[published in *Word Structure*, Vol 2 (2009), 219-240]

Phrasal names: a constructionist analysis[1]

Geert Booij

Abstract:

Some types of phrases share the naming function with complex words. Hence both phrases and words can be lexical units stored in the lexicon. This article discusses how the functional similarities between words and phrases can be accounted for without ignoring their formal differences. Such types of phrases can be characterized in terms of phrasal schemas with specific properties, that is, as constructions. The article focuses on the formal properties of adjective + noun sequences with naming function, in particular in Modern Greek and Dutch. The constructionist approach is able to do justice to the word-like properties of naming phrases, and highlights the parallelism between phrasal and morphological constructions.

1. Naming and description

Words[1] are the linguistic expressions par excellence for the function of naming. Words function as names for concepts. This holds for both underived and derived words. However, the naming function is not restricted to words: certain types of phrase can also function as names. This functional similarity between words and phrases is a challenge

for linguistic theory, because we should maintain the formal distinction between words and phrases, and yet do justice to their common properties.[2]

The following definition of naming is the starting point of this article: 'Naming is creating a link between an expression and a concept. The expression is often a word, but can also consist of more than one word.' (Koefoed 1993) [my translation][3]. As an example of a phrase with a naming function, Koefoed mentions the Dutch noun phrase *vaderlandse geschiedenis* 'national history', which is the conventional name for a particular form of history, namely that from the perspective of one's native country. This phrase can be opposed to the phrase *geschiedenis van het vaderland* 'history of the native country', a descriptive phrase that refers to the history one's native country.

These two different functions of phrases are important from the perspective of a theory of the architecture of the grammar. Phrases used as names are often conventional expressions, and hence lexical units. However, when a linguistic expression is a lexical unit, this does not imply that it is a word. Words and phrases need to be distinguished carefully in an adequate linguistic theory. On the other hand, the functional similarity or even equivalence between words and certain types of phrases as names has the effect that such phrases may have specific formal properties, as will be discussed below. Hence, a proper theory of the relation between morphological and syntactic naming constructions is called for.

The role of word formation as an alternative to phrasal expression has been discussed in detail in Kastovsky (1988) who calls this recategorization. It applies to both compounding and derivation, and sometimes it has to do with the need for stylistic variation in texts. In the following examples, the use of *ringer-up* is a means of avoiding

the clumsy phrase ‘the person who rang up’. In the second example, repetition of the word *civil* is avoided in the root clause by not using the phrase *make civil*, but the complex word *civilize*:

(1) Miss Pride is convinced that the *ringer-up* was Miss Cost
If that’s not *civil*, *civilize* it and tell me (Kastovsky 1988: 595)

Nominal compounds are often used as short alternatives to syntactic descriptions. This is found in particular in the headlines of newspapers, to such an extent that one might speak of ‘headline-morphology’. Here are some examples of such descriptive compounds from Dutch newspaper headlines:

(2) zwemles-regeling ‘swimming lessons arrangement’
het Cruyf-interview ‘the Cruyf-interview’
Schelde-verdieping ‘lit. Schelde-deepening, deepening of the river Schelde’.[4]

In sum, both complex words and phrases can be used for two functions: naming and description.

The formation of new names for concepts can take place through a number of mechanisms (De Caluwe 1990): word formation, the construction of phrases, borrowing of names from other languages, the creation of new simplex words (brand names), the formation of acronyms which turns descriptions into names, as in *gsm, sm*, semantic extension (metaphor, metonym), and clippings from phrases, for instance Dutch *mobiel*

(often used in its diminutive form *mobiel-tje*) clipped from *mobiele telefoon* 'mobile phone'.[5]

Phrasal names, once conventionalized, belong to the class of fixed expressions (Wray 2002). Fixed expressions may be qualified as follows:

(3) 'Fixed expressions (FEs) refer to specific combinations of two or more words that are typically used to express a specific concept. Typical examples of FEs that are referred to in the literature often have an opaque meaning or a deficient syntactic structure, for example, *by and large* or *kick the bucket*. However, these properties are not essential. The defining feature of a FE is that it is *a word combination, stored in the Mental Lexicon of native speakers, that as a whole refers to a (linguistic) concept*. This makes FEs "non-compositional" in the sense that the combination and structure of their elements need not be computed afresh, but can be retrieved from the Mental Lexicon. However, the degree of lexical and syntactic fixedness can vary.' (Sprenger 2003: 4)

In this quotation, it is rightly stressed that the notion 'fixed expression' encompasses more than idioms. Idiomatic expressions have one or more non-compositional properties, whereas a fixed expression may be completely compositional, but nevertheless stored because it is a conventional name for a particular concept. Thus, this quotation reminds us of the fact that knowledge of a language encompasses both knowledge of the grammatical system of a language, and knowledge of the conventions involved in using that language, as has been stressed in the work of Eugenio Coseriu. The lexicon is the

place where the conventional use of linguistic expressions is encoded, and hence, the lexicon is the meeting point of language as system, and language as convention.

As mentioned above, the notion 'lexical unit' is not to be identified with the notion 'word' (in the sense of 'lexeme' or in the sense of 'syntactic atom'). Lexical units can be constructed by means of syntactic rules. In European languages we find the following patterns for phrasal names (not an exhaustive list):

(4) (a) NPs of the form A + N or N + A: Spanish *media luna* 'half moon';

(b) NPs of the form N + PP: French *moulin à vent* 'windmill';

(c) NPs of the form N-GEN + N or N + N-GEN: English *woman's magazine*, Greek *zona asfalias* 'belt safety.GEN, safety belt';

(d) NPs of the form N + NP (apposition): Dutch *directeur artistieke zaken* 'director of artistic affairs'.

Such constructions are sometimes referred to as loose compounds, but this is a misleading term since these expressions are not compounds in the morphological sense. Words are subject to the principle of Lexical Integrity which states that "the syntax neither manipulates nor has access to the internal structure of words" (Anderson, 1992: 84).[6] In an expression like Spanish *media luna* in (4a), for instance, we observe that the syntactic rule of gender agreement has applied: the form of the adjective is *medi-a* because it has to agree with the feminine gender of *luna*. Therefore, *media luna* cannot be interpreted as a morphological compound.

NPs of the form (4a) will be discussed in more detail in section 2. NPs of the type (4b) are used a lot in Romance languages. The following French phrases (and many more) that can all be used as NPs can be found in Fradin (2003: 199):

(5) (a) N de N: fil de fer ‘iron wire’

(b) N à N : moulin à vent ‘wind mill’

(c)N à Det N : sauce à l’ail ‘garlic sauce’

(d) AN : moyen âge ‘Middle Ages’

(e) NA : poids lourds ‘heavyweight’

The patterns in (5) have a certain degree of productivity. In particular the construction *N à N* is extremely productive in French for coining names, as illustrated in (6):

(6) moulin à poivre ‘pepper mill’

verre à vin ‘wine glas’

bois à feu ‘firewood’

fruit à confiture ‘jam fruit’

moteur à essence ‘petrol engine’

Note also the difference between *verre à vin* ‘wine glass’ and *verre de vin* ‘glass of wine’. The construction with *à* has typically a classifying role.

