

Non-classifying compounds in German¹

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Abstract

It is widely acknowledged in the literature that the common function of the modifier in nominal compounds is the classifying function. Classifying modifiers specify what kind of entity is being denoted by the head noun, that is, they specify subkinds; e.g. *apple juice* ‘a kind of juice made from apples’. While the classifying function can certainly be regarded as the default function of lexical modification, lexical modifiers in nominal compounds may also have functions other than classification. Drawing on functional types of noun phrase modification from the typological literature, the paper discusses lexical modifiers in German nominal compounds with an attitudinal or an identifying function, and the conditions under which they arise.

Keywords: modification, classification, identification, compound, noun phrase, German

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1. Introduction

It is widely acknowledged in the literature that modifiers in nominal compounds have a classifying function, i.e. that the modifier restricts the class denoted by the head noun (see Zimmer 1971, Downing 1977, Berman & Clark 1989, Bauer 2006, among many others). Therefore, nominal compounds normally denote subkinds, irrespective of the word class the modifier belongs to, cf. (1).

- (1) a. *junk yard*
[junk_N yard_N]_N
b. *backyard*
[back_{Adv} yard_N]_N
c. *stacking yard*
[stacking_v yard_N]_N
d. *monastic yard*
[monastic_A yard_N]_N

The classifying function of modifiers in nominal compounds, henceforth referred to as *lexical* modifiers,² can also be considered from the broader perspective of the modification relations in the noun phrase. For instance, Teyssier (1968) proposes three functional types of prenominal modification, viz. identification (ID), qualification (QUAL) and classification (CLASS), which are tied to three different syntactic positions in the noun phrase: whereas classifying modifiers are positioned close to the head, identifying modifiers are positioned at the far left of the prehead sequence, the typical position of the determiner; qualifying modifiers are positioned in between, as in (2).

- (2) *this tasty sweet potato*
ID QUAL CLASS N

From this broader perspective, the classifying function of lexical modifiers is not just an idiosyncratic property of nominal compounds but rather a prototypical instance of classifying modification, in that lexical modification takes – at least in the Germanic languages – the closest possible prehead position. This becomes especially clear from the German data as German, contrary to English, allows a very clear formal distinction between phrases and compounds in terms of stress pattern and inflection: in phrases, the main stress is on the head whereas in compounds, it is on the modifier. Additionally, adjectival modifiers are always inflected in phrases but never in compounds. This distinction is also reflected in spelling, as compounds are consistently written in one word whereas phrases are written in two words; see (3) and (4), where primary stress is indicated by '.

- (3) a. 'Apfelsaft
'apple juice'
b. *Apfel 'Saft
'apple juice'

- (4) a. 'Süßkartoffel
'sweet potato, yam'

² In order to avoid any misunderstandings, the term “lexical modifier” as used in this paper contrasts with “phrasal modifier”, aiming at the distinction between modification by morphological and by syntactic means, as exemplified in (4). Rijkhoff (2002, 2008a) on the other hand uses this term for all kinds of modifiers that involve members of lexical word classes, in contrast to grammatical modifier categories such as definiteness or number.

- b. *süße Kar'toffel*
'sweet potato'

Because German distinguishes so clearly between lexical and phrasal modifiers, it is especially well suited for investigating the functional properties of lexical modifiers in nominal compounds. The central question discussed in this paper is whether lexical modifiers in German nominal compounds may also have functions other than classification and under which conditions these non-prototypical functions arise. In other words, can the various functional categories that have been established in the literature for phrasal modifiers (cf. Section 2) be transferred to lexical modifiers?

The structure of the paper is as follows: Section 2 introduces the issue and gives an overview of the functional properties of the modifiers in the noun phrase. Sections 3 and 4 constitute the main part of the paper, dealing with two functional types of lexical modifiers different from the classification function, namely the expression of attitude (Section 3) and identification (Section 4). Section 5, finally, discusses the results of the preceding sections, and is followed by a short conclusion in Section 6.

2. Functional categories of noun phrase modification

This paper is concerned with functional categories in nominal compounds. Before turning to the particular research questions at issue, I will provide a short survey of the functional properties of modifiers in the noun phrase. In the course of time, there have been several proposals regarding the functional positions or layers in the noun phrase, both in the prenominal and postnominal domain (e.g. Teyssier 1968, Warren 1984, Seiler 1978, 1985, 2000, Halliday 1994, Rijkhoff 2002, 2008a, 2009a). These functional categories are distinct from formal categories and from semantic categories proper. Functional categories are often used in language typology as it has been argued that they are the only categories that can be reasonably applied for cross-linguistic research (e.g. Rijkhoff 2009b, 2010). Thus, I am not concerned here with the semantic modification relations holding between modifier and head constituent, as for instance the various semantic relations in noun + noun compounds proposed in the literature, such as localization, causation, etc.

In early studies such as Marchand (1966) or Bolinger (1967), it has been observed that adjectival modifiers may either have a qualifying or a classifying function. Qualifying modifiers specify properties of the concept denoted by the head noun such as size, colour and age, as in *big apple*. Importantly, however, qualifying modification does not alter the concept. Classifying modifiers, rather than providing an additional characterization of the head concept, create a new concept by specifying a subconcept of the head concept, e.g. *green cabbage*, which is a certain kind of cabbage (just as *red cabbage*, *field cabbage*, *pointed cabbage*, etc.). In other words, classifying modifiers restrict the denotational scope of the head noun. These two modifier functions have been labelled “referent/reference modification” (Bolinger 1967) or “token/type modification” (Rosenbach 2006, 2007; a similar distinction can be found in Seiler 1978 and Ferris 1993, for instance). Obviously, there are ambiguous cases where it is not clear (at least not at first sight) whether the modifier has a qualifying or a classifying function. For instance, *brown bear* may either denote the subkind of bears with the zoological Latin name “*ursus arctos*” or it may refer to bears as a kind (“*ursus*”), which is additionally described as brown.³ In German, phrasal adjectival modifiers may have a classifying function, just as in English, e.g. *saure Sahne* ‘sour cream’. Quite often, however,

³ Note that there is no principled difference between these two modifier types with regard to the underlying semantic relation: in both cases, there is an intersective modification between the adjectival modifier (*brown*) and the nominal head (*bear*).

adjectival classifying modifiers surface as lexical modifiers and the corresponding phrasal modifier has a qualifying function. Consider *Braunbär* ‘*Ursus arctos*’ (classifying modification) vs. *brauner Bär* (qualifying modification), and, similarly, *Süßkartoffel* ‘*Ipomoea batatas*’, ‘yam’ (classifying modification) vs. *süße Kartoffel* ‘sweet potato’ (qualifying modification), cf. (4) above; in English ‘*blackbird*’, with stress on the modifier (classifying modification) vs. ‘*black bird*’, with stress both on the modifier and the head (qualifying modification) (more examples can be found in Haspelmath 2002: 157). As a consequence, an adjectival modifier may even be used twice within one and the same noun phrase without being tautological: (5a) refers to a sweet exemplar of the subkind sweet potato and (5b) to a brown exemplar of the subkind brown bear.

