

Prototypical and non-prototypical noun phrases in Functional Discourse Grammar

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1. Introduction¹

The aim of this paper is to show how the various functions and forms of a noun phrase can be handled in Functional Discourse Grammar (FDG). In order to do so, I will take what may be called the standard, prototypical noun phrase as my point of departure. The standard noun phrase (i) has a nominal head; (ii) denotes a concrete, first-order entity; (iii) denotes by lexical means; and (iv) is used referentially.² This type of noun phrase is discussed in section 3, after a brief introduction to FDG in section 2. Sections 4–7 then study noun phrases which lack one of the properties of standard noun phrases, in the order in which these properties are listed above. The conclusion will be that the separation between the interpersonal, the representational, and the morphosyntactic levels of analysis in FDG allows for a systematic treatment of standard and non-standard noun phrases.

2. Functional Discourse Grammar³

2.1. Introduction

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 and Mackenzie (2006); a full presentation of the model is given in Hengeveld and Mackenzie (fc.).

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 interpersonal 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) Subacts. 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.

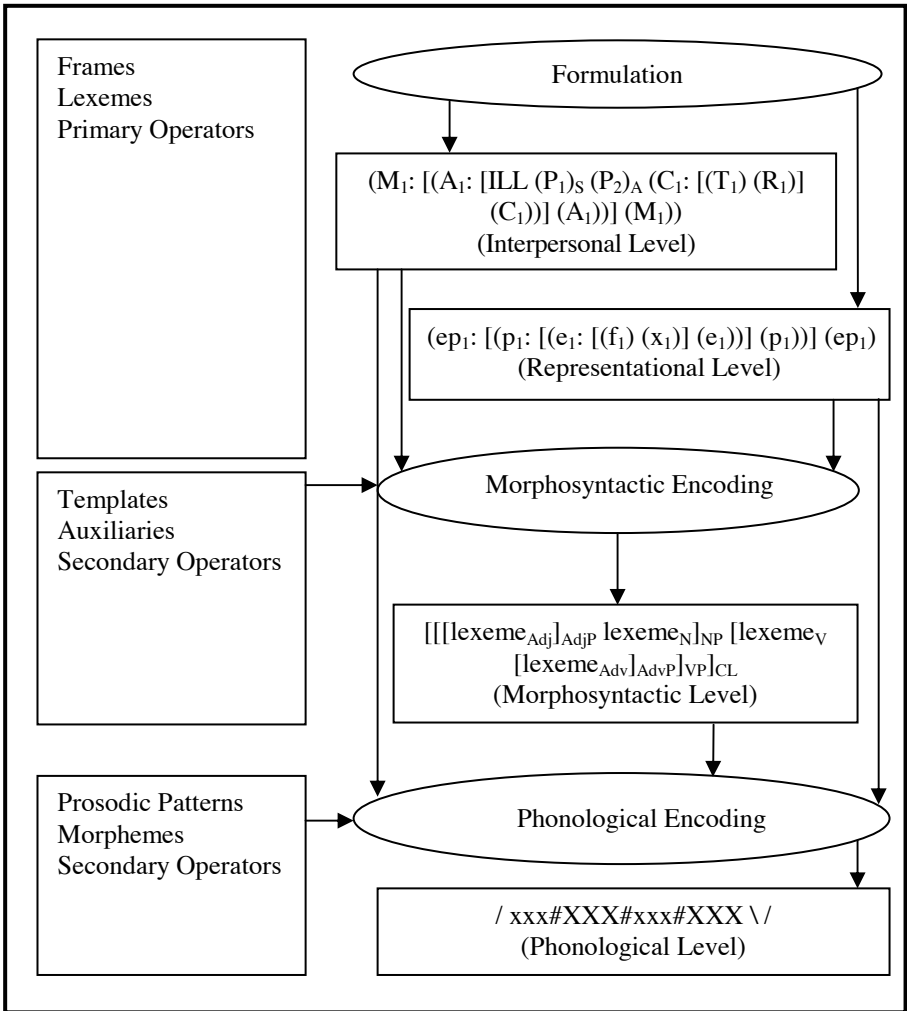


Figure 1. Outline of FDG

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

- (2) (ep₁: [(p₁: [(e₁: [(f₁) (x₁)] (e₁))] (p₁))] (ep₁))

At this level of analysis linguistic units are described in terms of the entity type they denote. 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 of clauses, phrases and words are given, such as for instance in (3):

- (3) [[[lexeme_A]_{AP} lexeme_N]_{NP} [lexeme_V [lexeme_{Adv}]_{AdvP}]_{VP}]_{CL}
 e.g. ‘The tall_A man_N danced_V badly_{Adv}’.