The use of NPs with a PP complement consisting of a P and a bare noun as names is also found in Spanish and Italian:

(7) *Spanish* (Rainer and Varela 1992)

telón de acero ‘iron curtain’

piano de cola ‘grand piano’

gafas de sol ‘sun glasses’

(8) *Italian* (Bisetto and Scalise 1999)

permesso di pesca ‘fishing licence’

mulino a vento ‘windmill’

occhiali da sole ‘sun glasses’

The Spanish examples are traditionally classified as ‘compuestos improprios’ = improper compounds. However, Rainer and Varela (1992) rightly stress the point that they are phrases, albeit with specific formal properties:

> “The naming function of such phrases can be attributed to the pragmatic component in a modular conception of the grammar. Global pluralization, accental unity and opacity to syntactic rules like adjectival / adverbial modification, properties which some of these formations - among them *media luna* - share with simple words, should be viewed as what they are, namely consequences of the naming function or lexicalization which one also finds in idioms.” (Rainer and Varela 1992: 120)

These formal effects of the naming function of phrasal lexical units are the focus of this article, in particular as far as A N phrases are concerned.

An example of the genitive construction mentioned in (4c) can be found in English. The genitive noun is in pre-nominal position, and has a classifying role: *a boy's hat, a woman's / women's magazine.* These genitive constructions function like compounds but the modifying noun is marked by a morpheme that is historically a genitive case ending (Rosenbach 2007). Note that the genitive can also be used in descriptive phrases, as in *the boy's hat* 'the hat of the boy'.

Modern Greek features *N + N* constructions with a genitive marker as well. The second noun is marked with genitive case, and the whole expression functions as a name (cf. Ralli (2007) for details):

(9) oikos anoxis 'house tolerance.GEN, brothel'
zoni asfalias 'belt safety.GEN, safety belt'
oikos evigirias 'house old.PL.GEN, old people's home'

The fact that both words and phrases can function as names creates a problem of demarcation for languages with left-headed compounds: left-headed N + N sequences (the class of expressions (4d)) could be interpreted either as left-headed compounds or as phrases in which the head noun is followed by an appositive noun. For instance, French and Italian feature N + N sequences that may look like left-headed compounds, but may also be seen as small phrases with appositional Ns:

(10) *French*

cigarette filtre ‘filter cigarette’

sortie piétons ‘pedestrians’ exit’

impression laser ‘laser printing’

cuisinière quatre feux ‘four-burner stove’

assurance tous risques ‘all risks insurance’

Italian

effetto serra ‘greenhouse effect’

smaltimento rifiuti ‘garbage disposal’

A possible argument for interpreting these *N + N* sequences as phrases is that the second constituent can be modified, as in the last two examples. However, phrases in the non-head position of compounds cannot be excluded by a universal constraint (Booij, 2007: 188), and hence this observation does not exclude the word combinations in (10) to be interpreted as left-headed compounds. When we pluralize these expressions, it is the left noun that is pluralized: *cigarettes filtre* ‘filter cigarettes’, *effetti serra* ‘greenhouse effects’. If these expressions were compounds, we would expect plural marking at the right edge; hence, pluralization indicates that a phrasal interpretation of these expressions is called for.

Additional examples of Italian phrasal expressions with a compound-like function are the following (Bisetto and Scalise 1999: 39):

(11) produzione scarpe

production shoes ‘shoe production’

caduta massi

falling stone ‘falling of stone’

Baroni et al. (2008) also argue that these *N + N* sequences are phrases, subject to specific principles of ‘head line syntax’, a specific style or register in which determiners and prepositions are omitted.[7] The complement of such N-headed phrases can also be a phrase (12a, b), and the complement is sometimes even used in a non-generic manner (12b):

(12) (a) approvazione nuovi parametri ‘checking of new parameters’

(b) accertamento posti disponibili ‘checking for some/the available seats’

The use of appositional constructions without determiners and prepositions for names can also be observed in Dutch personnel advertisements. Dutch compounds are right-headed, and hence the following left-headed expressions must be seen as phrases with a special syntax used for coining names for particular jobs (source *NRC-Handelsblad* 28 Sept. 2008):

(13) senior-adviseur installatietechniek ‘senior adviser equipment technics’

manager kredietrisicomanagement ‘manager credit risk management’

lid raad van commissarissen ‘member board of supervisory directors’

sectormanager infrastructuur ‘sector manager infrastructure’

hoofd communicatie ‘head communication’

adjunct-directeur artistieke zaken ‘deputy director artistic affairs’

In conclusion, phrases can function as names, and there is no simple one-to-one correlation between the form of a linguistic expression and its function as name or description. Yet, there appear to be specific correlations between the form and the naming function of phrases. In section 2, these formal properties are discussed for AN phrases, in particular those of Greek and Dutch. In section 3 I argue in favour of a constructionist account of these phrasal names. Thus, justice is done to their word-like character without obliterating the boundary between syntax and morphology.

2. A + N phrases as names for concepts

The use of A + N/N +A phrases as names for concepts or categories is wide-spread in European languages. The following examples of AN phrases from Booij (2002a) illustrate this use for Dutch:

(14) dikke darm 'lit. thick intestine, large intestine', dood spoor 'lit. dead trail, deadlock', hoge hoed 'lit. high hat, top hat', magere yoghurt ‘lit. lean yoghurt, fat-free yoghurt’, open haard 'lit. open hearth, fireplace', rode kaart ‘red card’, vaste benoeming 'lit. fixed appointment, tenure', ‘zure regen 'acid rain', vrije trap 'free kick', witte was ‘white laundry’, zwarte doos 'black box'

We are certain that these AN sequences are phrases because the adjectives are inflected, and agree with the head noun with respect to the features gender, number and (in)definiteness. The pre-nominal adjective ends in the suffix *-e*, unless the NP is indefinite and the head noun is singular and neuter (in the latter case the ending is zero). According to the principle of Lexical Integirty, the syntactic rule of agreement cannot affect parts of words, and hence these ANs must be phrasal in nature.

The functional similarity between such phrases and compounds is nicely shown by the comparison between German compounds and their Dutch glosses (source *Die Welt* 31.05.2008):

(15)

Dutch AN phrase	*German AN compound*	*gloss*
bijzonder-e zitting	Sonder-sitzung	'special session'
gebruikt-e batterijen	Alt-batterien	'used batteries'
(het) geheim-e nummer	(das) Geheim-nummer	'(the) secret number'
mobiel-e telefoon	Mobil-telefon	'mobile phone'
nieuw-e auto	Neu-auto	'new car'

This comparison between Dutch and German should not be taken to imply that Dutch does not have AN compounds. Examples of such compounds are *fijn-stof* 'lit fine dust, fine-grained dust' and *vroeg-geboorte* 'lit. early-birth, premature birth' in which the A is not inflected. However, they are far less frequent than AN compounds in German. The A in the Dutch AN compounds has to be simplex; German also imposes that restriction, but

with some exceptions such as adjectives in *-al* (*National-staat* ‘nation state’), *-iv* (*Suggestiv-frage* ‘suggestive question’, and *-ig* (*Niedrig-wasser* ‘low tide’) (Hüning, pers. comm.). This implies a certain division of labour between the phrasal and the compound coining of such names: in Dutch (and partially also in German) these two different A+N constructions only compete when A is simplex.[8]

The A in these Dutch AN phrases cannot be modified. That is, it does not project a phrase of its own, and can therefore be qualified as a non-projecting category (cf. Toivonen (2003). Hence, it is an A^0, and not an AP. If the A is an qualifying adjective, it cannot be separated from the N by another word (if the A is a relational adjective (discussed below), it is possible to insert some other phrase, cf. (16b):

(16) (a) * een donkere, grote kamer ‘a dark, big room’

(b) de plaatselijke, of wellicht de provinciale overheid ‘the local, or rather the provincial government’

The syntactic structure of may thus be assumed to be:[9]

(1) $[[\text{mobiel-e}]_{A0}\ [\text{telefoon}]_{N0}\ ]_{N0}$ ‘mobile phone’

The structure in (16) is that of a syntactic compound (as opposed to the morphological compound structure $[A\ N]_N$ which can be inserted as a whole in a syntactic N^0 position, and in which agreement between A and N does not apply). This syntactic compound

structure has also been proposed for similar English A + N sequences (Sadler and Arnold, 1994).