- (5) a. *eine süße Süß_ kartoffel*
 QUAL CLASS N
 ‘a sweet sweet potato’
 b. *ein brauner Braun_ bär*
 QUAL CLASS N
 ‘a brown brown bear’

Thus, the classifying and the qualifying use of an adjectival modifier may both be expressed by a phrasal modifier; examples are German *saure Sahne* ‘sour cream’, English *brown bear*. In these cases as well, the two functions can be formally distinguished. In contrast with the qualifying function, the classifying function results in heavy restrictions on syntactic variability, both in English and German. Among other things, classifying adjectives may not be used predicatively and they may not be modified, or else their classifying meaning gets lost, as in (6) and (7) (see Warren 1984, for instance) (“#” means that the sentence is ungrammatical with the intended classifying interpretation. It is fine, however, if the adjectival modifier is interpreted as qualifying.)

- (6) a. #*the bear is brown*
 b. #*die Sahne ist sauer*
 ‘the cream is sour’

 (7) a. #*a very brown bear*
 b. #*die sehr saure Sahne*
 ‘the very sour cream’

Another indication is of course the internal word order, i.e. the position of the modifier types relative to each other, as described in Section 1 (see example (2)): in particular, modifiers with non-classifying functions are only allowed in a close prehead position if it is not taken by a classifying modifier. This restriction, which would explain the oddness of the noun phrase in (8), will be checked in the following sections for identifying and attitudinal modifiers.

- (8) a. # *this sweet tasty potato*
 CLASS QUAL N
 b. # *diese saure leckere Sahne*
 CLASS QUAL N
 ‘this sour tasty cream’

In the course of time more fine-grained models of modification in the noun phrase have been developed, extending the number of the supposed modifier types from three (identifying, qualifying, classifying) to five or even more. In his layered model of the noun phrase,

Rijkhoff (2002, 2008a, 2008b, 2009a, 2010) adopts five different types, viz. discourse-referential modifiers, localizing/anchoring modifiers (LOC/AN), quantifying modifiers (QUANT), qualifying modifiers (QUAL) and classifying modifiers (CLASS). These modifiers are assigned different positions (or: layers) in the noun phrase. Furthermore, Rijkhoff proposes an additional modifier type, viz. attitudinal modification (ATT), which specifies the speaker's mental/emotional attitude towards the noun phrase referent. This modifier type is however not bound to a particular position in the noun phrase structure.

As can be seen from example (9) (from Rijkhoff 2008a: 791), this model takes into account the prenominal as well as the postnominal domain of the noun phrase.⁴

- (9) *those three black sniffer dogs in the garden*
 QUANT QUAL CLASS N LOC/AN

Furthermore, it is important to note that there is no one-to-one correlation between modifier types on the one hand and particular linguistic encoding on the other; in other words, the functional modifier types cannot be uniquely related to particular grammatical forms. This means that a member of one particular formal category (e.g. an adjective or a PP) may belong to different functional types. For instance, the German PP with *von* 'of' may have a localizing/anchoring as well as a qualifying function (see example (10), from Zifonun 2010a), just as adjectives may have a qualifying as well as a classifying function, as we have seen above.

- (10) a. *die Zeitung von gestern*
 N LOC/AN
 the newspaper of yesterday
 'yesterday's newspaper'
 b. *eine Frau von südländischem Aussehen*
 N QUAL
 a woman of southern appearance
 'a woman of Mediterranean appearance'

Conversely, a particular type of modifier type may be realized through different linguistic means; see for instance (11), where the localizing/anchoring modifier takes the form of an adjective in (11a) and a PP in (11b).

- (11) a. *die hiesigen Industriekonzerne*
 LOC/AN N
 the local industry concerns
 b. *die Industriekonzerne von hier*
 N LOC/AN
 the industry concerns from here

So far, most studies on the function of modification categories in the nominal domain have focussed on phrasal modifiers, giving hardly any attention to lexical modifiers. In the few studies on lexical modifiers, it is standardly assumed that lexical modifiers in nominal compounds have a classifying function. An exception are the studies by Koptjevskaja-Tamm & Rosenbach (2005) and Rosenbach (2009, 2010), who examine an identifying function of lexical noun modifiers in English. In the following, I will examine lexical modifiers in

⁴ The question how determiners and demonstratives are to be analyzed is discussed in detail in Section 4.1. For this reason, determiners and demonstratives are not classified in the examples of this section.

German and concentrate on their functions in the wider context of the various modification relations in the noun phrase. More specifically, I will examine the functions of nominal lexical modifiers other than the classifying function, in particular attitudinal and identifying modification. Hence, I will consider another instance of the multifunctional use of a grammatical category.

3. Attitude

Attitudinal modification (ATT), according to Rijkhoff (2008b, 2010), means the expression of sympathy or scorn for the referent of the noun phrase. Accordingly, attitudinal modifiers do not specify a subconcept, that is, they do not restrict the denotational scope of the head noun. Rather, they express a strictly speaker-related stance on the noun phrase referent, either positive or negative. Rijkhoff (2008b, 2010) emphasizes that contrary to other modifier functions (e.g. the qualifying function, the quantifying function, etc.), the attitudinal function is normally not expressed by one modifying item only (e.g. an adjective or a prepositional phrase) but rather involves the interplay of several factors, with prosody and voice quality playing an important role. There are certain prototypical morphosyntactic means of realizing attitudinal modification that can be found cross-linguistically, for instance diminutives (see, for instance, Bauer 1997).

The attitudinal function is also found with lexical modifiers in nominal compounds, in particular with nominal modifiers, as for instance in *Spitzentyp* ‘top guy’ or *Mistwetter* ‘crap weather’. Such modifiers have recently been discussed in Meibauer (2013) under the heading of expressive compounds. They are special in two respects. First, the expressive/attitudinal meaning of the modifier cannot always be derived directly from its lexical meaning. So while the negative/positive attitude expressed by the modifier arises naturally from its literal meaning in the cases in (12), this is less so in (13).

- (12) a. *Scheißbuch*, *Schrottveranstaltung*, *Schweinekälte*, *Drecksgeschäft*
 shit.book crap.event pig.cold filth.business
 ‘crappy book’, ‘crappy event’, ‘bloody freezing’, ‘filthy business’
- b. *Spitzenkonzert*
 ‘top concert’
- (13) a. *Grottenabend*
 cave.evening
 ‘lousy evening’
- b. *Hammerlied*, *Killerauftritt*
 hammer.song killer.performance
 ‘outstanding song’, ‘outstanding performance’

Since these nominal constituents, when used as attitudinal lexical modifiers, have a meaning distinct from other uses (i.e. either as classifying modifiers or not as a compound constituent), there has been an extensive debate in the literature as to their status. In particular, it has been suggested that these modifiers should be regarded as affixoids rather than regular compound constituents, i.e. free morphemes (for discussion see Booij 2010, Leuschner 2010, Meibauer 2013, among others). In the present connection, it is important to note that the attitudinal function is not available for every nominal modifier but only for certain nouns which have an extra evaluative or expressive meaning. In this regard, the attitudinal function differs from the identifying function discussed in the next section, as the latter is in principle freely available for every constituent within the particular semantic and syntactic limitations as discussed in Section 4.