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 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 ovals 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 con-

figurations take in the language. In terms of encoding, languages may differ in e.g. their word order, morphological types, phoneme inventory, etc.

3. The standard noun phrase

3.1. Introduction

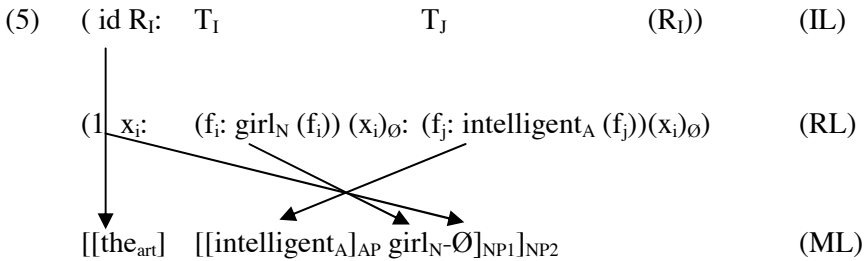
An example of the standard noun phrase is given in (4):

(4) *The intelligent girl passed the exam.*

The noun phrase *the intelligent girl* is (i) headed by a noun (*girl*); (ii) denotes a first-order entity (the concrete object “girl”); (iii) denotes through lexical means, i.e. uses lexical items (*intelligent*, *girl*) to build up a picture of the concept transmitted; and (iv) is used by the speaker to refer to the first order-entity denoted.

3.2. The standard case in FDG

In FDG a noun phrase such as the one in (4) may be represented as in (5):



The referential use of the noun phrase is represented at the Interpersonal Level (IL), where R_I indicates that the noun phrase instantiates a referential subact. This referential subact contains two instantiations of ascriptive subacts (T_I and T_J). The denotation of the noun phrase is dealt with at the Representational Level (RL). Here x_i indicates that the noun phrase denotes a first-order entity. This first-order entity has the lexically expressed properties f_i and f_j, which shows that denotation is achieved by lexical means. The nominal nature of the noun phrase is indicated at the represen-

tational level, too, where the subscript of the lexical item functioning as the head is “noun” (N). On the basis of the information given at the interpersonal and representational levels, the morphosyntactic encoder produces a noun phrase at the morphosyntactic level (ML).

3.3. Operators and modifiers

3.3.1. Introduction

As indicated in section 2, and illustrated in (5), there are positions at the interpersonal and representational levels for various kinds of primary operators, i.e. operators that capture grammatical distinctions in terms of their meaning. For every layer within these levels, there is a separate category of operators, represented by Π at the interpersonal level and π at the representational level. Similarly, every layer may be modified by a separate category of modifiers, captured by Σ at the interpersonal level and σ at the representational level. Within the maximal structure for noun phrases used as referential subacts, the operator and modifier positions given in (6) are available:

$$(6) \quad (\Pi^R R_I: \dots\dots\dots (R_I): \Sigma^R (R_I)) \\ (\pi^x x_i: (\pi^f f_i: \text{Le}_{X_N} (f_i): \sigma^f (f_i)) (x_i): \sigma^x (x_i))$$

3.3.2. Operators

The various operator positions in (6) capture the following types of meaning:

- (7) *Operators*
 Π^R Identifiability, Specificity
 π^x Location, Number
 π^f Shape, Measure

Identifiability and specificity are properties of referential subacts (R), since they have to do with the speaker’s assessment of the knowledge of the hearer concerning the referent of the noun phrase. Location and number concern properties of the entity denoted by the noun phrase as a whole in the external world, and therefore operate at the highest layer of the repre-

sentational level. Shape and measure specify properties of the property (f) expressed by the head noun, rather than of the entity (x) denoted as a whole, and therefore apply at the lowest layer of the representational level. An example of a noun phrase containing expressions of all three operator types is given in (8), represented in (9):⁴

Dutch

(8) Π^R π^x π^f HEAD
de *drie* *paar* *schoen-en*
 DEF THREE PAIR shoe-PL
 ‘The three pairs of shoes’

(9) (+Id R_I : (R_I))
 (3 x_i : (paar f_i : schoen_N (f_i)) (x_i)_Ø)

This example shows how the surface order of the various operator expressions within the noun phrase iconically reflects the underlying scope relations, similar to what one tends to find at the clausal level (see Foley and Van Valin 1984; Hengeveld 1989). This relation between noun phrases and clauses has been stressed in work by Rijkhoff, most recently in Rijkhoff (this volume).

