

## Parallels in NP-Clause structure: Functional categories

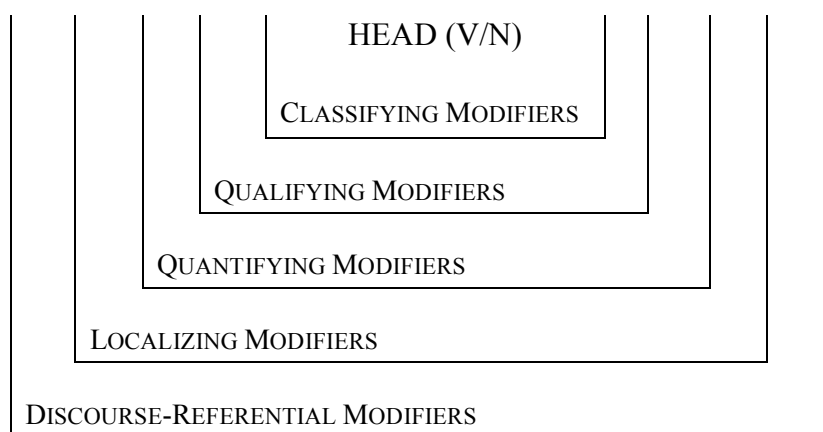
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### Preliminaries:

- ☞ This paper takes a ‘functional-typological’ approach (e.g. Rijkhoff 2002, 2004, forthc. 2010a-b):
  - (i) the structure of languages is adapted to their primary purpose: communication between human beings, and
  - (ii) an adequate theory of grammar cannot be developed without being exposed to linguistic facts from a wide variety of typologically different languages, and, conversely, empirical research is best guided by theoretical questions.
- ☞ ‘Functional category’ is NOT used in the sense of ‘[closed] class of elements with a grammatical meaning or function’ (e.g. Hudson 1997, Muysken 2008). Here FUNCTIONAL CATEGORIZATION is contrasted with FORMAL and SEMANTIC CATEGORIZATION and relates to the functional approach to grammatical analysis as originally developed by linguists of the Prague School, who were “seeking to understand what jobs the various components were doing [...]” (Sampson 1980: 104). This paper applies the functionalist approach of the Prague School to current grammatical theory, in particular Simon Dik’s FUNCTIONAL GRAMMAR (Dik 1997) and its successor FUNCTIONAL DISCOURSE GRAMMAR (Hengeveld & Mackenzie 2008). More specifically, I will discuss the five shared functional modifier categories that are relevant in the representation of noun phrase structure and clause structure.
- ☞ A complete theory of grammar should employ FUNCTIONAL, FORMAL, and SEMANTIC categories; NPs and clauses can be analyzed in terms of the same functional categories.

### 1. Introduction

In cross-linguistic research (linguistic typology, grammatical theory) categories can/should also be defined in functional terms (FUNCTIONAL SAMENESS). Within these functional categories and subcategories, formal and semantic criteria may then be used to define formal and semantic categories containing members that are similar enough to be compared across-languages (FORMAL AND SEMANTIC SIMILARITY).



*Figure 1.* Shared modifier categories in a layered representation of **NP/clause structure**, reflecting scopal differences between the modifier categories.

Figure 2 (next page) shows that -up to a point- the same functional categories (CLASSIFYING MODIFIERS, QUALIFYING MODIFIERS etc.) can be used to analyze **NPs AND CLAUSES**: they have the same kind of ‘layered’ organization, accommodating the same kind of functional modifier categories (Rijkhoff 2008a-b-c). This analysis is supported by synchronic and diachronic evidence (section 4).