Relational adjectives, that is, denominal adjectives that express a relation between the head noun and the base noun of the adjectives such as *Nederland-se* 'Dutch' in *Nederlandse regering* 'Dutch government', and *burger-lijk* 'civilian' in *burgerlijke vrijheid* 'civilian liberty', always function as non-projecting adjectives (Heyndericx 2001), and usually form part of an NP with a naming function. Qualifying adjectives can also function as non-projecting As in such syntactic AN constructs. This means that they cannot be modified when used in ANs that function as names:

(17) (a) *erg rode kool 'very red cabbage'

(b) *heel mobiele telefoon 'very mobile phone'

The phrasal name *rode kool* does not denote the intersection of the class of cabbages, and that of red things, so it has a non-intersective reading. In the case of *mobiele telefoon* it is not the telephone itself that is mobile, but its owner, again a non-intersective reading. The non-projectivity of the adjective is a reflection of this semantic property. The phrase (17a) is a grammatical expression, but not when *rode kool* is meant to refer to a specific conventional subtype of cabbage, red cabbage (note that the actual colour of red cabbage is more purple than red). In (17b), the use of the degree adverb *heel* forces the adjective *mobiele* to be interpreted as referring to the set of mobile things, resulting in a different reading in which *mobiel* is interpreted as a property of the telephone.

The use of AN phrasal constructs as names is wide-spread in European languages; examples are given in (18):

(18) (a) Dutch: Booij (2002a, Hüning 2008); cf (11);

(b) English: Jackendoff (1997, 2002), Sadler and Arnold (1994): *Arabian horse, blue cheese, electrical outlet, modern art, natural childbirth*;

(c) German: Hüning (2008): *saure Sahne* 'sour cream'; *saurer Regen* 'acid rain', *grüne Welle* 'phased traffic lights';

(d) French: Fradin (2003), cf. the examples in (5);

(e) Italian (Semenza and Mondini (2006) NA: *febbre gialla* 'yellow fever', *natura morta* 'still life'; AN: *alta moda* 'haute couture', *mezza luna* 'half moon';

(f) Spanish: Rainer and Varela 1992: NA: *luna nueva* 'new moon'; AN: *media luna* 'half moon';

(g) Greek: Ralli and Stavrou (1998): *psixros polemos* 'cold war', *tritos kosmos* 'Third World'.

A short survey of such 'tight' AN phrases in Celtic and Romance languages is given in Dahl (2004: 228-30). In some cases, the semantic tightness of these phrases manifests itself in the pre-nominal position of the adjective in languages where the default position of the adjective is post-nominal, as in Spanish *un gran hombre* 'a great man' versus *un hombre grande* 'a big man' (Dahl 2004: 229).[10]

In section 2.1. I discuss Greek AN combinations in more detail, and the properties of Dutch AN phrases are discussed in section 2.2. Section 3 draws some conclusions from these facts and analyses for the architecture of the grammar.

2.1. Greek A + N combinations

In Ralli and Stavrou (1998) two types of A + N combinations are distinguished: A+ N compounds and A+ N constructs. Note that the term 'compound' is used by these authors in the sense of '' lexical unit', in contrast with our use of the term compound as referring to a morphological class of words.[11]

(19) (a) *A+N 'compounds'*:

psixr-os polemos 'cold war'

trit-os kozmos 'third world'

mavr-i lista 'black list'

mikr-i othoni 'small screen'

(b) *A+N 'constructs'*

atomik-i vomva 'atomic bomb'

musik-i kritiki 'musical review, music review'

odhik-o dhiktio 'road network'

pirinik-i dhokimi 'nuclear testing'

The adjectives in (19b) are typically relational adjectives, In both constructions, the As are non-projecting, and they cannot be separated from the head N by the definite determiner, nor follow the head noun, unlike what is the case for descriptive A + N phrases in Greek, where double marking of definiteness is possible:

(20) (a) *o polemos o psixros
the war the cold 'the cold war'

(b) o kafes o zestos
the coffee the hot 'the hot coffee'

According to Ralli and Stavrou (1998), the differences between the two types of A + N sequences is that (i) those in (19a) are idiosyncratic in meaning whereas the A +N constructs in (19b) are semantically regular, and that (ii) in the A + N constructs but not in the A + N sequences in (19a) the order of A and N may be reversed in indefinite phrases:

(21) (a) mia pedh-iki xara > *mia xhara phed-iki
a child-ADJ delight a delight child-ADJ
'a playground'

(b) atom-iki vomva > vomva atom-iki
'atom-ic bomb'

Moreover, the A + N constructs can be split by parenthetical expressions, unlike the A + N compounds (Ralli and Stavrou, 1998: 247):

(22)	I	viomixaniki,	opos	oli	borite	na	dhite,	zoni
	the	industrial,	as	all	you	can	see	area

For these reasons, Ralli and Stavrou consider the first class of A + N combinations as created by a morphological rule of compounding, whereas A + N constructs are considered to be phrasal, and hence syntactic in nature.

Ralli and Stavrou also note that not only the A +N 'compounds', but also the A +N combinations classified as constructs behave as units with respect to qualifying adjectives, since the qualifying adjective is always peripheral to the A + N combination as a whole, as shown in (23):

(23) (a) sinexis [psixros polemos] 'continuous cold war'
*psixros sinexis polemos 'cold continuous war'

(b) mia [theatriki kritiki] kali
a drama review good 'a good drama review'
*mia theatriki kali kritiki

The main problem for a morphological analysis of the A + N sequences in (19a), as proposed by Ralli and Stavrou, is that there are formal indications that they are phrasal: the adjectives are inflected, and they agree with the head noun in gender, number, and

case. Hence, interpreting these ANs as morphological compounds is in conflict with the principle of Lexical Integrity which forbids syntactic rules to apply within words. Therefore, I opt for a phrasal interpretation of both subsets of AN combinations. A possible way of differentiating between the two classes is to consider the A + N 'compounds' as syntactic N^0 compounds, and the A + N 'constructs' as NPs. These structures may be contrasted with that of morphological compounds, which will have the form in (24c) (eamples from Greek):

(24) (a) constructs: $[A^0\ N^0]_{N'}$ e.g. $[[\text{atomiki}]_{A0}\ [\text{vomva}]_{N0}]_{N'}$

(b) syntactic compounds: $[A^0\ N^0\ ]_{N0}$ e.g. $[[\text{psixros}]_{A}\ [\text{polemos}]_{N0}]_{N0}$

(c) morphological compounds: $[A\ N]_N$ e.g. $[\text{nixt}]\text{o}[\text{puli}]_N]_N$ 'night bird'

Morphological AN compounds in Greek are also different from the other two types of construction in that the first constituent is a stem, and that the compound as a whole forms one phonological word (Ralli 2007). The morphological compound headed by the category label N can occupy a N^0 position in a syntactic structure. This structural differentiation can be used to account for the differences in syntactic behaviour of the first two types of AN sequences. The phrasal structure in (24a) is a case of adjunction: a bare adjective is Chomsky-adjoined to a bare noun. This structure is a formal expression of such ANs being very tight units that cannot be split, or reversed. They are a kind of 'subphrasal' lexical unit.