Second, compounds with attitudinal modifiers exhibit a stress pattern different from classifying compounds: while the latter have main stress on the modifier constituent, compounds with attitudinal modifiers have level stress. This, then, allows us to differentiate between the classifying and the attitudinal function of a lexical modifiers, as exemplified in (14).⁵

- (14) a. *'Schrotthändler, 'Hammerklavier*
 scrap.dealer hammer.piano
 'scrap dealer', 'fortepiano'
- b. *'Schrott'händler, 'Hammerkla'vier*
 scrap.dealer hammer.piano
 'crap dealer', 'outstanding piano'

Furthermore, lexical modifiers with an attitudinal function are obviously closely related to modifiers that have an intensifying, augmentative function. This is particularly clear in the case of modifiers such as *Arsch* 'ass' or *Sau* 'sow', which, despite their primary pejorative meaning, can be used as intensifiers with a positive as well as a negative meaning in particular when they modify adjectival heads, e.g. *arschkalt* 'bloody cold', *arschgeil* 'really fantastic', *saudumm* 'bloody stupid', *saubequem* 'extremely comfortable' (cf. Meibauer 2013). Such an intensifying rather than attitudinal function can also be found with nominal heads, as in (15). Again, these compounds have level stress.

- (15) *Mords-/Mörderhunger, Mords-/Mördergeschichte, Hammerversarsche, Riesentheater*
 murder.hunger murder.story hammer.scam giant.theatre
 'ravenous hunger', 'extreme story', 'giant scam', 'giant fuss'

Note that, unlike nominal modifiers, adjectival lexical modifiers seem to be excluded from the attitudinal function. This is rather unexpected as adjectives obviously are the word class most suitable for expressing attitude or evaluation. However, it has been observed that evaluative adjectives are also extremely rare as lexical modifiers with a classifying function, especially with regard to humans or human properties, e.g. **Schönlehrerin* 'beautiful woman teacher' (see Motsch 2004, among others). An obvious explanation here is that evaluative adjectives are unsuitable as classifying modifiers because they are speaker-related and subjective, and thus cannot specify speaker-independent abstract subkinds.⁶ However, this does not explain why adjectives do not emerge as attitudinal modifiers as in this case they do not specify a subkind. Quite the contrary, attitudinal modifiers are per definition speaker-related and express the subjective attitude of the speaker towards the noun phrase referent. It would appear, then, that the default function of lexical modifiers is the classifying function and that all other functions discussed above are only available if the modifier could – at least hypothetically – also have a classifying function. We can therefore conclude that functions of lexical modifiers in nominal compounds such as attitude or identification (see Section 4) are parasitic on their primary classifying function.

⁵ As pointed out by a reviewer, attitudinal compounds may occasionally also be interpreted in a classifying way; consider, for instance, *Spitzenwein* 'top wine', i.e. a kind of wine characterized by its very high quality and price. However, this classifying interpretation can be regarded as a meaning shift which is related to the lexicalization of this form. Importantly, under this interpretation, *Spitzenwein* does not have level but primary stress.

⁶ Bahuvrihi (or: exocentric) compounds seem to form an exception: many Bahuvrihi compounds denote humans and have an evaluative (for the most part pejorative) meaning, e.g. *Dickkopf* 'lit. thick head, bullhead', *Kahlkopf* 'bald head', *Fettwanst* 'lit. fat paunch, fatso'. Bahuvrihi compounds are special because they do not denote the body parts expressed by the head noun but rather persons that are in possession of these body parts. Importantly, however, the adjective as such has neither an evaluative nor an attitudinal meaning but just describes properties of the respective body parts. Rather, the evaluative/pejorative meaning is connected to the whole compound.

4. Identification

4.1 Determination and identifying modification

In the following, we will discuss lexical modifiers that have an identifying function, e.g. *das Berlin-Konzert der amerikanischen Rockband Bon Jovi* ‘the Berlin concert of the American rock band Bon Jovi’. According to Rosenbach (2009), identifying modifiers help to fix the reference of the noun phrase, that is, they contribute to the identification of the referent of the noun phrase. However, specifying the reference of the noun is traditionally regarded as the function of determiners (cf. Biber et al. 1999: 258, for instance). It therefore seems appropriate to start with a brief discussion of the difference between determination and identifying modification in more detail.

In Rijkhoff’s (2002, 2008a, 2008b, 2009a, 2010) framework, there is no separate category of determination. Rather, Rijkhoff proposes two functional types of modifier that contribute to the identification of the NP referent, namely, discourse-referential modifiers and localizing/anchoring modifiers. Discourse-referential modifiers relate to the referential or existential status of an entity in the discourse, signalling that the addressee is presumed to be (un-)familiar with the NP referent (cf. Rijkhoff 2010: 103). Definite and indefinite articles are prototypical examples of such “modifiers”. Localizing/anchoring modifiers, on the other hand, enable the hearer to properly identify the referent of the head noun by relating the noun referent to a particular location or a possessor. They are often encoded as genitive constructions or prepositional phrases (e.g. *John’s apartment*; *house of his neighbour/on the hill*). The set of functional modifier types in Zifonun (2010a) is based on Rijkhoff’s framework, but has two important modifications. First, Zifonun acknowledges determination as a separate functional subdomain of nominal phrases. Accordingly, she classifies discourse-referential modifiers that are function words – such as articles, demonstratives etc. – as determiners.⁷ Second, instead of Rijkhoff’s “localizing/anchoring modifiers”, Zifonun uses the term “anchoring modifiers” or “referential-anchoring modifiers” in order to emphasize that these modifiers do not necessarily have a locative meaning. Thus, modifiers which establish a local, temporal, possessive or other relation between an abstract or concrete entity in the world and the NP’s head noun can be used to restrict the referential potential of this NP. They are “anchoring” because they function as an anchor with respect to the identification of the NP referent (cf. Zifonun 2010a: 126–128). So, in (16), the modifiers *von gestern* ‘yesterday’s’, *meines besten Freundes* ‘of my best friend’ or *der Nachbarn* ‘of the neighbours’ contribute to the identification of the noun phrase referent by relating the noun referent to specific temporal information or to a particular possessor. Importantly, such anchoring modifiers are necessarily referential themselves.

- (16) a. *die Zeitung von gestern*
DET N AN
the newspaper of yesterday
‘yesterday’s newspaper’
b. *das Kind meines besten Freundes*
DET N AN
the child my_{GEN} best_{GEN} friend_{GEN}
‘the child of my best friend’
c. *der Balkon der Nachbarn*

⁷ Other approaches, such as Seiler (1996), assume that there is no clear boundary between determination and modification but that they rather form a continuum.

DET N AN
 the balcony the_{GEN} neighbours_{GEN}
 ‘the balcony of the neighbours’

This referential interpretation is a crucial property of anchoring modifiers, distinguishing them from classifying modifiers, which may (normally) not be interpreted referentially. Indeed, classifying modifiers rather denote concepts (see however Section 4.3); for instance, *apple* in *apple juice* does not refer to a specific apple but denotes the concept “apple”. Therefore, compounds with adjectival or adverbial modifiers do not function as anchoring modifiers as they cannot refer independently.