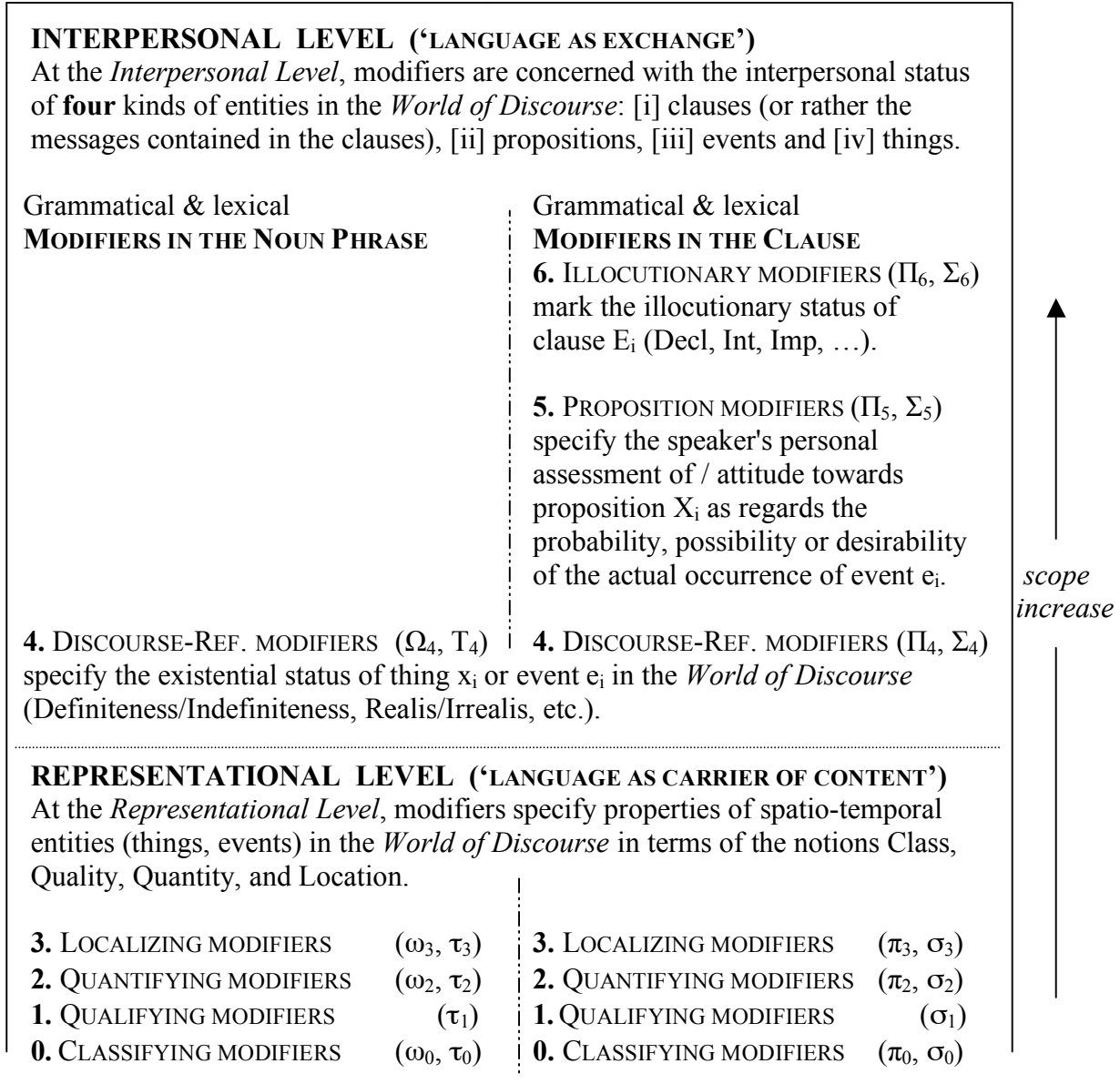


Figure 2. Layers of modification in the noun phrase and in the clause  
 (Discourse-Ref. = Discourse-Referential; Greek characters symbolize the various kinds of grammatical [ $\omega/\Omega, \pi/\Pi$ ] and lexical [ $\tau/T, \sigma/\Sigma$ ] modifiers).\*