3.3.3. *Modifiers*

The various modifier positions in (6) capture the following types of meaning:

(10) *Modifiers*
 Σ^R Subjective attitude
 σ^x Referent modification
 σ^f Reference modification

Modifiers of R apply at the interpersonal level and are therefore speaker-bound. They express the attitude of the speaker with respect to the referent of the term. Modifiers at the highest layer of the representational level (x) specify properties of the entity denoted as a whole. And those at the lowest level (f) specify subproperties of the property expressed by the head noun, rather than of the entity denoted as a whole. The latter two types of modification have been called “referent modification” and “reference modifica-

tion”, respectively, by Bolinger (1967). The differences between examples (11)–(13), all involving the adjective *poor*, illustrate these three classes of modifier. The examples were all encountered in a free internet search. For a detailed corpus-based study of these constructions, and a discussion of their theoretical implications, see Butler (this volume).

- (11) *Oh my god, the **poor** (Σ^R) doctor was going to just tell me the results!*
- (12) *Had I run into the rarest of species, one most people would have thought was extinct in the western world: a **poor** (σ^x) doctor?*
- (13) *A **poor** (σ^f) doctor, dentist or nurse can cause huge harm to a patient in 16 minutes let alone 16 weeks.*

In (11) the speaker expresses his or her sympathy for the doctor referred to by means of the use of *poor*. In (12) the adjective indicates a property of the entity referred to: this entity is a doctor and is poor. In (13), on the other hand, the adjective has a more restricted scope: the entity referred to is poor as a doctor, i.e. it is the doctorhood that is modified by the adjective. The structure in (6) offers three different positions for these three different readings of *poor*, as illustrated in (14)–(16), where in each case the layer modified is different in the sense that the scope of the adjective decreases from the R-level in (14), through the x-level in (15) to the f-level in (16):

- (14) (R_i: (R_i): (f_j: poor_A (f_j)) (R_i))
(x_i: (f_i: doctor_N (f_i)) (x_i))
- (15) (R_i: (R_i))
(x_i: (f_i: doctor_N (f_i)) (x_i): (f_j: poor_A (f_j)) (x_i))
- (16) (R_i: (R_i))
(x_i: (f_i: doctor_N (f_i): (f_j: poor_A (f_j)) (f_i)) (x_i))

The differences between the various uses of *poor* in (11)–(13) are reflected in its behaviour in certain grammatical contexts. Examples (17)–(19) show how *poor* behaves differently from *rich*, which can only be used for referent-modification:

- (17) a. *Poor man!*
 b. **Rich man!*
- (18) a. *The doctor is poor.*
 b. *The doctor is rich.*
- (19) a. *He made a poor doctor.*
 b. **He made a rich doctor.*

Example (17) shows that only an interpersonal adjective can be used in exclamations of the type illustrated; (18) shows that both adjectives may be used at the x-level specifying opposite values, excluding the “pity” sense and the “badly skilled” sense of *poor*; and (19) shows that in the context of *He made a ... N*, which forces a low-scope reading upon the adjective, only reference modification is possible.⁵

4. Non-nominal noun phrases

I will now turn to a type of noun phrase that is different from the standard noun phrase only in the fact that its head is not a noun. Consider the following example from Hupa:

Hupa (Na-Dene; Golla 1985: 59)

- (20) *mi-de'-xo-le:n'*
 3SG.POSS-horn-3SG.OBJ-plenty
 ‘cow’ (lit. “its horns are plenty on it”)

At first sight it seems that the expression in (20) is not a noun phrase but a clause. However, as shown in (21), the same expression may take a possessive prefix, which a clause could never take, thus clearly showing the phrasal nature of the expression:

Hupa (Na-Dene; Golla 1985: 59)

- (21) *whi-mi-de'-xo-le:n'*
 1SG.POSS-3SG.POSS-horn-3SG.OBJ-plenty
 ‘my cow’ (lit. “my ‘its horns are plenty on it’ ”)

One way of interpreting this construction is that a concrete entity is characterized in terms of a state-of-affairs in which it is typically involved. In

other words: a first-order entity is characterized in terms of a second-order entity. Example (20) may be represented as in (22):

- (22) $(x_i: (e_i: [(f_i: le:n (f_i)) (x_j: de' (x_j): (x_i: mi (x_i))_{Poss} (x_j)]_{\emptyset} (x_i: xo (x_i))_{Ref}] (e_i)) (x_i)_{\emptyset})$

This analysis is similar to the one given by Dik (1997b: 92) for internally headed relative clauses, and indeed, as (22) shows, the variable (x_i) of the term as a whole is filled in with another coreferential term $(x_i: xo (x_i))$ within the predication (e_i) that occupies the head position of the term as a whole. This predication is thus a closed predication in FG terms.

The possibility of a term containing an open predication as its head may now also be considered. As proposed by Van der Auwera (1990: 151ff.), cases like (23) are instantiations of this situation:

- (23) *I will read what you read.*

The headless relative (in italics) in (23) can be represented as in (24):

- (24) $(x_i: (Pres e_i: [(f_i: read (f_i)) (x_j: you (x_j))_{Ag} (x_i)_{Pat}] (e_i)))$

Note that here the variable (x_i) within the embedded predication is not filled with any lexical material, but bound by the variable of the term as a whole. In this sense it is different from the Hupa noun phrase in (21), which contains a closed rather than an open predication.

Taking this analysis one step further, productive nominalizations like the one in (25) may receive a similar treatment:

- (25) *a* *teach-er*
 INDEF teach-AG.NR

This nominalization might be represented as in (26):

- (26) $(1 x_i: (e_i: [(f_i: teach-v (f_i)) (x_i)_{Ag}] (e_i)))$

The fact that this configuration is expressed as a noun would then be taken care of by the morphosyntactic encoder. An advantage of this approach, over the one generally advocated in FG, is that no predicate formation rule is needed, and derivational expression is dealt with in the same way as inflectional expression. Of course, such a syntactic approach to deriva-

tional morphology is only possible to the extent that the derivation involved is productive and regular. As soon as a derivation becomes lexically specialized it would have to be entered into the lexicon as a separate lexeme.

5. Non-first order noun phrases

Another way in which noun phrases may deviate from the standard case is by denoting a non-first order entity. Cases in point are listed in (27):

- (27) *Denotations of noun phrases*
- | | | |
|---|-----------------------|----------------|
| x | individual | <i>chair</i> |
| f | property | <i>colour</i> |
| e | state-of-affairs | <i>meeting</i> |
| p | propositional content | <i>idea</i> |
| l | location | <i>country</i> |
| t | time | <i>week</i> |

As demonstrated in Hengeveld and Mackenzie (fc.), semantic classes such as the ones listed in (27) are needed to account for differences in the grammatical behaviour of classes of nouns and noun phrases crosslinguistically. A case in point is nominalization in English, where different derivational processes produce lexemes denoting properties of different kinds of entities. Consider the nouns in (28):

- (28) *Nominalizations*
- | | |
|---|--|
| x | <i>writ-er, employ-er, sing-er</i> |
| f | <i>mean-ness, kind-ness, false-ness</i> |
| e | <i>explora-tion, deci-sion, deple-tion</i> |
| p | <i>hope-Ø, wish-Ø, belief-Ø</i> |
| l | <i>brew-ery, bak-ery</i> |
| t | <i>summer-time, day-time</i> |

Note that the resulting meanings of the various processes can be classified in terms of the semantic categories in (27). English does not have a productive derivational process for time expressions, but some other languages do, and this then produces meanings that are expressed in English by compounds such as *summer-time* or *winter-time*. Consider the following example from Supyire:

Supyire (Carlson 1994: 113)

- (29) *U tètè-kwu-ní jɲɛ à mɔ mɛ́*
 his TNR-die-DEF.CL NEG PRF be.long.time NEG
 ‘The time of his death was not long ago.’