The next section will discuss whether the anchoring function as described above can also be realized by lexical modifiers in nominal compounds. However, to refer to modifiers with an anchoring function, as described above, I will hereafter use the term “identifying modifier”. This has to be understood as a short form for “modifier that functions as an anchor with regard to the identification of the NP referent”, and is crucially different from the class of determiners which have a discourse-related function.⁸ The difference between identifying and classifying modification can then be described such that identifying modifiers contribute to the restriction of the NP reference while classifying modifiers restrict the denotational scope of the head noun. In short, identifying modifiers contribute to answering the question “Which NP?” whereas classifying modifiers provide answers to the question “What kind of N?”.

4.2 Proper name modifiers

As pointed out above, identifying modification presupposes a referential interpretation of the modifier. In (16b–c), the referential interpretation of the identifying modifiers *meines besten Freundes* and *der Nachbarn* results from the use of definite determiners. However, in the case of compounds, filling the modifier position with a full noun phrase (i.e. including a determiner) to ensure a referential interpretation turns out to be problematic as a full noun phrase may not be used in the modifier slot; only simple or modified nouns may be used as modifiers (see (17)). For this reason, the use of determiners is excluded, as in (18).⁹

- (17) a. (*der*) *Bohneneintopf*, (*das*) *Generationenhaus*
 ‘(the) bean stew’, ‘(the) generational home’
 b. (*der*) *Dicke-Bohnen-Eintopf*, (*das*) *Drei-Generationen-Haus*
 ‘(the) broad beans stew’, ‘(the) three-generation home’
- (18) a. (*der*) **Die-Nachbarn-Balkon*, (*der*) **Der-Nachbarn-Balkon*
 (the) the_{NOM} neighbours_{NOM} balcony, (the) the_{GEN} neighbours_{GEN} balcony
 ‘(the) the neighbours’ balcony’
 b. (*das*) **Mein-bester-Freund-Kind*, (*das*) **Meines-besten-Freundes-Kind*
 (the) my_{NOM} best_{NOM} friend_{NOM} child, (the) my_{GEN} best_{GEN} friend_{GEN} child
 ‘(the) my best friend’s child’

Due to this ban on definite noun phrases in the modifier position of nominal compounds, the identifying function seems to be impossible for any compound modifier. However, proper names are promising candidates for identifying modifiers because they are inherently definite.

⁸ See Section 4.4 for further discussion of the respective contributions of the determiner and the identifying modifier.

⁹ There are a few exceptions of compounds with a full noun phrase in the modifier position, e.g. *die Das-verflixte-siebte Jahr-Problematik* ‘the the-seven-year-itch-problem’. Obviously, such cases presuppose that the full noun phrase is a lexicalized item, e.g. an idiom or a quotation (see Meibauer 2003).

That they can, in fact, function as identifying modifiers can be seen from the examples in (19). These compounds do not denote subkinds of residences or gardens, etc. (that is, they do not have a classifying function); rather, they refer to a specific residence or garden identified by means of the modifier, since the person, company, country or city referred to stands in a particular relation to the entity denoted by the head noun, for instance in a possessive relation as in (19a–b), similarly to the examples in (16).

- (19) a. *Die Durchsuchung der Wulff-Villa dauerte vier Stunden.*
 (http://article.wn.com/view/2012/03/02/Durchsuchung_der_WulffVilla_dauerte_vier_Stunden/#/related_news, accessed on 15 May 2013)
 ‘The search of the Wulff residence took four hours.’
- b. *Von den sechs Söhnen unseres Nachbarn Lehnigk ist einer Fleischer. (...) Auf einem Fleck im Lehnigk-Garten, auf dem die alte Lehnigkinne zuvor Stiefmütterchen, Astern, Goldlack, Levkoien, sogar Rosen zog, hat Fritzko sein Schlachthaus hingebaut.* (Erwin Strittmatter. 1983. *Der Laden*, Aufbau-Verlag, p. 450)
 ‘One out of the six sons of our neighbour Lehnigk is a butcher. (...) On a location in the Lehnigk garden, where the old Mrs. Lehnigk had cultivated violas, asters, gold varnish, hoary stocks and even roses, Fritzko has built his slaughterhouse.’
- c. *Berlusconi-Prozess wird fortgesetzt.* (taz, 15 January 2013)
 ‘Berlusconi trial is continued.’
- d. *Facebook-Chefin Sheryl Sandberg hat ein Buch geschrieben, in dem sie Frauen auffordert, die Führungsetagen zu stürmen.* (www.spiegel.de, accessed on 7 March 2013)
 ‘Facebook boss Sheryl Sandberg has written a book telling women to take the executive levels by storm.’
- e. *Weltweit Aufsehen erregt hatte im Jahr 2008 Timothy Brown aus den USA, bei dem die Zahl der Aidsviren nach einer Knochenmarktransplantation in Berlin ebenfalls unter die Nachweisgrenze gesunken war. (...) Im Vergleich zu den beiden Patienten aus Boston ist der Berlin-Patient sehr viel intensiver untersucht worden, (...).* (Berliner Zeitung, 4 July 2013)
 ‘In 2008, Timothy Brown from the US caused a worldwide sensation as after a bone marrow transplant in Berlin, the number of AIDS viruses had decreased below the detection limit. (...) Compared to the two patients from Boston the Berlin patient has been examined much more extensively (...).’
- f. *Cyber-Angriffe auf US-Konzerne: Im Netz der China-Hacker. - Die Spur führt nach Shanghai: Zahlreiche Hackerangriffe auf US-Firmen lassen sich nach China zurückverfolgen.* (www.spiegel.de, accessed on 19 February 2013)
 ‘Cyber-attack on US company: in the web of the China hackers. – The trail leads to Shanghai: numerous hacker attacks on US companies can be traced back to China.’

Of course, proper name modifiers may also have a classifying function, as in (20). Contrary to the examples discussed above, these compounds always (i.e. irrespective of the context) denote subkinds.¹⁰

- (20) a. *Montessoripädagogik, Malakofftorte, Röntgenstrahlen*
 ‘Montessori pedagogy’, ‘Malakoff cake’, ‘x-rays’

¹⁰ Yet another group consists of proper name compounds that are proper names themselves, such as *Röntgen-Gymnasium* ‘Röntgen secondary school’ or *Schillergasse* ‘Schiller lane’. Since the whole expression refers directly and uniquely, the modifier neither has a classifying nor an identifying function in these cases.

- b. *Hitler-Bärtchen, Günter-Netzer-Frisur, Merkel-Blazer*
 ‘Hitler moustache’, ‘Günter Netzer haircut’, ‘Merkel jacket’
- c. *Bruckner-Sinfonie, Mulisch-Roman, Beckmann-Gemälde*
 ‘Bruckner symphony’, ‘Mulisch novel’, ‘Beckmann painting’

The examples in (20) exemplify the semantic relations between the modifier and the head constituent that are typically (but not exclusively) found in classifying proper name compounds. The semantic relation in (20a) can be described as “commemorative” (see Koptjevskaja-Tamm 2009, Schlücker 2012): the compounds denote subkinds which are named after the person named in the modifier. The relation in (20b) can be roughly described as “similar”, because the items denoted by these subkinds are similar to specific exemplars characteristic of, or in the possession of, the person referred to by the proper name. Finally, the semantic relation in (20c) can be described as “creator” or “authorship”. Quite often, this does not only mean that a particular work has been created by the respective artist, but it also means that a work has properties that are typical of the works by this artist in general (such that, ultimately, a Beckmann painting does not even have to be painted by Beckmann).