### Formal (meaning/function-based) representation of layered NP-structure (Rijkhoff 2008a: 86)

$$(1) \quad NP_i: \Omega_4[ \omega_3[ \omega_2[ - [ \omega_0[ (NOUN(f_i))(x_i) ]_{L_c} \tau_0(L_c) ]_{L_0} \tau_1(L_0) ]_{L_1} \tau_2(L_1) ]_{L_2} \tau_3(L_2) ]_{L_3} T_4(L_3)$$

$\Omega/\omega$  = 'term (NP) operator' (grammatical modifier of N); the argument of classifying operator  $\omega_0$  is the innermost layer (the core layer, hence labelled  $L_c$ ), whereas the argument of discourse-referential operator  $\Omega_4$  is layer  $L_3$  (which contains all other layers);

$f$  = predicate variable (here symbolizing the head noun);

$x$  = referent variable (symbolizes the referent of the NP);

$\tau/T$  = 'term (NP) satellite' (lexical modifier of N); the argument of classifying satellite  $\tau_0$  is the core layer ( $L_c$ ), whereas the argument of discourse-referential satellite  $T_4$  is the material contained in localizing layer  $L_3$ .

IN (1) EACH MODIFIER (OPERATOR OR SATELLITE) TAKES A CERTAIN LAYER AS ITS ARGUMENT. FOR EXAMPLE, QUANTITY LAYER L2 IS THE ARGUMENT OF LOCALIZING OPERATOR  $\omega_3$  AND LOCALIZING SATELLITE  $\tau_3$ .

## 2. Categories

### 2.1. Formal categories and their limitations (*Formal categories are too restrictive*)

Problem: the enormous degree of morphological and syntactic variation that we find in the languages of the world. *How to identify members of a formal category (in particular across languages)? What are THE formal properties of adjectives, relative clauses within and across languages)? Does X belong to formal category A or B (serial verb: verb or preposition? – etc.).* To the extent that languages can be said to share the same formal categories, members of these categories do not necessarily share the same formal properties. For example, whereas in many languages members of the syntactic category NOUN are characterized by the fact that they can be marked for number, there are also quite a few languages where number marking on the noun is absent (Rijkhoff 2004: 45, 146-153; 2008). Do all languages have nouns/NPs, verbs/VPs, adjectives/AP, etc. ...?

- ☞ Is it possible to define category membership of a formal category in formal terms in a non-circular fashion? [*\*NP is a phrase headed by N; \*N is head constituent of NP*]
- ☞ What are THE formal categories in languages across the globe? (consensus on membership or definitions?)
- ☞ Members of the same formal category (e.g. Dutch PPs with *van* 'of') have different grammatical properties, depending in the FUNCTION they have (there is no one-to-one relation between FORM and FUNCTION; FORM(AL PROPERTIES depend on FUNCTION). *Figure 3* shows that different (modifier) functions correlates with a different set of values for three parameters:
  - MODIFICATION: the head noun of the noun phrase in the PP can itself be modified (i.e. internal modification)
  - PREDICATION: the PP can occur in predicate position
  - REFERENCE: the noun phrase in the PP is referential (i.e. the NP refers to a particular entity).

Dutch adnominal PPs with <i>van</i> 'of'	MODIFICATION	PREDICATION	REFERENCE
LOCALIZING <i>de auto van de man</i> the car of the man 'the man's car'	<i>de auto van de oude man</i> 'the car of the old man'	<i>de auto is van de man</i> the car is of the man 'the car belongs to the man'	<i>de auto van die man</i> the car of that man 'that man's car'
QUALIFYING B <i>een kroon van goud</i> 'a crown of gold'	<i>een kroon van zuiver goud</i> 'a crown of pure gold'	<i>de kroon is van goud</i> the crown is of gold 'the crown is made of gold'	—
QUALIFYING A <i>een man van gezag</i> 'a man of authority'	<i>een man van groot gezag</i> 'a man of great authority'	—	—
CLASSIFYING <i>een man van het toneel</i> 'a man of the stage'	—	—	—

Figure 3. Properties of classifying, qualifying and localizing PPs with *van* 'of' in Dutch (a more detailed version is shown in the Appendix).