FDG uses different types of variables at the representational level to account for grammatically relevant semantic classes denoted by noun phrases. Thus, the examples listed in (27) would be represented as in (30):

- (30) (x_i : (f_i : chair_N (f_i)) (x_i))
 (f_i : (f_i : colour_N (f_i)) (f_i))
 (e_i : (f_i : meeting_N (f_i)) (e_i))
 (p_i : (f_i : idea_N (f_i)) (p_i))
 (l_i : (f_i : garden_N (f_i)) (l_i))
 (t_i : (f_i : week_N (f_i)) (t_i))

6. Absence of denotation by lexical means

6.1. Two cases of lexical non-denotation

A third way in which noun phrases may differ from the standard case is when they denote, but not by lexical means, or when they do not denote at all. These cases are discussed in turn in the following sections.

6.2. Proper names and pronouns

Proper nouns and pronouns can be said to have no meaning of their own, in the sense that they do not designate properties of entities in the external world, but have a conventionalized referential use⁶ only. In FDG these words are therefore interpreted as direct and unique instantiations of referential subacts. For this reason, they are represented at the interpersonal level, as restrictors of referential subacts, rather than at the representational level, as restrictors of entity descriptions.⁷ The sentence in (31) can therefore be represented as in (32):

- (31) *I saw John.*

- (32) (T_I) (R_I: I (R_I)) (R_J: John (R_J))
 (e_i: [(f_i: see_V (f_i)) (x_i)_{Exp} (x_j)_{Pat}] (e_i))

Given their interpersonal status, proper names and pronouns may be expected to be modifiable by Π^R operators and Σ^R modifiers only, but not by operators from the representational level. Consider examples (33) and (34) and their representations in (35) and (36):

- (33) *Poor you!*
 (34) *Poor John!*

- (35) (R_I: you (R_I): (f_j: poor_A (f_j)) (R_I))
 (36) (R_J: John (R_J): (f_j: poor_A (f_j)) (R_J))

Poor in (33) and (34) can only be interpreted as an expression of a subjective attitude of the speaker with respect to the referent of the term, and never as an instance of referent modification or reference modification (see section 3.3.3).

6.3. Vocatives

In (35)–(36) the pronoun and proper name have a representational counterpart, even though it is one that is not lexically filled. When these same elements are used as vocatives, they have no representational counterpart at all. They do not denote an entity in the external world, but have an interpersonal function only, bound to the speech situation itself. The expressions in (37)–(38) can be formalized as in (39)–(40) (see Hengeveld and Mackenzie *fc.*: ch.4):

- (37) *John!*
 (38) *Hey, you!*
 (39) (M_I: [(A_I: [(F_I: VOC (F_I)) (P₁)_S (P₂: John (P₂))_A] (A_I))] (M_I))
 (40) (M_I: [(A_I: [(F_I: hey (F_I)) (P₁)_S (P₂: you (P₂))_A] (A_I))] (M_I))

In some languages the different uses of proper names are reflected in their grammatical behaviour. Thus, in Portuguese, proper names carry a definite

article when used referentially, but appear without an article in vocative function, as in the following examples:

Brazilian Portuguese

(41) *Vi o João.*
 see.PAST.PRF.1SG DEF.SG João
 ‘I saw John.’

(42) *Oh João, o que está fazendo?*
 VOC João, DEF.SG what COP-2SG.PRES do-PROGR
 ‘John, what are you doing?’

The fact that the vocative use of pronouns and proper names is different from their referential use is furthermore reflected in the fact that subjective modifiers such as *poor* in (33) and (34) cannot be used in the vocative construction.

Brazilian Portuguese

(43) *Vi o pobre João.*
 see.PAST.PRF.1SG DEF.SG poor João
 ‘I saw poor John.’

(44) **Oh pobre João, o que está fazendo?*
 VOC poor João, DEF.SG what COP-2SG.PRES do-PROGR
 ‘John, what are you doing?’

6.4. (Non-)denotation: summary

In sum, Table 1 represents the situations with regard to the denotation or non-denotation of noun phrases. Each situation may be interpreted as a combination of features obtaining at the interpersonal and representational levels of representation.