The structure proposed here for AN compounds is the same as that proposed for similar AN constructions in English by Sadler and Arnold (1994). A similar structure has

been proposed for verbs with quasi-noun incorporation in Japanese (Iida and Sells 2008) and Dutch Booij (2009a). These verbal units are NV sequences with certain phrasal properties that behave as very tight units. Hence, their structure can be assumed to be $[N^0 V^0]_{V0}$.

Apart from the fact that agreement applies within these Greek AN compounds, another problem for a morphological compound analysis of these Greek AN combinations is that they cannot be used as the nominal bases of relational adjectives, as we would expect under a morphological compound interpretation of these AN sequences. It is only the corresponding stems without the inflectional endings that can form the basis of such relational adjectives, as illustrated in (25) :

(25) psixr-os polem-os 'cold war' psixr-o-polem-ikos 'cold-war-like'

This is to be expected if derivation is restricted to taking words (in their stem form) as bases, as is usually the case. The base *psixr-o-polem-* in *psixropolemikos* has the form of a compound: its first constituent is the adjectival stem *psixr-* followed by the generally used linking element *-o-* and the nominal stem *polem-*. What we observe here is that the collocation *psixros polemos* cold war' is moulded into the morphological schema for relational adjectives with a compound base:

(26) $[[A\text{-}o\text{-}N]_N \textit{ik-os}]_A$

This schema is a unification of the schema for denominal relational adjectives with the schema for AN compounds. This moulding effect can only be understood if AN sequences like *psixros polemos* are considered as syntactic compounds.

In section 3, I discuss how these construction types, with both phrasal and lexical properties, can be accounted for in the grammar of Greek.

2.2. Formal properties of Dutch AN phrases with naming function

Let us now have a more detailed look at how the naming function of AN phrases affects the form and behaviour of such phrases in Dutch.

a. A first relevant observation is that of a blocking effect: the coining of NN compounds is often blocked by the existence of a competing AN phrase, and vice versa. The following examples are from Booij (2002b):

(27)

AN phrase	*NN compound*
academisch jaar 'academic year'	?academiejaar ‘academy year’
?academisch lid ‘academic member’	academielid 'academy member'
koninklijk besluit 'royal decision'	?koningsbesluit ‘king decision’
koninklijk huis 'royal family'	koningshuis 'king-house, royal family'
?koninklijk blauw ‘royal blue’	koningsblauw 'king blue'
muzikale scholing 'musical training'	?muziekscholing ‘music training’
muzikaal talent 'musical talent'	muziektalent 'music talent'

?muzikale school ‘musical school’ muziekschool 'music school'

The adjectives in these AN phrases are typically relational adjectives. That is, why they form an alternative to modifying a noun by means of another noun in NN compound structures. Some of the phrases and compounds are marked with a question mark. This does not mean that these word combinations are ungrammatical, but that they are infelicitous because of the existence of a conventionalized synonymous (and hence competing) expression. Blocking is the effect of competition between synonymous lexical units. It is not a formal principle that qualifies constructs as ungrammatical. We also find individual variation, which is to be expected since languages users differ in which lexical units they have stored. The blocking effects observed in (27) show that coining such AN phrases is coining names which therefore, as lexical expressions, compete with synonymous compounds.

b. AN phrases with a classifying role can appear in the non-head-position of compounds and as bases of certain types of derived words. In this position, they function as labels for categories, that is as names, and hence receive a generic interpretation:

(28) oude mannen-huis ‘old men’s home’
vaste-schijf-module ‘hard disk module’
volle-maans-gezicht ‘lit. full moon face, moonface’

(29) jonge-mensen-achtig ‘young people-like’
kleine-meisjes-achtig ‘little girls-like’

geitenwollen-sokken-achtig ‘goats’ wool socks-like’

c. In Dutch ANs that form lexical collocations we may use the adjective without the expected inflectional ending *-e* (Booij 2002a: 47-48, Tummers 2005). In the following example, the nouns have common gender, and normally an adjective preceding such nouns always ends in a schwa:

(30) een / de geheim-ø agent ‘a / the secret agent’
een/ de taalkundig-ø onderzoeker ‘a / the linguistic investigator’

The absence of the expected inflectional schwa strengthens the naming function of these NPs: “the common meaning of the construction resides in the fact that the uninflected adjective in these constructions focuses less on the individual properties of the person or thing referred to, and more on general or categorial properties or stereotypes deducible from certain specialized usages of the substantives” (Blom 1994: 81). The effect of the absence of the inflectional schwa is that they look more like compounds. Yet, they are still phrasal since they have main stress on the noun (in AN compounds, main stress is on the first constituent).

There are also ANs with a neuter noun as head that function as names. In that case, the inflectional ending *-e* tend to be omitted in the singular form only, but we do find uninflected adjectives before plural neuter nouns as well:[7]

(31) *singular nouns*

het oudheidkundig(e) museum ‘the archeological museum’ / ?de oudheidkundig musea

het koninklijk(e) paleis ‘the royal palace’/ ?de koninklijk paleizen

het academisch(e) niveau ‘the academic level’

The phrasal nature of these AN names is clear from their stress pattern (stress on the last constituent), and the optionality of the absence of the inflectional ending.

d. ANs with naming function can be modified as if they are the head constituent of a nominal compound, with a modifying word or prefix in the non-head position. The head of a compound or a prefixed word in Dutch cannot be a phrase. Yet, occasionally we find AN sequences with naming function, preceded by a noun with modifying function, or preceded by a prefix that normally attaches to nouns. Thus, these AN sequences behave like heads of a compound or derived word. The following examples (partially from Ackema and Neeleman 2004: 125) illustrate this phenomenon:

(32) *compounds*

namaak mobiele telefoon ‘imitation mobile phone’

wereld rode wijn ‘world red wine, superb red wine’

deeltijd pastoraal medewerker ‘part-time pastoral assistant’

prefixed words

ex-aanstormend talent ‘ex up-and-coming talent’

pseudo-taalkundig onderzoeker ‘pseudo linguistic researcher’

pseudo-epileptische aanval ‘pseudo epileptic attack’

These cases suggest that ANs used as names may be interpreted as being N^0, and hence usable as heads of such complex words. On the other hand, the AN heads of these constructions still exhibit inflection of the adjective. This paradox can be resolved by considering these ANs as cases of syntactic N^0, parallel to what I proposed for Greek in section 2.1.

e. Classifying AN phrases can be coordinated with classifying compounds but not with descriptive phrases (Heyndericx 2001); the common constituent of the coordinated constituents can be gapped (deletion of a prosodic word constituent under identity with another one (Booij 1985):

(33) *classifying phrase + classifying compound*

Amerikaanse (talen) en Papoetalen

‘American (languages) and Papua-languages’

Descriptive + classifying phrase

*het grote en koninklijke paleis

‘the large and royal palace’

classifying compound + classifying phrase

ijs(beren) en bruine beren

‘ice bears and brown bears’

classifying phrase + descriptive phrase

*Amerikaanse (talen) en moeilijke talen

'American languages and difficult languages'

These observations show that classifying phrases behave like compounds as to their coordination possibilities, and differ in this respect from descriptive phrases. That is, we need a specific category 'classifying phrase' in order to express the constraint on coordination that the two non-heads must be functionally identical.