For these reasons, some linguistics believe that formal categories are unsuitable for cross-linguistic investigation (Whaley 1997: 54-75; Haspelmath 2007) - but see next section.

**2.2. Semantic categories and their limitations** (*Semantic categories are too wide; Rijkhoff 2009a*)

☞ Semantic categories do not put any formal limits on the way a certain meaning is expressed in the languages of the world. For example, Dryer (2008) regards both the English word ‘tall’ and its translational equivalent in Eastern Ojibwa (Algonquian; USA and Canada) as members of the semantic category Adjective, but at the same time he states that “words expressing adjectival meaning are really verbs in Ojibwa” and that they are, strictly speaking, relative clauses.

Eastern Ojibwa

- (2) *nini e-gnoozi-d*  
man REL.PX-tall-3SG  
‘a tall man’

Cross-linguistically, there are at least five ways to express COMPARISON, but Greenberg (1966: 88) stated that he could only formulate *Universal 22* if he ignored, the ‘exceed construction’.<sup>1</sup>

Duala (Stassen 1986: 151)

- (3) *Nin ndabo e kolo buka nine*  
this house it big exceed that  
‘This house is bigger than that’

☞ Semantic categories are turned into or confused with formal categories in two classical studies in morpho-syntactic typology: Hawkins (1983) and Dryer (1992).

- Dryer’s semantic categories (1992: 129) suddenly become formal categories in his *Branching Direction Theory*: branching vs. non-branching (phrasal vs. non-phrasal).
- Hawkins’s semantic categories (1983: 9-12) are suddenly treated as formal categories in his *Heaviness Serialization Principle* (HSP):  $\text{Rel} \geq_R \text{Gen} \geq_R \text{A} \geq_R \text{Dem/Num}$ . In the HSP, one constituent is considered ‘heavier’ than another, if one or more of the following factors imposes an ordering between them (Hawkins 1983: 90): (i) length and quantity of morphemes, (ii) quantity of words, (iii) syntactic depth of branching nodes, (iv) inclusion of dominated constituents.

☞ What kind of meaning is used in semantic categorization? There are various kinds of ‘meaning’: CONCEPTUAL MEANING (as found in a dictionary, a.k.a. LOGICAL, DENOTATIVE or COGNITIVE MEANING), CONNOTATIVE MEANING, SOCIAL MEANING, AFFECTIVE MEANING, REFLECTED MEANING, COLLOCATIVE MEANING and THEMATIC MEANING. But even if we just make a two-way division between linguistic and non-linguistic (‘encyclopaedic’) meaning or knowledge, it is still not clear what kind of meaning categories are used. Cognitive linguists reject a separation between linguistic knowledge and encyclopedic knowledge altogether.

- ☞ Linguists tend to use either formal or semantic categories, but
- FORMAL CATEGORIES are too narrow: they do not cover all the structural variants attested across languages
  - SEMANTIC CATEGORIES can be too wide: they include too many structural variants.
- ☞ ‘Forms’ and ‘meanings’ are (too) language specific.

<sup>1</sup> “*Universal 22*. If in comparisons of superiority the only order or one of the alternative orders is standard-marker-adjective, then the language is postpositional. With overwhelmingly more than chance frequency, if the only order is adjective-marker-standard, the language is prepositional” (Greenberg 1966: 111).