Table 1. (Non-)denotation

	Interpersonal	Representational
Standard case	(R: Ø (R))	(x: Lexeme (x))
Proper names	(R: Lexeme (R))	(x: Ø (x))
Vocatives	(P: Lexeme (P))	Ø

7. Non-referential noun phrases

7.1. Two cases of non-referentiality

A fourth way in which noun phrases may differ from the standard case is when they are non-referential. Here again there are two different cases that may be distinguished (cf. Rijkhoff 2002: 56–57): One in which the noun phrase has no interpersonal function at all, and one in which it has an ascriptive rather than a referential interpersonal function. These cases are discussed one by one in the following sections.

7.2. Noun incorporation

Smit (2005) distinguishes three cases of noun incorporation, differentiating the three types according to the layered underlying structure of the incorporated unit. These three cases are listed in (45):

- (45) *Three cases of noun-incorporation*
 f-incorporation: (f_i; Lex_N (f_i))
 x-incorporation: (x_i; (f_i; Lex_N (f_i)) (x_i))
 R-incorporation: (R_i; (R_i))
 (x_i; (f_i; Lex_N (f_i)) (x_i))

In the first case what is incorporated is a noun, not a noun phrase. In the other two cases what is incorporated is a noun phrase. The phrasal nature of these two cases can be demonstrated by the fact that the incorporated noun allows an (external) modifier. The difference between the two phrasal cases has to do with the referentiality of the incorporated unit: if it is a case of x-incorporation it is impossible to refer back to the incorporated unit; if it is a case of R-incorporation anaphoric reference is possible. These various properties are listed in Table 2.

Table 2. Noun incorporation

	Modification	Reference
f-incorporation	-	-
x-incorporation	+	-
R-incorporation	+	+

R-incorporation is simply a matter of a different type of morphosyntactic expression of a standard noun phrase. The case of x-incorporation, however, cannot be interpreted as a standard case, since the noun phrase is not used referentially. Consider the following example from Caddo, discussed in Mithun (1984: 864–866):

Caddo (Caddoan; Mithun 1984: 866)

- (46) **wayah** *hák-k'uht-'i-sa'*.
 a.lot PROGR-grass-grow-PROGR
 'There is a lot of grass.'

The incorporated noun *k'uht* 'grass' has an external adjectival modifier *wayah* 'a lot', which shows that this is a case of phrasal incorporation. At the same time, it is not a referential phrase. As Mithun (1984: 866) notes: "Although the identity of the referents of IN's [incorporated nouns, KH] in these [...] constructions is often deducible from context, the IN's themselves are not, strictly speaking, referential. An extensive examination of texts shows that they are not used to establish discourse referents as independent N's are." And later on: "In those relatively rare cases where entities first appear in discourse as IN's, any subsequent mention of them regularly includes a restatement of the N, either incorporated or independent."

In view of this non-referential nature of the noun phrase, the head of which is incorporated, it may be represented in FDG as in (47):

- (47) $(T_i) \quad \emptyset$
 $(e_i: [(f_i: -i- (f_i)) \quad (x_i: k'uht (x_i): wayah (x_i))] \quad (e_i))$

This representation indicates that at the representational level there is a full phrasal description of a first order entity, but that this semantic unit has no interpersonal counterpart.

7.3. Ascriptive noun phrases

A second case in which noun phrases are used non-referentially is when they have an ascriptive interpersonal function. A case in point is (48):

- (48) *This man is a criminal.*

This sentence may be represented as in (49):

- (49) (T_1) (R_1)
 $(e_i: [(1 x_i: (f_i: \text{criminal } (f_i)) (x_i)) (\text{prox } x_j: (f_j: \text{man } (f_j)) (x_j))_{\emptyset}] (e_i))$

The formalization in (49) indicates that the first-order entity description x_i does not instantiate a referential subact (R) but an ascriptive subact (T).⁸

Once the distinction between the ascriptive and referential use of noun phrases is made and can be formalized, some differences in their behaviour can be accounted for. One example concerns anaphoric reference. Consider the following examples:

- (50) *He is a criminal.*
That's what he is.
And so is Peter.
- (51) *A criminal refused to hand in his gun.*
That's what he did.

Anaphoric reference to a noun phrase used ascriptively requires the use of *that* or *so* as in (50), while the use of a personal pronoun is required in the case of referential use.