f. The order of adjectives in Dutch is such that descriptive adjectives precede classifying adjectives:

(34) vieze rode kool 'filthy red cabbage'/ * rode vieze kool

goedkope witte wijn 'cheap white wine' / *witte goedkope wijn

dure mobiele telefoon 'expensive mobile phone' / *mobiele dure telefoon

Thus, descriptive adjectives are peripheral to the AN unit that functions as a name. The same observation can be made for adjective sequences in other languages, as mentioned in section 2.1. for Greek. It also holds for the other type of phrases with naming function listed in (4), as illustrated here for the Italian [N *a* N] name *sedia a rotelle* 'wheel chair' (Semenza and Mondini 2006: 92):

(35) sedia a rotelle rotta / *sedia rotta a rotelle 'broken weel chair'

All these properties follow from the status of these Dutch AN combinations as either syntactic compounds with the structure $[A^0\ N^0]_{N0}$, or as phrases of the type $[A^0\ N^0]_{N'}$. In the first structural interpretation, the position of the descriptive adjectives follows from the pre-head position of APs within NPs. If these ANs are headed by an N' node, the descriptive adjective will precede the AN name. The grammar has to allow for recursivity at the N' level in order to accommodate the occurrence of more than one modifying adjective (Fukui 2001). Hence, the structure of a Dutch phrase like *erg vieze rode kool* 'very filthy red cabbage' may be either as in (36a) (AN = syntactic compound) or as in (36b) (AN = small phrase with non-projecting adjective):

(36) (a) $[[[erg]_{Adv}\ [vieze]_A]_{AP}\ [[rode]_A{}^0\ [kool]_N{}^0]_{\mathbf{N}}{}^{\mathbf{0}}]_{N'}$

(b) $[[[erg]_{Adv}\ [vieze]_A]_{AP}\ [[rode]_A{}^0\ [kool]_N{}^0]_{\mathbf{N}'}]_{N'}$

I do not have empirical arguments for choosing between one of these two possible structural interpretations of these AN sequences. Since they are similar to the Greek AN sequences with N^0 status argued for in section 2.1, I choose the first option, and consider them as syntactic compounds.

g. Classifying ANs behave like compounds in allowing for a particular semantic reanalysis, that of semantic concentration (Meesters 2004). The notion of semantic concentration can be illustrated by the following example. In Dutch, the verbal stem *scharrel* 'to scratch, to potter around' acquired the meaning 'free range, eco-' starting from the compound *scharrel-kip* :

(37) scharrel-kip ‘scratch chicken, free range chicken > scharrel-ei ‘free range egg’
scharrel-vlees ‘free range meat, eco-meat’

Whereas chickens can potter around, this is not the case for eggs or meat. This shows that a process of semantic reinterpretation has been in effect here. Such semantic concentration effects may lead to the rise of new affixes from compound constituents (Booij 2005). The semantic concentration effect can also be observed in AN phrases that function as labels for categories, as illustrated here for the adjective *onbespoten* ‘unsprayed’ that acquired the meaning ‘eco-’:

(38) onbespoten groente ‘unsprayed vegetables’ = ‘eco-vegetables >
onbespoten restaurants ‘lit. unsprayed restaurants = ‘eco-restaurants’
onbespoten mensen ‘lit. unsprayed people, eco-minded people’ (*Trouw* 14 June 2008)
onbespoten idealen ‘lit. unsprayed ideals, ecological ideals’

This use of *onbespoten* in AN names has led to a meaning ‘environment-friendly, that can also be used in other syntactic contexts, as in *Ik eet onbespoten* ‘I eat in an environment-friendly way’. This phenomenon shows that we have to distinguish a semantic class of classifying AN phrases, in order to explain why they, like compounds, may exhibit semantic concentration effects.

In sum, we have seen a number of phenomena in which classifying ANs in Dutch behave as a unit, similar to AN compounds, and with a non-projecting A. Their formal and corresponding semantic structure should therefore be represented in such a way that their parallelism with morphological AN compounds is made clear:

(39) $[[Aj^0\ Ni^0]_{N0}$ 'name for Ni^0 with some relation R to predicate Aj^0'

In compounds the semantic relation R between the head and the modifier is unpredictable, and has to be filled in for each individual compound on the basis of contextual and world knowledge (Downing 1977). The same holds for these AN phrases. For instance, in *gele koorts* 'yellow fever' the fever has the effect of a yellow skin, whereas in *het Rode leger* 'the Red army', the army adheres to principles symbolized by the color red.

Representation (39) is a schema, in which a particular structural configuration is linked to a particular semantic interpretation. Hence, it is constructional schema, since constructions are pairings of form and meaning. The distinguishing formal property of this schema that evokes the naming function is the non-projecting A, which does not project a full phrase with modifiers, and can only occur right before an N^0.

2.3. Phrasal lexical units and word formation

Let us now look at the interaction of classifying ANs with word formation. AN phrases can function as non-heads of compounds, as mentioned above. There are a few Dutch de-

nominal suffixes that accept phrases as bases: the denominal suffixes *-er* ‘id.’ and *-achtig* ‘-like. They occur with AN phrases:

(40) derde-klass-er ‘third class-er, member of the third class’
zeventiende-eeuw-er ‘17th century-er, someone living in the 17th century
zwarte-band-er ‘black belt-er, judoka with a black belt’

The diminutive suffix does not accept phrasal bases. Yet, we can diminutivize ANs that functions as names, by qualifying this word formation process as a head operation. That is, the diminutive suffix is semantically attached to the whole AN phrase, but formally to its head N:

(41)	hog-e hoed	‘high hat, tall hat’	hoog hoed-je	*hoge-hoed-je
	voll-e maan	‘full moon’	vol maan-tje	*volle-maan-tje
	rod-e wijn	‘red wine’	rood wijn-tje	*rode-wijn-tje
	witt-e was	‘white laundry’	wit was-je	*witte-was-je

In the example *rood wijntje*, the diminutive is used either as a suffix of endearment or individuation (in order to express the meaning ‘a glass of’). The scope of the diminutive suffix in all examples is clearly the whole A + N. For instance, *een hoog hoedje* is a small top hat, not a small hat that is high, and *een rood wijntje* is a nice red wine or a glass of red wine, not a nice wine or a glass of wine that is red.[8]

The claim that morphological operations apply to the heads of lexical phrasal constructs is motivated by the interaction of other types of lexical phrasal expressions with word formation as well. Particle verbs in Germanic languages are phrasal in nature, even though they are lexical units (Booij 1990). The same applies to Italian phrasal verbs (Iacobini and Masini 2006). When they are subject to a morphological operation, this operation applies to the verbal head of the particle verb construction, as illustrated by the following cases

(42) (a) English particle verbs may carry the suffix *-er* on their verbal head: *look-er-on, runn-er-up, digg-ing up, switch-ing off the lights*; exceptions (suffix that allows for phrasal bases): *break-in-able, un-put-down-able* (Elenbaas 2007: 9);

(b) The past participle of Dutch particle verbs is formed by prefixing *ge-* and suffixing *t/d/en* to the stem form of the verbal head: *aan-vallen* 'to attack' - *aan-ge-vall-en*, *op-bellen* 'to phone up' - *op-ge-bel-d*); *ge*-nominalization also applies to the head: *rondspringen* jump around'- *rondgespring* jumping around';

(c) When German particle verbs undergo nominalization with the affix combination *ge-e*, this affix combination is attached to the verbal head of the particle verb: *herum-hopsen* 'to jump around' - *Herum-ge-hops-e* 'jumping around' (Müller 2003, 2006).