## 2.3. Functional categories

Functional categories are not so much concerned with FORM or (coded) MEANING, but rather with the actual job of a linguistic form or construction in the process of verbal (or signed) communication. This approach to grammatical analysis goes back to the Prague School of Linguistics in the first half of the 20<sup>th</sup> century, whose members were “seeking to understand what jobs the various components were doing [...]” (Sampson 1980: 104). If functional categories are the only universal categories that can be applied cross-linguistically (i.e. if there is FUNCTIONAL SAMENESS across all languages), they should have precedence over formal or semantic categories in grammatical theory / linguistic typology. For example (Figure 4):

FUNCTIONAL CATEGORY: QUALIFYING MODIFIER (IN NP)				
SEMANTIC CATEGORIES:	FORMAL CATEGORIES:			
	ADJECTIVE	PREPOSITIONAL PHRASE	REL. CLAUSE	...
SIZE •	<i>big N</i>	<i>N of enormous size</i>	<i>N that was rather big</i>	
VALUE / QUALITY •	<i>expensive N</i>	<i>N of great value</i>	...	
AGE •	<i>young N</i>	<i>N under age 16</i>	...	
COLOR •	<i>red N</i>	<i>N of incredible redness</i>	...	
... •	...	...	...	

Figure 4. Formal and semantic subcategories of QUALIFYING MODIFIERS in the noun phrase

Notice that different languages do not necessarily employ the same FORMAL OR SEMANTIC CATEGORIES. For example,

- not all languages have a distinct class of adjectives
- some languages lack colour terms.

## 3. Functional categorization: parallels between NP structure and clause structure.

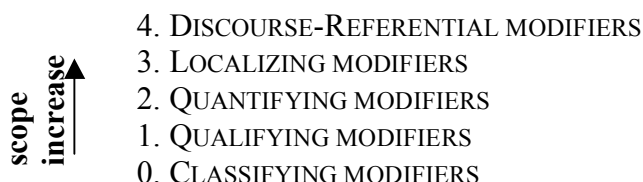


Figure 5. Shared functional modifier categories in the noun phrase and the clause

**3.1. Classifying modifiers** further specify the *kind* of entity denoted by the noun or verb and appear at the innermost layer of modification, i.e. between the head constituent and the layer that accommodates qualifying modifiers.

☞ **Classifying: grammatical modifiers ( $\omega_0$  and  $\pi_0$ ).** Verbal aspects like ‘perfective’ and ‘imperfective’ modify the *Aktionsart*, nominal aspect markers like ‘collective’ or ‘singulative’ change the *Seinsart* of a noun (Rijkhoff 1991; 2004: 100–121).

☞ **Classifying: lexical modifiers ( $\tau_0$  and  $\sigma_0$ ).** Lexical modifiers that further specify what KIND of entity is being denoted by the head constituent are, for example, so-called RELATIONAL ADJECTIVES (such as *annual* in ‘annual report’, *presidential* in ‘presidential election’ or *electric* in ‘electric train’). At the level of the clause, so-called ‘stripped nouns’ specify what kind of action is being denoted by the verb (Miner 1986, 1989; Gerds 1998). Stripped nouns are rather similar to incorporated nouns, but the crucial difference is that a stripped noun is a separate word (according to phonological criteria such as stress placement), which must appear next to the verb. In these

examples a distinction is made between sharpening in general (4a) and a certain kind of sharpening: knife-sharpening (4b).

Kusaiean (Gerds 1998: 94; original example in K. Lee 1975)

- (4)a. *Sah el twem upac mitmit sac*  
 Sah he sharpen diligently knife the  
 ‘Sah is sharpening the knife diligently.’
- b. *Sah el twetwe mitmit upac* (with stripped noun *mitmit* ‘knife’)  
 Sah he sharpen knife diligently  
 ‘Sah is diligently knife-sharpening.’

**3.2. Qualifying modifiers** specify more or less inherent properties (‘*qualities*’) of the referent.

☞ **Qualifying: lexical modifiers ( $\tau_1$  and  $\sigma_1$ ).** These modifiers specifying notions such as size, weight, color, age, and value in the case of concrete objects and manner, speed or duration in the case of events. They are expressed by adjectives (in the NP) or adverbs (in the clause) - if a language has these lexical categories.