A further issue is what function proper nouns take up in synthetic nominal compounds, which consist of a deverbal head and an internal argument of underlying verb the head noun (see (21)). Unlike in root compounds, such as (19) and (20), where the hearer has to learn or infer the semantic relation that holds between the modifier and the head constituent, in synthetic compounds, the constituent to the left of the deverbal noun is an argument inherently involved in the semantics of the underlying verb. For instance, in *Goethe-Verehrung* ‘Goethe adoration’ in (21), *Goethe* constitutes, as an integral part of the adoration, constitutes the internal argument of the verb *verehren* ‘adore’.

- (21) *Goethe-Verehrung, Sarkozy-Anhänger, Brandt-Nachfolger*
 ‘Goethe adoration’, ‘Sarkozy follower’, ‘Brandt successor’

In these examples, then, the proper names saturate the internal argument position, they have an inherent relation to the head noun and they do not provide additional information, as modifiers do: they are thus not modifiers. Hence, synthetic proper name compounds are generally not identifying.

Let us also consider examples such as in (22), which seem less clear.

- (22) a. *Gorbatschow-Rede, Einstein-Nachlass, Gauweiler-Antrag, DFB-Sieg*
 ‘Gorbachev speech’, ‘Einstein estate’, ‘Gauweiler motion’, ‘DFB (i.e. German Soccer Federation) win’
 b. *Merkel-Gatte, Putin-Freund*
 ‘Merkel spouse’, ‘Putin friend’

Examples such as (22a) contain a deverbal head noun, and as such resemble synthetic compounds; they are not synthetic compounds in the strict sense, though, as the proper name constituent is not the internal but the external argument of the verb underlying the head noun (see (22a)). Then again, in (22b), the head noun is not deverbal, but it has an inherent relational meaning that does not need to be derived via an additional semantic relation. However, it seems that the external argument has a less inherent relation to the head noun than the internal one: it just denotes the agent of the underlying event but it is not inherently involved in the semantics of the predicate. Obviously, the relation between the proper name constituent and the head noun can be described quite often as a possessive relationship, as can, for instance, be seen from the example in (23a), which is equivalent to the possessive

constructions in (23b). In this case, the mention of the mover's name contributes to the identification of the specific motion, just as in the examples in (19).

- (23) a. *Der Gauweiler-Antrag ist abgelehnt worden (...)* (<http://www.radio-reschke.de/post/31323995741/11-9-2012>, accessed on 15 May 2013)
'The Gauweiler motion was dismissed (...)'
b. *Gauweilers Antrag ist abgelehnt worden (...)*
'Gauweiler's motion was dismissed (...)'
Der Antrag von Gauweiler ist abgelehnt worden (...)
'The motion by Gauweiler was dismissed (...)'

I therefore conclude that proper noun compounds as in (22) are not excluded from the identifying function.

Finally, I would like to mention a difference between German and English with regard to identifying proper noun compounds. As has been discussed in Section 4.1, there are several modification relations that can underlie the identifying (i.e. localizing/anchoring) function, namely, local, temporal or possessive relations. Whereas the possessive relation is found frequently both in German and English, it appears that the locative relation is much more common in English than in German. For instance, the locative proper name modifiers in the English examples in (24) (from the EUROPARL corpus)¹¹ localize the head noun. In the German translation, however, the localizing function has been realized by alternative means, such as deonymic attributive adjectives (*Brüsseler, nordirisch*; see (24a) and (24c)) or PPs (*in New York*; see (24b)).¹²

- (24) a. *Since then the Brussels landscape has changed beyond recognition (...).*
Seit damals hat sich die Brüsseler Landschaft bis zur Unkenntlichkeit verändert (...)
b. *The New York stage is different from Geneva.*
Die Bühne in New York unterscheidet sich von der in Genf.
c. *The Northern Ireland fishing industry has received many hard blows from this Union.*
Die nordirische Fischfangindustrie mußte von der Union etliche schwere Schläge einstecken.

However, as can be seen from the examples (19e–f), identifying modifiers expressing a locative relation are occasionally also found in German; influence from English may play a role here. Altogether, it seems that identifying lexical modifiers in English realize (at least) the local and the possessive relation while identifying lexical modifiers in German are predominantly possessive (in a broad sense). For this reason, identifying lexical modifiers in German are frequently human proper nouns because their referents are animate and animate entities are optimal possessors (see Taylor 1996, for instance).

4.3 The referentiality of the modifier

As was pointed out above, identifying modifiers are necessarily referential. The referentiality of proper name modifiers can be tested by means of anaphoric reference. As has generally been assumed in the literature since Postal (1969), words are anaphoric islands which means

¹¹ <http://opus.lingfil.uu.se/cwb/Europarl/frames-cqp.html>

¹² This is of course not to say that there are no locative proper name compounds in German, cf. *Rheintal* 'Rhine valley' or *Berlin-Marathon* 'Berlin marathon'. These are, however, proper names themselves.

that their constituents are inaccessible for anaphoric reference; in (25), for instance, *ihnen* cannot refer to the constituent *Bohnen* in the compound *Bohneneintopf*.

- (25) **ich liebe eigentlich Bohnen_ieintopf, aber jetzt habe ich genug von ihnen_i*
 ‘actually I love bean_i stew but now I am tired of them_i’

However, Coulmas (1988), Ward, Sproat & McKoon (1991), ten Hacken (1994) and others have noted that this is not necessarily true for proper name modifiers. As can be seen from (26), anaphoric reference is possible if the modifier is interpreted referentially.

- (26) a. *die Durchsuchung der Wulffi-Villa, über die er_i nicht informiert war*
 ‘the search of the Wulffi_i residence he_i was not informed of’
 b. *der Beginn des Berlusconi-Prozesses, wo dieser_i allerdings nicht erschien*
 ‘the beginning of the Berlusconi_i trial where he_i however did not appear’

Anaphoric reference is, on the other hand, not admissible in the case of classifying proper name compounds, cf. (27).

- (27) a. **die Montessori-pädagogik, die sie_i begründet hat*
 ‘the Montessori pedagogy_i that she_i founded’
 b. **die Röntgenstrahlen, die er_i 1895 entdeckte*
 ‘the Röntgen_i rays that he_i discovered in 1895’

However, on closer inspection it becomes obvious that the referentiality of the modifier cannot be considered a distinctive feature between the identifying and the classifying function. Although the assumption that classifying compounds are generally non-referential is widespread in the literature,¹³ the examples in (28) and (29) show that there are specific conditions (e.g. overall topicality of the referent in the text; semantic transparency of the compound; see Coulmas 1988, Ward, Sproat & McKoon 1991) under which anaphoric reference is also available for classifying compounds.