(d). In Italian nominalizing suffixes are attached to the verbal head (Masini, pers. comm.): *venire giù* 'to come down'- *la venuta giù* 'the coming down', *mangiare fuori* 'to eat out'- *la mangiata fuori* 'the meal at a restaurant'

The observations in (41) show that classifying ANs function as semantic units with respect to word formation. Yet, they preserve their phrasal character as shown here by the fact that morphological processes apply formally to the head of these AN units, and similar lexical phrasal constructions such as particle verbs.[9]

We can also observe this difference between the semantic scope and the formal scope of affixes in the following Dutch noun phrases:

(43) (a) muzikal-e vaardig-heid ‘musical ability’

(b) digital-e competent-ie ‘digital competence’ (Booij 2009b)

In example (43a), the suffix *-heid* has semantic scope over *muzikaal vaardig* ‘lit. musically able, being musical’. In (43b) the suffix *-ie* has scope over *digitaal competent* ‘digitally competent’. Yet, the adjectives are not part of the base of the suffixes, as we can see from their being inflected.

In sum, the interaction of classifying ANs with word formation can be given a proper account since word formation rules apply formally to the head of a phrasal expression (except when affixes accept phrasal bases, which is the case for a few very productive suffixes in Dutch). There is no bracketing paradox (a mismatch between semantic structure and morphological structure) if we allow phrases that are lexical units to function semantically as bases for morphological operations without violating their phrasal nature (which means: head-operations). This conclusion should obviously be extended to the other types of phrasal expression mentioned in (4). For example, if we pluralize the Italian *N di N* expression *coda di cavallo* ‘pony tail’, this will have the result

code di cavallo, not *coda di cavalli*. That is, it is the head noun that is pluralized. Yet, the pluralization operation has semantic scope over the whole expression.[10]

3. Theoretical implications: lexical phrasal constructions

The AN phrases with a naming function discussed above need to be listed in the lexicon, even though they are formed according to the rules or schemas of phrasal syntax because they are the conventional names for certain types of things. Hence, these rules function as redundancy rules with respect to conventionalized ANs. In this respect syntactic rules are not different from morphological rules or schemas. Recall that morphological rules function as redundancy rules with respect to existing, listed complex words (Jackendoff 1975), and can also be used to coin new words. The same holds for syntactic schemas. This implies that the lexicon may contain phrasal schemas.

Schemas are abstract patterns that express generalizations about sets of listed linguistic expressions. The morphological schema $[XN]_N$, for instance, generalized over all (right-headed) Dutch nominal compounds. Such schemas form part of a hierarchical lexicon, in which schemas of different degrees of abstraction dominate their concrete instantiations as words (Booij 2007, 2008). The individual words inherit by default the properties of the schemas to which they are linked in the hierarchical lexicon (Sag et al. 2003: Chapter 16).

In the case of AN phrases with naming function, the schema (39) may be assumed, repeated here for convenience:

(44) $[[Aj^0\ Ni^0]_{N0}$ ‘name for Ni^0 with some relation R to predicate Aj^0’

This schema in its turn is an instantiation of the more general schema for Dutch NPs headed by N^0 in which the pre-nominal position can also be occupied by a full AP with modifiers.

Schema (44) is a construction, a pairing of form and meaning. The specific meaning contribution of the construction as a whole is that it is a construction for making names, i.e. expressions for concepts or categories. This correlates with the specific formal property of the adjective being non-projecting. The semantic classification as name is also necessary for the semantic constraints on coordination observed above: two AN phrases can only be conjoined if both are names or both are descriptions.

The implication of this analysis is that there is no boundary between syntax and the lexicon: syntax permeates the lexicon because phrases can be lexical. The grammar is a network of syntactic and morphological constructions, with conventionalized instantiations of both types of schemas listed in the lexicon (Booij 2002b, Jackendoff 2002, 2007). A similar conclusion was reached by Sadler and Arnold in their analysis of AN combinations in English as ‘syntactic small constructions’:

> ‘If the analysis is right, it poses a serious challenge to the view that there is a strict separation of lexical and syntactic aspects of grammar: grammatical theory should recognize a kind of construction which is neither fully syntactic nor fully lexical, but has properties of both.’ (Sadler and Arnold 1994: 225).

A similar analysis applies to the other types of phrasal names mentioned in section 2 under (4). For instance, the productive *N à N* schema for French names is an instantiation of the more general schema for French NPs with a PP complement. That is, they have the structure

(45) $[N_1 [[à]_P [N_2]_{NP}]_{PP}]_{N'}$

This schema that invokes the meaning 'name for entity denoted by N_1 that is related to N_2' stipulates that bare nouns, without determiners, are to be used in this schema for French names entities. The specific properties of this productive naming schema are that the preposition is fixed as *à*, and that the NP of the PP complement is normally a bare noun (exceptions are phrases such as *sauce a l'ail* 'garlic sauce'). This schema is therefore a constructional idiom in the sense of Jackendoff (2002): a constructional pattern in which one or more positions are lexically fixed, and at least one position is variable.

The link between a specific syntactic pattern and the naming function is even stronger in the case of juxtaposition: an N followed by an NP without intermediate grammatical words such as prepositions or determiners. It is only when such NPs are used as names that the omission of such grammatical words is permitted (and, we should add, in the special register of headline syntax, as mentioned above). As observed in Dutch, juxtaposition is used for coining job names; it can also be used for names of committees, and all kinds of notions in the domain of government administration, etc. :

(46) [directeur]$_{N0}$ [artistieke]$_{A0}$ [zaken]$_{N0}$]$_{N0}$ ‘director (of) artistic affairs’

[Commissie]$_{N0}$ [Kok]$_{N0}$ ‘committee Kok, committee chaired by mr Kok’

[Wet]$_{N0}$ [Arbeids-Ongeschiktheid]$_{N0}$ (WAO) ‘law labour-disabledness, law for people being unable to work’

These names are phrasal constructs, dominated by N^0 (interpretation as syntactic compounds). The first example shows that the expression following the head noun can also be complex; it can be a phrasal name itself (in this example *artistieke zaken* ‘artistic affairs’).

Nice examples of the possible complexity of the post-nominal modifier in juxtapositional names are found in Italian: naming expressions with coordinated nouns in the post-nominal position:

(47) un marito pipa e pantofole (Bisetto and Scalise 1999: 32)

a husband pipe and slippers

‘the type of husband characterized by smoking a pipe and wearing slippers’

un marito tutto pipa e pantofole

a husband entirely pipe and slippers

‘a type husband very much characterized by smoking a pipe and wearing slippers’

una ragazza acqua e sapone (Masini, pers. comm.)

a girl water and soap

'a girl who does not use make up'

These expressions are obviously classifying phrases.