- (5) *a beautiful<sub>Adj</sub> song<sub>N</sub>*  
 (6) *She sang<sub>V</sub> beautifully<sub>Adv</sub>*

Adjectives and adverbs are, however, not attested in every language. If a language lacks a distinct class of adjectives, it will usually employ qualifying NPs or relative clauses instead, as in the English paraphrases ‘the man **with richness**’ or ‘the man **who is rich**’ (see also (1). Speakers of Galela, for example, use a kind of relative clause (headed by a stative verb) and Hausa speakers employ an adnominal NP (headed by an abstract noun). Notice that the first syllable of the attributive verbal predicate in question is reduplicated in Galela, yielding the participial form.

Galela (van Baarda 1908: 35)

- (7) *awi dohu i lalamo*  
 his foot it be\_big:PRT  
 ‘his big foot’

Wambon is one of the languages that, apart from one or two exceptions, has no distinct class of adverbs. This language employs medial verb constructions to express qualitative notions at the level of the clause (the verb *matetmo* is derived from the adjective *matet* ‘good’).

Wambon (de Vries 1989: 49)

- (8) *Jakhov-e matet-mo ka-lembo?*  
 they-CN good-SUPP.SS go-3PL.PAST  
 ‘Did they travel well?’

*There are no grammatical elements serving as qualifying modifiers (see Rijkhoff 2008a: 85-86)*

**3.3. Quantifying modifiers** specify quantitative properties of the referent (thing or event).

☞ **Quantifying: grammatical modifiers ( $\omega_2$  and  $\pi_2$ ).** If nominal number is a relevant category in some language it is commonly expressed by a nominal affix (*book-s*). Some languages also employ grammatical means to indicate how often an event takes place (*semelfactive aspect* vs. *iterative*, *repetitive*, or *frequentative aspect*)

Hidatsa (Matthews 1965: 158)

- (9) *Wi i hirawe ksa c*  
 woman she sleep INGR ITER  
 ‘The woman kept falling asleep.’

☞ **Quantifying: lexical modifiers ( $\tau_2$  and  $\sigma_2$ ).** In quite a few languages, cardinal numerals are categorized as lexical elements or they appear as predicates.

Krongo (Reh 1985: 252)

- (10) *nóo-còorì nk-óotòonò*  
 PL-house CN.PL-IMPF:be\_three  
 ‘three houses’

In Samoan the numeral appears as the head of a special kind of relative clause introduced by the general tense-aspect-mood marker [GENR] *e* if the NP has specific reference.

Samoan (Mosel and Hovdhaugen 1992: 318)

- (11) *Sa fau=sia e Tagaloaalagi fale e tolu ...*  
 PAST build=ES ERG Tagaloaalagi house GENR three ...  
 ‘Tagaloaalagi built three houses ...’

Adverbs and adverbials are typically employed as lexical modifiers to specify how often an event occurs ( $\sigma_2$ ):

- (12) *Every once in a while/Sometimes/Rarely our cat catches a mouse.*

**3.4. Localizing (‘anchoring’) modifiers** specify locative properties of the entity (thing, event) as defined by material in the quantity layer.

☞ **Localizing: grammatical modifiers ( $\omega_3$  and  $\pi_3$ ).** Adnominal demonstratives ( $\omega_3$ ) and tense markers ( $\pi_3$ ) are grammatical manifestations of the notion *location* in the NP and the clause, respectively.

☞ **Localizing: lexical modifiers ( $\tau_3$  and  $\sigma_3$ ).** A localizing modifier in the NP can take the form of an adnominal prepositional phrase such as ‘on this coat’ (as in: ‘the stain on this coat’), a restrictive relative clause or a possessive modifier (‘genitive’; on the relationship between possession and location, see e.g. Clark 1978 and Heine 1997). A lexical manifestation of a localizing modifier provides a referential anchor for the referent of the (definite) matrix NP. Examples of localizing modifiers in the clause are adverb(ial)s of time such as ‘yesterday’ or ‘last year’.

