somewhat more restricted here.

1.11. Expression rules

Underlying Functional Grammar representations are translated into natural language expressions by means of expression rules, which take care of (i) the form of constituents, (ii) the order of the constituents in the natural language expression and (iii) the prosodic contour of the natural language expression (Dik 1989: 289). Here I will be concerned with rules of the first type only.

Expression rules determining the form of constituents are basically of two types. Rules of the first type, which may be termed *replacive rules*, turn some abstract element of underlying structure into a formal element of linguistic structure. In (35) this abstract element is the Neg operator in English, which is expressed by means of the element *not* in the context of an auxiliary verb:

(35) (neg e$_i$: [pred$_{Vaux}$ pred$_V$ (x$_i$) ... (x$_n$)] (e$_i$)) → (e$_i$: [pred$_{Vaux}$ *not* pred$_V$ (x$_i$) ... (x$_n$)] (e$_i$))

The replacive nature of this type of rule is apparent. The abstract element *neg* in the input is replaced by the formal element *not* in the output.

Rules of the second type may be termed *support rules*. In many cases these create the conditions for rules of the first type to apply. English *do*-support is a clear example of this type of rule. In the absence of other auxiliary verbs English *do* is inserted in several circumstances, including that in which a negative operator has to be expressed. This is (partially) taken care of by a rule like the following:

(36) (neg e_i: [$pred_V$ (x_i) ... (x_n)] (e_i)) →
(neg e_i: [$do_{V_{aux}}$ $pred_V$ (x_i) ... (x_n)] (e_i))

Characteristic of support rules is their non-replacive character: no abstract element from the input of (36) is absent from its output. A formal element is added, which creates the circumstances under which it is possible for the replacive rule (35) to apply.

Of particular importance in the present context are *copula support rules* (Dik 1980: 94-98, 1983: 128-132). These insert a copula into non-verbal predications under certain specified conditions. Copula support will be treated more extensively in chapter 3, since it is this rule that allows for a unified treatment of copular and verbless sentences.