Finally, let us note that the construction of names by means of phrasal expressions is not restricted to the domain of nominal entities. Several languages have a similar mechanism for creating names for events, so-called quasi incorporation (Dahl 2004: Chapter 10). Such names are verbal phrases with specific properties. They are functionally similar to noun incorporation, the process in which verbal compounds are created by incorporating a bare noun in a verb. The combination of verb and noun may still have the formal properties of phrases, such as being separable in certain syntactic contexts. That is why the term quasi-incorporation is used. An example from Dutch is the NV combination *piano spelen* 'to play the piano', with the bare noun *piano*:

(48) (a) Jan is aan het piano spelen

John is at the piano play.INF

'John is playing the piano'

(b) Jan speelt piano

John plays piano

'John plays the piano'

In (48a) the unity of *piano spelen* is shown by its occurrence in the infinitival slot of the progressive *aan het Infinitive* construction. Sentence (48b) shows that the two parts are split in root clauses, hence *piano spelen* is not one word, and therefore not a compound. These phrases with a bare noun are used for denoting nameworthy activities. That is, they have the function of names for events (for a more detailed analysis, cf. Booij (2009a). Again, we observe a correlation between the function of linguistic expressions as names and their formal properties.

In sum, the notion 'construction' as used in various grammatical models (cf. Goldberg 2006, Jackendoff 2008, Sag et al. 2003), and modeling the grammar of natural languages as a network of constructions (pairs of forms and meanings) of various degrees of abstractness is an essential ingredient for coping with the relation between the form and function of linguistic expressions used as names.

Notes

1. I would like to thank Matthias Hüning, Barbara Schlücker, Francesca Masini, Angela Ralli, the anonymous referees, and the audience at the Freie Universität Berlin workshop on naming strategies for their constructive comments on earlier presentations of this text.

2. The term 'word' is to be understood here in the sense of lexeme, the abstract lexical units which is realized by one or more concrete word (form)s.

3. The original Dutch text reads as follows: ‘Benoemen is het tot stand brengen van een verbinding tussen een talige uitdrukking en een begrip (bewustzijnsinhoud). De uitdrukking is vaak een woord, maar kan ook uit meerdere woorden bestaan.’ (Koefoed 1993: 3).

4. Source: C. Paulus (2008), *Met hart en ziel. 15 passionante jaren als gouverneur*. Antwerpen: Provincie Antwerpen.

5. Exactly the same process is found in Russian *mobil’nyj telefon* > *mobil’niki* (Francesca Masini, pers. comm.)

6. In Booij (2009b) I argue that this principle is too strong in that syntactic rules may have access to word-internal structure but should not be allowed to manipulate parts of words, which is the essential point here.

7. As argued in Östman (2005), the form of constructions may be sensitive to specific styles or registers. Östman therefore argues that the principles of Construction Grammar must be extended to the discourse level.

8. In German AN compounding is far more productive than in Dutch. An attempt to explain this difference can be found in Hüning (2008).

9. The phenomenon of non-projecting words is also discussed in detail under the heading of *légèreté* (lite-ness) in recent work by Abeillé and Godard (Abeillé and Godard, 2004, Abeillé and Godard, 2006), and this notion is also very relevant for the analysis of syntactic forms of noun incorporation (Abeillé and Godard, 2004, Booij, 2009), and the analysis of particle verbs (Blom, 2005, Booij, 2002, Los et al., 2010).

10. Similar adjectives of French are analysed as 'lite', non-projecting adjectives by Abeillé and Godard (Abeillé and Godard, 2004).

11. The spelling of the Greek words is that given in my source.

12. Thanks to Matthias Hüning for bringing to my attention that some language users accept plural neuter nouns with uninflected adjectives.

13. AN phrases may lexicalize into words. This is the case for expressions like Dutch *wittebrood* in which the inflectional ending *-e* is still there. Its diminutive is *wittebroodje* which shows that synchronically it is one word, otherwise we would get *wit broodje* since *broodje* is a neuter noun. For some speakers of Dutch the same applies to *rode kool* 'red cabbage' which has to be written as one word according to the Dutch rules of orthography. Yet, *rood kooltje* 'small red cabbage' is the usual diminutive form of *rode kool* for Dutch language users, as a Google search will show. Other examples of the development of such AN phrases into words are *jongeman* 'young man' and *blindedarm* 'blind gut' (cf. Booij 2002a: 314).

14. The idea of ‘head operation’ on lexical phrasal constructions is confirmed by zero-nominalization (conversion) applied to Dutch particle verbs: conversion of simplex stems results in non-neuter nouns, conversion of prefixed verbs results in neuter nouns (Don 1993: 162-163)

val ‘fall’ - de val	verval ‘decay’ -het verval	aanval ‘attack - de aanval
loop ‘walk’- de loop	verloop ‘progress’ -het verloop	uitloop ‘draw out’ -de uitloop
zet ‘put’- de zet	verzet ‘resist’ - het verzet	aanzet ‘start’- de aanzet

Hence, the conversion of particle verbs is clearly a matter of converting the verbal head of the phrasal particle verb, which is a simplex verb, into a noun; this gives the right prediction for the gender of the noun.

15. In some cases phrasal collocations adapt their form to morphological structure requirements. We already observed this for Greek relational adjectives in section 2.1.: psixros polemos ‘cold war’ > psixro-polemikos ‘concerning cold war’. In Norwegian, particle verbs have the order ‘verb – particle’; yet in derived nominals the particle precedes the verb (data from Hans-Olav Enger, pers. communication)

kjøre opp ‘lit. to drive up, try to pass the car-driving exam’

opp-kjør-ing ‘car-driving exam’

opp-kjør-sel ‘driveway’

kaste uit ‘to throw out’

ut-kastelse ‘throwing out’

References

Ackema, Peter, and Neeleman, Ad. 2004. *Beyond morphology. Interface conditions on word formation*. Oxford: Oxford University Press.

Anderson, Stephen. 1992. *A-morphous morphology*. Cambridge UK: Cambridge University Press.

Baroni, Marco, Guevara, Emiliano, and Zamparelli, Roberto. 2008. The dual nature of deverbal nominal constructions: evidence from acceptability ratings and corpus analysis. *Corpus linguistics and linguistic theory*.

Bisetto, Antonietta, and Scalise, Sergio. 1999. Compounding. Morphology and/or syntax? In *Boundaries of morphology and syntax*, ed. Lunella Mereu, 31-48. Amsterdam / Philadelphia: Benjamins.

Blom, Alied. 1994. Het ondoorgrondelijk bijvoeglijk naamwoord. *Forum der Letteren* 35:81-94.

Booij, Geert. 1985. Coordination reduction in complex words: a case for prosodic phonology. In *Advances in non-linear phonology*, eds. Harry van der Hulst and Norval Smith, 143-160. Dordrecht: Foris Publications.

Booij, Geert. 1990. The boundary between morphology and syntax: separable complex verbs in Dutch. In *Yearbook of Morphology 1990,* eds. Geert Booij and Jaap van Marle, 45-63. Dordrecht: Foris.

Booij, Geert. 2002a. *The morphology of Dutch*. Oxford: Oxford University Press.

Booij, Geert. 2002b. Constructional idioms, morphology, and the Dutch lexicon. *Journal of Germanic Linguistics* 14:301-327.

Booij, Geert. 2005. Compounding and derivation: evidence for construction morphology. In *Morphology and its demarcations,* eds. Wolfgang U. Dressler, Dieter Kastovsky, Oskar E. Pfeiffer and Franz Rainer, 109-132. Amsterdam / Philadelphia: John Benjamins.

Booij, Geert. 2007. *The grammar of words. An introduction to morphology. 2nd edition*: Oxford textbooks in linguistics. Oxford: Oxford University Press.

Booij, Geert. 2008. Construction morphology and compounding. In *The handbook of compounding*, eds. Rochelle Lieber and Pavol Stekauer. Oxford: Oxford University Press.

Booij, Geert. 2009a. A constructional analysis of quasi-incorporation. *Gengo Kenkyu* 129.