**3.5. Discourse-referential modifiers** are concerned with the referential status of the referent of the NP or clause in conversational space.

☞ **Discourse-referential: grammatical modifiers ( $\Omega_4$ ,  $\Pi_4$ ).** (In)definiteness/(non)specificity and (ir)realis markers specify the existential status of the referent of the NP or clause in conversational space (whether or not they are grounded or have a location the *World of Discourse* – see below ‘Isomorphism I’).

☞ **Discourse-referential: lexical modifiers ( $T_4$ ,  $\Sigma_4$ ).** They provide the addressee with information about the referent as a **discourse entity**, such as *same/other* (NP), *actually/really*.

## 4. Evidence

### 4.1. Synchronic evidence

#### ☞ *Morpho-syntactic parallels*

- (13) dem num A N    Alamblak, Dutch, Georgian, Hungarian, Kayardild, Ket, Nama Hottentot, Imbabura Quechua, Pipil, Tamil, Turkish  
           dem num N A    Burushaski, Guaraní (also e.g. French and other Romance languages)  
           dem A N num    Zande  
           dem N A num    Bambara  
           num A N dem    Berbice Dutch Creole, Bislama, Sranan  
           num N A dem    Basque, Hmong Njua  
           A N num dem    Sango  
           N A num dem    Oromo, Fa d'Ambu, Nubi

In all patterns the localizing modifier (dem) is in the periphery and the qualifying adjective (A) immediately precedes or follows the noun: **DEM NUM A N A NUM DEM**

Different kinds of temporal adverb(ial)s ('satellites') tend to occur in the order time duration ('for a short while' = *qualifying adverbial*), time frequency ('every day or so' = *quantifying adverbial*) and time position ('in January' = *localizing adverbial*), as in this example (Quirk et al. 1985: 551):

- (14) *I was there    for a short while    every day or so    in January*  
           **Quality** (duration)    **Quantity** (frequency)    **Location** (in time)

Bybee (1985: 196): aspect/A ( $\pi_0$ ) occurs closest to the stem, followed by tense/T ( $\pi_3$ ), and then by mood/M ( $\Pi_4/\Pi_5$ ): **M-T-A-Verb-A-T-M**

#### ☞ *Isomorphism I: NPs and clauses sharing the same lexical modifier*

Pos systems (Hengeveld et al. 2004; Hengeveld & Rijkhoff 2005)

Flexible	Type 1	Contentive			
	Type 2	Verb		Non-verb	
	Type 3	Verb	Noun	<b>Modifier</b>	
Rigid	Type 4	Verb	Noun	Adjective	Adverb
	Type 5	Verb		Noun	Adjective
	Type 6	Verb			Noun
	Type 7	Verb			

Figure 5. Parts-of-Speech systems (based on Hengeveld 1992; adverb = manner adverb).

Languages with a PoS system of Type 3 (such as the Nilo-Saharan language Ngiti) have a single word class (*Modifier*) whose members can all be used to modify nouns as well as verbs (Kutsch Lojenga 1994: 336):

*[In Ngiti] there is no morphological nor a clear syntactic distinction between a class of adjectives and a class of adverbs in Ngiti. The functional term modifiers is therefore used [...] to cover a fairly large grammatical class of words, containing about 150 items, which are neither nouns nor verbs and which all have a modifying function in relation to different constituents.*



☞ **Isomorphism II: NPs and clauses sharing the same grammatical modifier** (Rijkhoff & Seibt 2005)

Fongbe (Lefebvre 1998: 94, 99; see also Lefebvre and Brousseau 2002)

(15) *N dú àsón ɔ́*  
I eat crab **DET**  
'I ate the crab (in question/that we know of).'

(16) *Jan wá ɔ́*  
John arrive **DET(REALIS)**  
'Actually, John arrived.'