Once the above analysis is accepted, identificational constructions have to receive an analysis different from the one advocated in Dik (1980: chapter 4) and Hengeveld (1992). Keizer (1992, this volume) already noticed problems with this analysis. Consider the following example:

- (52) *He is Peter.*

If *Peter* in (52) is taken as the predicate, as it is in Dik (1980) and Hengeveld (1992), then one would expect (53) to be grammatical, which it isn't:

- (53) **That's what he is.*

Rather than being an ascriptive subact, *Peter* should thus be taken as the instantiation of a referential subact, and (52) should be represented as in (54), in consonance with Keizer (1992):

- (54) $(R_i: [\text{he}] (R_i))$ $(R_j: \text{Peter } (R_j))$
 $(\text{Pres } e_i: [(x_i)_{\emptyset} (x_i)_{\emptyset}] (e_i))$

The copula is then introduced at the morphosyntactic level, to accommodate the expression of the tense operator in the absence of a verbal element.

7.4. (Non-)referentiality: summary

The cases of (non-)referentiality discussed in this section may now be summarized as in Table 3.

Table 3. (Non-)referentiality

	Interpersonal	Representational
Standard case	R	x etc.
Predicate nominals	T	x etc.
Incorporation	∅	x etc.

8. Conclusion

In the previous sections, the various types of noun phrases have been distinguished from one another in the way summarized in Table 4.

Table 4. Summary

	Head	Order	Representational	Interpersonal
Standard noun phrase (§3)	N	1	(x: lex (x))	(R: ∅ (R))
Non-nominal noun phrase (§4)	non-N	1	(x: ([..lex..]) (x))	(R: ∅ (R))
Non-first order noun phrases (§5)	N	non-1	(e: lex (e)) etc.	(R: ∅ (R))
Proper names and pronouns (§6.2)	N	1	(x: ∅ (x))	(R: lex (R))
Vocatives (§6.3)	N	1	∅	(P: lex (P))
x-incorporated noun phrases (§7.2)	N	1	(x: lex (x))	∅
Ascriptive noun phrases (§7.3)	N	1	(x: lex (x))	(T: ∅ (T))

Table 4 shows, among other things, that standard noun phrases (§3), non-nominal noun phrases (§4), and non-first order noun phrases (§5) cannot be distinguished from one another at the interpersonal level, while they are distinct at the representational level. Conversely, standard noun phrases (§3), x-incorporated noun phrases (§7.2), and ascriptive noun phrases (§7.3) cannot be distinguished from one another at the representational level, while they are distinct at the interpersonal level. Thus, by combining

the interpersonal and representational levels, unique configurations arise that are sufficient to trigger the encoding devices that are needed to account for the morphosyntactic differences between these construction types.

Notes

1. This article is to a large extent inspired by joint work with Lachlan Mackenzie on Functional Discourse Grammar (Hengeveld and Mackenzie *fc.*). I am grateful to the editors of this volume and to an anonymous referee for comments on an earlier version of this paper.
2. I use the term “denotation” for the relationship between a linguistic expression and the entities external to the language system to which that expression applies (Lyons 1977: 207f). The term “reference” is used, in a pragmatic sense, for the use a speaker makes of a linguistic expression to identify an entity for an addressee. As Lyons (1977: 177) states, “... it is the speaker who refers (by using some appropriate expression): he invests the expression with reference by the act of referring.” A similar distinction is made by Rijkhoff (2002: 228) when he talks about the descriptive versus referential function of noun phrases.
3. This section is largely based on Hengeveld and Mackenzie (2005).
4. The fact that *paar* does not take a plural ending shows that it is a grammatical expression rather than a head noun.
5. Note that this subdivision of adjectives solves the problem mentioned by Escribano (this volume) that not all modifiers are intersective. In the classification used here only *x*-modifiers, as illustrated in (15), are intersective.
6. This is probably the reason why they were called “basic terms” in FG (Dik 1997a: 61).
7. See also Coates (2006), who provides a series of arguments for the pragmatic nature of referring by means of proper names. See also Keizer (this volume) for an alternative view, in which proper names are treated as restrictors at the representational level.
8. Keizer (this volume) provides the noun phrase used ascriptively with an additional *f*-variable at the representational level. I see no need for this additional variable, as the property-assigning nature of such noun phrases is sufficiently captured by the fact they are used as ascriptive subacts.

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