- (28) a. *The river_ibank was damaged when it_i overflowed after three days of heavy rain*
 (see Coulmas 1988: 324)
 b. *Museum_i visitors can see through its_i big windows the 900-year-old Tower of (...)*
 (Ward, Sproat & McKoon 1991: 469)

- (29) a. *ich bin eigentlich Sarkozy-Anhänger, aber jetzt habe ich genug von ihm_i*
 ‘actually I am a Sarkozy_i follower but now I am tired of him_i’
 b. *eine Ausstellung im Käthe-Kollwitz-Museum aus Anlass ihres_i Geburtstages*
 ‘an exhibition in the Käthe Kollwitz_i museum to celebrate her_i birthday’
 c. *das ist die Bruckner-Sinfonie, die er_i selbst uraufgeführt hat*
 ‘this is the Bruckner_i symphony which he_i himself premiered’

Hence, proper noun compounds that pass the test of anaphoric reference are not necessarily identifying compounds.

¹³ See, for instance, Zifonun (2010b: 172) who claims that proper name modifiers are never truly referential but rather denote concepts of individuals. While this is surely true for some proper name compounds, such as *Merkel-Blazer* ‘Merkel jacket’ or *Hitler-Bärtchen* ‘Hitler moustache’, where the proper name stands for a characteristic attribute of the respective person, I strongly doubt that this is generally the case with proper name compounds. Koptjevskaja-Tamm (2013) refers to similar cases in Swedish as the “typified” use of proper name compounds.

4.4 Identifying compounds and determiner genitives

As has already been discussed in Section 4.1, determiners and identifying modifiers contribute in different ways to the identification of the head referent. In this connection, it is illustrative to compare identifying proper name compounds to constructions with a prenominal proper name genitive as these two constructions seem to be semantically quite similar; compare (30a) and (30b).

- (30) a. *Die Durchsuchung der Wulff-Villa dauerte vier Stunden*
'The search of the Wulff residence took four hours'
b. *Die Durchsuchung von Wulffs Villa dauerte vier Stunden*
'The search of Wulff's residence took four hours'

By contrast, such a similarity is not given in the case of a classifying proper name compound, see (31).

- (31) a. *Er trägt das Hitler-Bärtchen seit Jahren*
'He has been wearing the Hitler moustache for years'
b. *Er trägt Hitlers Bärtchen seit Jahren*
'He has been wearing Hitler's moustache for years'

An important difference between identifying proper name compounds and the corresponding construction with a prenominal proper name genitive is that the former cannot occur without a determiner. In constructions with a prenominal proper name genitive, on the contrary, the determiner is inadmissible, see (32):

- (32) a. *Ich beobachte *(die) Wulff-Villa*
'I observe *(the) Wulff residence'
b. *Ich beobachte (*die) Wulffs Villa*
'I observe (*the) Wulff's residence'

Thus, in German, just as in English, a prenominal proper name genitive does not allow the use of a determiner. Obviously, these genitives are identifying modifiers and determiners at the same time. In other words, in a genitive construction such as (32b), the prehead element (the dependent or possessor) establishes reference, just as a determiner does. One might argue that this can also be related to the fact that the possessor is a proper name. However, this individuating, determining function of the genitive construction is also found in genitive constructions with common nouns (note that in German, with just a few exceptions, only proper names are allowed as prenominal genitives). Example (33) (from Rosenbach 2006: 80) shows that a genitive renders the whole NP definite, even if the possessor is indefinite.

- (33) a. *a teacher's book* > *the book of a teacher*
b. *a book of a teacher* > **a teacher's book*

Due to this individuating, determining function, these genitive constructions have been labelled specifying or determiner genitives. Thus, it seems that in (32b) – contrary to (32a) – it is the construction rather than the inherent specific meaning of the proper name that establishes the referential interpretation. From this perspective, identifying proper name compounds are semantically not equivalent to prenominal proper name genitive constructions in that the identifying strength of the former construction is weaker than that of the latter. This

also has to do with the fact that the default function of lexical modifiers in nominal compounds obviously is the classifying function. As illustrated by the examples in (20), proper name modifiers can also have a classifying function. What is more, given a suitable context, every identifying proper name compound can easily be given a classifying interpretation. For instance, one can imagine that a proper noun modifier such as *Berlusconi* in *Berlusconi-Prozess* ‘Berlusconi trial’, as for instance in (19c), becomes “typified”, that is changed into a category (cf. Koptjevskaja-Tamm 2013 and fn. 13), due to characteristic features or incidents attached to Berlusconi in the course of the process.¹⁴ The classifying interpretation of a (novel) proper name compound can also be evoked simply by the use of the indefinite article. For instance, in (34) the indefinite article forces the hearer to accommodate a classifying interpretation of the ad hoc formation *Günther-Jauch-Villa*, i.e. to accommodate an appropriate subkind (Günther Jauch is an important TV-personality in Germany).

- (34) *Wissen Sie, hier regiert der Kleingeist. Zu einer Günther-Jauch-Villa hat es nicht gereicht, und nun führen sich diese Leute so auf.* (www.taz.de, 23 April 2009)
 ‘You know, small-mindedness rules here. It wasn’t enough for a Günther Jauch residence, and now people are behaving like this.’

While the definite article (or, more generally, definite determiners) signals that the hearer should be able to retrieve the identity of the referent of the noun phrase, an indefinite determiner signals that such an identification is either impossible or not necessary, in which case a preliminary characterization in terms of class-membership is sufficient (see Langacker 1991, Bache 2000). For this reason, indefinite determiners and the identifying function of the modifier are mutually exclusive. In other words, identifying modifiers can only be used in the context of definite determiners. The definite determiner indicates that the noun phrase referent has to be identified and the identifying modifier helps to accomplish this task. The identifying modifier can therefore be regarded as an assistant to the identifying function of the determiner. In this respect, the present analysis deviates slightly from the one proposed in Koptjevskaja-Tamm & Rosenbach (2005): in their analysis, the determiner and the modifier share the identifying function between them. By contrast, I assume that the determiner and the modifier make different contributions in that the determiner indicates that the referent has to be identified by the hearer whereas the modifier provides information that is necessary or useful for the identification process. Accordingly, identifying modifiers are optional for the identification process and dependent on the presence of a definite determiner. With regard to the latter, a comment is in order. Identifying proper noun compounds are quite frequent in newspaper language and in particular in headlines. As is well-known, articles are regularly dropped in headlines, as, for instance, in (19c). However, the absence of the article does not contradict an identifying interpretation of proper name compounds in headlines. The article has to be reconstructed by the hearer, whereby the dropped article can, in principle, be interpreted both definitely and indefinitely. However, proper name modifiers in headlines quite often refer to prominent, well-known people and the headlines report on events in which they are involved. For this reason, it seems very likely that in these cases the article has to be reconstructed as definite such that the noun phrase refers to a particular event the person is involved in or to an object in that person’s possession.

We can now return to the question of the supposed similarity of identifying proper name compounds and determiner genitive constructions. On the one hand, they can receive very similar or even equivalent interpretations, as for instance in (30). On the other hand,

¹⁴ This is of course not to say that every classifying proper name compound starts off as an identifying compound. For instance, it seems rather implausible that *Hitler-Bärtchen* ‘Hitler moustache’ started off as an identifying compound. Quite the contrary, as classification is the default function of nominal compounding, novel formations are regularly classifying.

identifying proper noun compounds are dependent on the presence of a definite article. Furthermore, with respect to form they do not differ from classifying proper noun compounds. By contrast, proper name genitives normally cannot receive a classifying interpretation. It can therefore be argued that the identifying force of proper name modifiers is weaker in compounds than in genitive constructions because in compounds they can, in principle, receive both a classifying and an identifying interpretation.