Jacalteco (Craig 1977: 93; notice that Jacalteco has vowel harmony))

(17) *Way-oj ab naj*  
sleep-OJ EXH CLF/he  
'Would that he slept!' [**irrealis/exhortative mood**]

(18) *X-Ø-'oc heb ix say-a' hun-uj munlabel*  
ASP-ABS.3-start PL woman look\_for-FUT a-OJ pot  
'The women started looking for a pot.' [**non-specific reference**]

## 4.2. Diachronic evidence

- ☞ historical connections between linguistic material across the space-time boundary ('from space to time') are largely due to metaphorical processes
- ☞ historical relations between functional categories inside the NP or clause ('from inner to outer layer') are metonymic in nature.

### - From space to time (metaphor)

- from collective to perfective (Von Garnier 1909; also traces in Germanic languages: *Ge-brüder - ge-kommen*).
- from demonstrative to tense marker (Gildea 1993)

### - From inner to outer layer (metonymy; scope increase)

#### Clause

- *from aspect to tense* (Heine & Kuteva 2002: 231)
- *from tense to mood* (Heine & Kuteva 2002: 143)

#### NP

- *from collective to plural* (Rijkhoff 2004: 117)
- *from demonstrative to definite article* (e.g. Greenberg 1978)

## 5. Why symmetry?

"...complex entities are conceived in the same way as familiar, more basic entities, and since there are many examples which show that spatial metaphors are used to express temporal and other non-spatial notions, it is generally assumed that spatial conception plays a fundamental role in human cognition .... [P]arallels between the underlying structure of NP and clause might be due to the fact that temporal entities are understood in terms of (cognitively less complex) spatial entities. In other words, the way that humans construe referents of clauses (events) is modeled after the way that they construe referents of NPs, because the latter (spatial entities) are conceived more clearly." (Rijkhoff 2004: 223-4).

An adequate theory of grammar should employ FUNCTIONAL, FORMAL, and SEMANTIC categories.

NPs and clauses can be analyzed in terms of the same functional categories.

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Appendix: Grammatical properties of classifying, qualifying and localizing adnominal possessives (PPs with *van* ‘of’) in Dutch (Rijkhoff 2009b: 90)

ADNOMINAL MODIFIERS (PPs with <i>van</i> ‘of’)	MODIFICATION	PREDICATION	REFERENCE
LOCALIZING <i>de fiets van mijn vader</i> ‘the bike of my father’	<i>de fiets van mijn (oude) vader</i> ‘the bike of my (old) father’	<i>die fiets is van mijn (oude) vader</i> the bike is of my (old) father ‘the bike belongs to my (old) father’	<i>de fiets van Peters vader</i> ‘the bike of Peter’s father’ (REFERENCE TO AN ENTITY)
QUALIFYING B+ <i>beelden van grote kwaliteit</i> ‘statues of great quality’	<i>beelden van grote kwaliteit</i> ‘statues of high quality’	<i>de beelden zijn van verschillende kwaliteit</i> ‘the statues are of varying quality’	<i>beelden van deze kwaliteit</i> ‘statues of this quality’ (REFERENCE TO A PROPERTY OF AN ENTITY)
QUALIFYING B <i>een kroon van goud</i> ‘a crown of gold’	<i>een kroon van (zuiver) goud</i> ‘a crown of (pure) gold’	<i>de kroon is van (zuiver) goud</i> the crown is of (pure) gold ‘the crown is made of (pure) gold’	—
QUALIFYING A+ <i>een man van vele gezichten</i> ‘a man of many faces’	<i>een man van vele gezichten</i> ‘a man of many faces’	—	—
QUALIFYING A <i>een man van gezag</i> ‘a man of authority’	<i>een man van (groot) gezag</i> ‘a man of (great) authority’ (SEE SECTION 4.1)	—	—
CLASSIFYING <i>een man van de wereld</i> ‘a man of the world’	—	—	—