Booij, Geert. 2009b. Lexical integrity as a morphological universal, a constructionist view. In *Universals of Language today*, eds. Sergio Scalise, Elisabetta Magni and Antonietta Bisetto, 83-100. Berlin: Springer Science + Business Media.

Dahl, Östen. 2004. *The growth and maintenance of linguistic complexity*. Amsterdam / Philadelphia: Benjamins.

De Caluwe, Johan. 1990. Complementariteit tussen morfologische en in oorsprong syntactische benoemingsprocédé's. In *Betekenis en produktiviteit. Gentse*

bijdragen tot de studie van de Nederlandse woordvorming, ed. Johan De Caluwe, 9-24. Gent: Seminarie voor Duitse Taalkunde.

Don, Jan. 1993. *Morphological conversion*. Utrecht: LOT.

Downing, Pamela. 1977. On the creation and use of English compound nouns. *Language* 53:810-842.

Elenbaas, Marion. 2007. *The synchronic and diachronic syntax of the English verb-particle combination*. Utrecht: LOT.

Fradin, Bernard. 2003. *Nouvelles approches en morphologie*. Paris: Presses Universitaires de France.

Fukui, Naoki. 2001. Phrase structure. In *The handbook of contemporary syntactic theory*, eds. Mark Baltin and Chris Collins, 374-406. Maiden Mass / Oxford UK: Blackwell.

Goldberg, Adele. 2006. *Constructions at work. The nature of generalization in language*. Oxford: Oxford University Press.

Heynderickx, Priscilla. 2001. *Relationele adjectieven in het Nederlands*. Antwerpen: Lessius Hogeschool.

Hüning, Matthias. 2008. Adjective +Noun constructions between syntax and word formation in Dutch and German. In *Cognitive approaches to word formation*, eds. Sascha Michel and Michael Onysko. Berlin: Mouton de Gruyter.

Iacobini, Claudio, and Masini, Francesca. 2006. The emergence of verb-particle constructions in Italian: locative and actional meanings. *Morphology* 16:155-188.

Iida, Masayo, and Sells, Peter. 2008. Mismatches between morphology and syntax in Japanese complex predicates. *Lingua* 118:947-968.

Jackendoff, Ray. 1975. Semantic and morphological regularities in the lexicon. *Language* 51:639-671.

Jackendoff, Ray. 1997. *The architecture of the language faculty*. Cambridge Mass.: MIT Press.

Jackendoff, Ray. 2002. *Foundations of language*. Oxford: Oxford University Press.

Jackendoff, Ray. 2007. A Parallel Architecture perspective on language processing. *Brain Research* 1146:2-22.

Jackendoff, Ray. 2008. *Construction after construction* and its theoretical challenge. *Language* 84:8-28.

Kastovsky, Dieter. 1988. The problem of productivity in word formation. *Linguistics* 24:585-600.

Koefoed, Geert. 1993. *Benoemen. een beschouwing over de faculté du langage*: Publikaties van het P.J. Meertens-Instituut. Amsterdam: P.J. Meertens-Instituut.

Meesters, Gert. 2004. *Marginale morfologie in het Nederlands. Paradigmatische samenstellingen, neo-klassieke composita en splintercomposita*. Gent: Koninklijke Academie voor Nederlandse Taal- en Letterkunde.

Müller, Stefan. 2003. The morphology of German particle verbs: solving the bracketing paradox. *Journal of Linguistics* 39:275-325.

Müller, Stefan. 2006. Phrasal or lexical constructions? *Language* 82:850-883.

Östman, Jan-Ola. 2005. Construction discourse. A prolegomenon. In *Construction grammars. Cognitive grounding and theoretical extensions*, eds. Jan-Ola Östman and Mirjam Fried, 121-144. Amsterdam / Philadelphia: Benjamins.

Rainer, Franz, and Varela, Soledad. 1992. Compounding in Spanish. *Rivista di Linguistica* 4:117-142.

Ralli, Angela, and Stavrou, Melita. 1998. Morphology-syntax interface: A-N compounds vs. A-N constructs in Modern Greek. In *Yearbook of Morphology 1997*, eds. Geert Booij and Jaap Van Marle, 243-264. Dordrecht: Kluwer.

Ralli, Angela. 2007. *I sinthesi lekseon: Morfologiki diaglossiki prosengisi [Compounding: A morphological cross-linguistic approach]*. Athens: Patakis.

Rosenbach, Anette. 2007. Emerging variation: determiner genitives and noun-modifiers. *English Language and Linguistics* 11:143-189.

Sadler, Louisa, and Arnold, Douglas J. . 1994. Prenominal adjectives and the phrasal/lexical distinction. *Journal of Linguistics* 30:187-226.

Sag, Ivan A., Wasow, Thomas, and Bender, Emily M. 2003. *Syntactic theory. A formal introduction*. Stanford, Calif.: CSLI Publications.

Semenza, Carlo, and Mondini, Sara. 2006. The neuropsychology of compound words. In *The representation and processing of compound words*, eds. Gary Libben and Gonia Jarema, 71-95. New York / Oxford: Oxford University Press.

Sprenger, Simone A. 2003. *Fixed expressions and the production of idioms*. Nijmegen: Max-Planck-Institut für Psycholinguisitk.

Toivonen, Ida. 2003. *Non-projecting words: a case study of Swedish*. Dordrecht: Kluwer.

Tummers, José. 2005. *Het naakt(e) adjectief. Kwantitatief-empirisch onderzoek naar de adjectivische buigingsalternantie bij neutra*. Leuven: Katholieke Universiteit Leuven, Departement Linguïstiek.

Wray, Alison. 2002. *Formulaic language and the lexicon*. Cambridge: Cambridge University Press.

Abeillé, Anne, and Godard, Danièle. 2004. De la légèreté en syntaxe. *Bulletin de la Société de Linguistique de Paris* 99:69-106.

Abeillé, Anne, and Godard, Danièle. 2006. La légèreté en Français comme déficience de mobilité. *Linguisticae Investigationes* 29:11-24.

Anderson, Stephen. 1992. *A-morphous morphology*. Cambridge UK: Cambridge University Press.

Blom, Corrien. 2005. *Complex predicates in Dutch. Synchrony and diachrony*. Utrecht: LOT.

Booij, Geert. 2002. Separable complex verbs in Dutch: a case of periphrastic word formation. In *Verb-particle explorations*, eds. Nicole Dehé, Ray Jackendoff, Andrew McIntyre and Silke Urban, 21-42. Berlin: Mouton de Gruyter.

Booij, Geert. 2007. *The grammar of words. An introduction to morphology. 2nd edition*: Oxford textbooks in linguistics. Oxford: Oxford University Press.

Booij, Geert. 2009. A constructional analysis of quasi-incorporation. *Gengo Kenkyu* 129.

Los, Bettelou, Blom, Corrien, Booij, Geert, Elenbaas, Marion, and Van Kemenade, Ans. 2010. *Scenarios of morpho-syntactic change: particles and prefixes in Dutch and English*. Cambridge: Cambridge University Press.

Ralli, Angela, and Stavrou, Melita. 1998. Morphology-syntax interface: A-N compounds vs. A-N constructs in Modern Greek. In *Yearbook of Morphology 1997*, eds. Geert Booij and Jaap Van Marle, 243-264. Dordrecht: Kluwer.

Sadler, Louisa, and Arnold, Douglas J. . 1994. Prenominal adjectives and the phrasal/lexical distinction. *Journal of Linguistics* 30:187-226.