4.5 Identifying compounds with common noun modifiers?

Are there also identifying modifiers in nominal compounds other than proper names? In the preceding sections, I have argued that identifying modifiers presuppose a referential interpretation. At the same time, full noun phrases are not allowed in the modifier position of compounds, as the use of determiners in that position is excluded. Proper names evade this restriction as they are inherently definite and, for that reason, do not need an extra determiner. However, it might be argued that non-proper name modifiers may have an identifying function in nominal compounds, too, when they are assigned a referential interpretation; in these cases, the referential interpretation has to be inferred pragmatically on the basis of contextual information.¹⁵ Downing's (1977) well-known example *apple juice seat* seems to be a case in point:

Thus a friend of mine was once instructed to sit on the *apple-juice seat*, i.e. the seat in front of which a glass of apple-juice had been placed. This compound illustrates the 'deictic' compound under discussion here. Thus, while this compound was used in this instance to pick out one seat, its use did not imply the existence of a subcategory of seats known as *apple-juice seats*, of which this particular seat was a member.

(Downing 1977: 818–819)

In this example, *apple juice* refers to a specific (glass of) apple juice and this referential interpretation contributes to the identification of the particular seat the speaker wants the hearer to identify. Sentence (35) presents a similar case in German: given the context, it is quite obvious that *Dienstag* refers to a hearing of a non-specified kind that has taken place on (a particular) Tuesday.

(35) *Im Rechtsstreit Firma Glück gegen den Freistaat Bayern hat der Bayerische Verwaltungsgerichtshof am Dienstag noch keine Entscheidung gefällt. (...) Allerdings ist noch gar nicht klar, ob die Dienstag vor dem „richtigen“ Senat gelandet ist. (Münchner Merkur, 11 February 2004)*

'In the lawsuit Glück Company versus the Free State of Bavaria the Bavarian Higher administrative court had not yet come to a decision on Tuesday. (...) However, it is not at all clear yet whether the Tuesday hearing took place at the "correct" senate.'

Although these compounds seem to be straightforward examples of identifying common noun modifiers, it is unclear how far such a general identifying function for common noun modifiers can be extended. In her discussion of the identifying function of common noun

¹⁵ Interestingly, West Frisian has a particular class of nominal compounds with an invariant referential meaning of the (common noun) modifier constituent (and, as a consequence, of the whole compound), e.g. *keamersflier* '(the) floor of the living room', *amersboaiem* '(the) bottom of the bucket'. Unlike the German examples discussed here and equivalent cases in English, these compounds have a referential interpretation which is not context-dependent but inherent. This can be shown among other things by the fact that the existence of such a compound blocks the definite interpretation of a corresponding "normal" compound; see Hoekstra (2002).

modifiers in English nominal compounds, Rosenbach (2009) provides the following two examples:

- (36) a. *To one side of this building stood a barn, and music issued from inside: (...). The barn door hung partially open, and he could see that its interior was whitewashed (...).*
b. *He returned Steward his report, and watched as the DI assiduously smoothed the pages against the table top to remove the curled edges.*

According to Rosenbach (2009), the compounds *barn door* and *table top* can be viewed as identifying because they can be converted into a corresponding determiner genitive and because the modifier constituent can be interpreted referentially as the referent is topical in the context. Although this is indisputably true, it seems questionable that these modifiers should be considered as identifying. Obviously, *barn door* and *table top*, as used in (36), do not denote a type of door or a type of top, but rather a particular entity. However, this is a particular entity of the type “barn door” and “table top” rather than of the type “door” or “top”. Thus, it is questionable that the modifier is actually interpreted referentially. What rather seems to play a role here is that these compounds have a transparent meaning and that they express a part-whole relation. Thus, a *barn door* is a door of a barn or a door of the kind usually found in barns. This means that when the compound *barn door* is used, there will usually be implicit or explicit reference to a barn in the context (and to a table in the case of *table top*). This is different with compounds such as *Taschenmesser* ‘pocket knife’, *Brettspiel* ‘board game’ or *Strumpfhose* ‘tights, lit. stocking-trousers’, which usually do not involve the presence of a pocket, a board or stockings in the context. Thus, there seems to be no need for assuming an identifying function in (36). Rather, the modifiers are classifying and the compounds are used in order to refer to a particular referent of the subtype denoted by the compound.

Furthermore, examples such as *Dienstagsverhandlung* in (35) or *apple juice seat* might also be regarded from the perspective of discourse structure, as it is well known from research on text-linguistics that nominal compounds are an important means of building up discourse structure. That is, nominal compounds are regularly coined ad hoc and used as a device for anaphoric or cataphoric reference. In particular, they are useful as a means of information compression. This use has been described in the literature as the syntactic, or deictic, or *parole* function of compounding (see, for instance, Downing 1977, Seppänen 1978, Dressler 1982, Kastovsky 1982 and Dederding 1983). Examples such as *Dienstagsverhandlung* or *apple juice seat* can be regarded as prototypical of this particular use of (novel) nominal compounds.

An important difference between such compounds and identifying proper name compounds is that the latter usually express a possessive (or occasionally also locative) relationship between the modifier and the head constituent (which is the basis for their semantic similarity to determiner genitives) while the former may express the whole range of semantic relations between the modifier and the head constituent in nominal compounds. They are both dependent on contextual information, though: without the context, the identifying as well as the anaphoric/cataphoric function cannot be preserved. For this reason, these compounds cannot be lexicalized.

Finally, it is striking that these compounds are normally written with a hyphen rather than as one word. According to the official spelling rules of German, the use of a hyphen is admissible if the writer wants to highlight and contrast the individual constituents of a compound. An obvious explanation is, of course, that these compounds are novel forms. However, it can also be argued that writers intuitively use the hyphen rather than a single word in the case of identifying compounds because they want to emphasize that such

compounds are not semantic units in the way “normal”, classifying compounds are: after all, the concept denoted by the head constituent is not altered. More specifically, this spelling can be interpreted as a shift of a lexical entity towards a phrasal entity and therefore as a short form of the phrasal equivalent.

5. Discussion

This paper has argued that in addition to the classifying function, lexical modifiers in German nominal compounds may also have other functions, in particular an attitudinal and an identifying function. It is not yet clear whether the other functions of (phrasal) modifiers in the noun phrase as introduced in Section 2 (namely, the qualifying function and the quantifying function) can be found with lexical modifiers, too. Further, this paper has zoomed in on nominal modifiers (rather than verbal, adjectival or phrasal noun modifiers). However, examples such as (37) and (38) suggest that lexical modifiers in nominal compounds may also have a qualifying or a quantifying function. They also indicate that alternative modifier functions are available for lexical modifiers other than nouns, too.

Consider the two examples of adjective + noun compounds (*Gesamt-Arzneimittelmarkt* ‘total pharmaceutical product market’, *Normal-Pendler* ‘normal commuters’) in (37): it can be argued that the adjective in both cases does not specify a subconcept but provides an additional characterization of the concept denoted by the head.

- (37) a. *Sie hätten 2004 einen Anteil von bis zu 1,5 Prozent am Gesamt-Arzneimittelmarkt von rund 32 Mrd. Euro erzielt.*
‘In 2004, they would have achieved a share of up to 1,5 percent in the total pharmaceutical product market of about 32 billion euros’
- b. *Als neuralgischer Punkt kann der Mainzer Hauptbahnhof gelten, wenn Normal-Pendler, Bush-Zugbenutzer und Demonstranten aufeinander prallen werden.*
‘Mainz central station can be considered a neuralgic point if normal commuters, Bush-train users and demonstrators clash.’

Sentence (38) contains an example of a nominal compound with a phrasal modifier (*Sechs-Stunden-Besuch* ‘six-hour visit’): it seems quite obvious that – in the given context – the modifier has a quantifying rather than a classifying function as it specifies the duration of the event denoted by the head noun *Besuch* ‘visit’ rather than a particular kind of visit.

- (38) *Sechs Stunden für die Probleme der Welt. (...) Obama hatte Mexikos Präsidenten Felipe Calderon bereits kurz vor seiner Amtseinführung in Washington getroffen. Der heutige Sechs-Stunden-Besuch dürfte einen Vorgeschmack auf weitere Auslandsbesuche Obamas geben, auch in Europa.* (Die Zeit, 19 February 2009)
‘Six hours for the problems of the world. (...) Obama had already met Mexico’s president Felipe Calderon shortly before his inauguration in Washington. Today’s six-hour visit could give a foretaste of Obama’s further foreign visits, also in Europe.’

Thus, these examples suggest that the qualifying and the quantifying function are also available for lexical modifiers in nominal compounds and that these alternative functions can also be found with lexical modifiers that are not nouns. However, this is an idea that still needs further study.

The discussion of the examples in this paper has also suggested that the various modifier functions cannot always be clearly differentiated. For instance, the compound *China-Hacker* ‘china hacker’ in (19f) can be regarded as a borderline case between the identifying and the classifying function. Drawing on similar observations with regard to the various

functions of possessive prepositional phrases with Dutch *van* ‘of’, Rijkhoff (2009a) proposes that the modifier types should not be considered as distinct classes but rather as reference points on a continuum of noun modification.

Finally, getting back to the overall system of modification in the noun phrase, two interrelated questions need to be discussed with regard to the data examined above. First, do the various modifier types have different fixed positions (or slots) in the prenominal and postnominal domain, irrespective of whether the other positions are actually occupied in a particular noun phrase? Or is there just an ordering of the modifier types relative to each other without them being fixed to underlying abstract positions? And second, is there a basic, inherent difference between phrasal modifiers and lexical modifiers, due to the latter’s invariant position immediately before the head?

With regard to the ordering/positioning of the modifier types, the data discussed in Section 2, in particular in (8), provide evidence for the less restrictive assumption, namely that modifiers take up a relative order with respect to each other: it is, for instance, impossible to shift the qualifying modifier to a direct prehead position if that position is filled by a classifying modifier. Similarly, we can observe that functions other than the classifying function are unavailable for a lexical modifier if the compound is preceded by a classifying modifier. This can be seen from the examples in (39) and (40). Derived, relational adjectives such as *sportlich* ‘sportive’ or *gerichtlich* ‘juridical’ are inherently classifying. Accordingly, no other modifier type can stand in between them and the head of the noun phrase (or else the modifiers *Hammer* and *Dienstag* must receive a classifying interpretation).

- (39) a. # *eine sportliche Hammer_ veranstaltung*
 DET CLASS ATT N
 a sportive hammer event
- b. *eine Hammer_ sport_ veranstaltung*
 DET ATT CLASS N
 a hammer sport event
 ‘an outstanding sport event’

- (40) a. # *die gerichtliche Dienstags_ verhandlung*
 DET CLASS IDENT N
 the juridical Tuesday hearing
- b. *die Gerichts_ verhandlung am Dienstag*
 DET CLASS N IDENT
 the court hearing on Tuesday
 ‘the court hearing on Tuesday’

This is in accordance with Rijkhoff’s (2002, 2008a, 2008b) layered model of the noun phrase, according to which the head noun is surrounded by different layers, both to its left and to its right. The innermost layer is the kind (or: classifying) layer which has scope over the head noun, the next layer is the qualifying layer which has scope over the classifying layer, the next, quantifying layer has scope over the qualifying layer and so on. The linear ordering of the various modifier types as observed above then mirrors the layered organization of the underlying modification relations. Thus, the relative ordering of the modifier types reflects the semantic-functional relations in the noun phrase and does not need to draw on fixed syntactic positions. It results, however, in an invariant syntactic position in the case of classifying modifiers: as the classifying (kind) layer is the innermost layer, classifying modifiers must always be adjacent to the head noun whereas the other modifier types may appear adjacent to the head noun but do not have to (dependent on which other modifier types are present).

This brings us to the second question, namely whether there is an inherent difference between phrasal modifiers and lexical modifiers. In the preceding sections, we have seen that lexical modifiers may have functions other than the classifying function. However, the classifying function is without doubt the default function of lexical modification, which can be seen, among other things, from the fact that in context-free use a nominal compound normally receives a classifying interpretation. This observation can easily be explained by the fact that in the case of lexical modifiers, the modifier's adjacent position to the head is morphosyntactically fixed. Lexical modifiers are parts of words and words are basically inseparable units. This also means that there are two distinguished positions for classifying modifiers in the noun phrase, a phrasal and a lexical one, which can both be filled at the same time, see (41).

(41) *amtliche Rechtschreib_regelung*
 CLASS CLASS N
 'official spelling regulation'

This leads to recursive or double subconcept formation. The scope relations are imposed by the structure: the inner classifying layer (the lexical modifier) has scope over the head noun and the outer classifying layer (the phrasal modifier) has scope over the modified head noun. *Amtliche Rechtschreibregelung* thus forms a subconcept of the subconcept *Rechtschreibregelung*.

It appears, then, that on the one hand the modifier position of compounds seems to form a morphosyntactically distinguished position for the classifying function, but that on the other hand lexical modifiers may also have functions other than the classifying function. Thus, there is no biunivocal relation between the position adjacent to the head and classifying modification: other functions may also appear adjacent to the head. Remember, however, that those other functions require certain contextual conditions and that compounds with these modifier functions normally cannot be lexicalized.

6. Conclusion

This paper has shown that lexical modifiers in German nominal compounds may also have functions other than the classifying function. Certainly, the classifying function is the basic function of lexical modification which can be said to result from its invariant prehead adjacent position. Nevertheless, it can be observed that lexical modifiers in nominal compounds regularly have other functions, too. Although I have not presented quantitative data here, it can be reasonably assumed that the identifying function of proper name modifiers is frequently used in present-day language, in particular (but not exclusively) in newspaper language. It seems reasonable to assume that those proper name compounds have increased rapidly in use recently (although it is unclear how recently), with a possible influence from similar constructions in English, cf. Zifonun (2010b). These compounds have been called dummy compounds ("Schein-Komposita") and some authors have described their increased use as replacing the equivalent genitive constructions as well as blurring the basic classifying meaning of nominal compounds (see, for instance, Henzen 1965: 52, Zimmer 2006: 190). The diachronic development of the modifier functions other than the classifying function and the question whether the classifying function can be regarded as the basic, original function, also from a diachronic point of view, therefore remain to be discussed in future work.

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