

Compounds and phrases. A functional comparison between German A + N compounds and corresponding phrases

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In this paper we examine the semantic and pragmatic properties of German A+N compounds and the corresponding phrases (e.g. *Altpapier* vs. *altes Papier*). We argue that, although there is a clear and unambiguous formal difference between compounds and phrases in German, no such distinction can be made concerning their semantics and pragmatics. For this reason, neither semantics nor pragmatics alone can predict correctly whether a given A+N combination is realized as a compound or a phrase. Instead, there is an interplay of semantic, pragmatic and syntactic factors*.

1. Introduction

Compounding is a very productive word formation process in many Germanic languages. In German, the subclass of nominal compounding is regarded as being much more productive than adjectival or verbal compounding. In the case of verbal compounds, this also has to do with the problem of distinguishing between word formation and syntax, i.e. the question as to whether a separable complex verbal construction has to be considered as a compound or a phrase, e.g. *zusammenkommen* 'get together', see Lüdeling (2001) for German and Blom (2005) for the same problem in Dutch. In contrast to English, however, the distinction between nominal compounds and nominal phrases can easily be made in German: in German (as well as in Dutch), a clear distinction can be made between nominal compounds and nominal phrases on the basis of stress and of the inflection of the adjective in the case of A+N compounds. In addition, this difference is reflected systematically by the spelling, a fact which does not hold for English. Accordingly, a discussion about the classification of English forms like *black board*, *silk tie* and *apple pie* has been going on at least since Bloomfield (1933) and has not yet been decided (see Jespersen 1942, Marchand 1969, Levi 1978, Lieber 1992, Liberman & Sproat 1992, Bauer 1988, 1998, Olsen 2000, Giegerich 2004, Plag 2003, 2006 and others).

This paper deals with nominal compounds and phrases and the correlation between form, meaning and function in German. It has been observed that nominal compounds and phrases differ not only

with respect to their form (in languages like German and Dutch) but (in general) also with regard to their function, whereby “function” must be understood pragmatically, i.e. as discourse meaning. Accordingly, compounds are used to name entities, whereas it is the function of phrases to provide descriptions, as expressed by the following quotes (see also Ortner & Ortner 1984:26, Becker 1992:16, Olsen 2000:898 and Erben 2006:47f.):

The dimension of classificatory relevance that I am trying to define here has something to do with the distinction between naming and description. Anything at all can be described, but only relevant categories are given names.

[Zimmer 1971:C15]

Like derivatives, compounds provide names for entities, properties or actions. This is opposed to providing descriptions, which is the function of syntax.

[Bauer 1988:102]

The German forms *Altpapier* and *altes Papier* form an illustrative example of this functional difference: they are both made up of the adjective *alt* ‘old’ and the noun *Papier* ‘paper’. The compound *Altpapier* means ‘recovered paper’ and refers to an established concept with generally known properties (concerning procedure, material, purpose etc.) whereas *altes Papier* ‘old paper’ just describes paper as being old, whereby the exact value of ‘old’ must be defined depending on the context. Pairs like *Hochhaus/hohes Haus* high house ‘tower block’/‘high building’ or *Wildschwein/wildes Schwein* ‘feral pig’/‘wild pig’ are other examples illustrating the correlation between form (compound / phrase) and function (name / description) in German.

The function of a compound as a naming device is closely connected to a property which has frequently been assumed to constitute its defining property and which has been variously described using terms such as “semantic isolation/specialization”, “semantic unity”, “non-compositional meaning”, “conceptual entity” etc. The idea that semantic specialization (or something similar) is a defining property of compounds was under discussion as early as the 19th century. It has many advocates and opponents such as Brugmann (1900), who himself is a defender of that view, as well as Jespersen (1942:137):¹

[...] and we may perhaps say that we have a compound if the meaning of the whole cannot be logically deduced from the meaning of the elements separately.

As we have seen above, not every paper which is old qualifies as *Altpapier*, but only paper which meets additional requirements concerning procedure, purpose etc. For this reason, in contrast to the descriptive phrase *altes Papier*, the compound *Altpapier* is not interpreted in a strictly compositional way. Semantic specialization thus means non-compositional meaning, and if semantic specialization is a defining property of compounds, this implies that the meaning of compounds has to be learned and stored (or “listed”) and that they cannot be computed online.²

However, a closer look reveals that there are forms which deviate from the correlation between function and form described above. As a matter of fact, the difference between phrases and compounds does not always correspond with the difference between naming and describing: there are phrases which function as names as well as compounds which – apparently – serve as descriptions. Examples of the former are phrases like German *saurer Regen* ‘acid rain’ or Dutch *dunne darm* ‘small intestine’, which serve as names despite their phrasal form. We will not discuss these forms here (but see De Caluwe 1990, Booij 2002, Hüning 2009, Hüning & Schlücker 2009). Instead, we will deal with the latter, i.e. compounds which function as descriptions. This means that there are compounds and corresponding phrases which obviously lack a functional difference. Some of the forms we will be discussing can be found in (1):

- (1) a. optimale Lösung – Optimallösung ‘optimal solution’
- b. soziale Struktur – Sozialstruktur ‘social structure’
- c. junger Vogel – Jungvogel ‘young bird’
- d. langes Haar – Langhaar ‘long hair’

A comparison between the meaning of the compound and the corresponding phrase in these cases shows that the compounds do not seem to have an “isolated meaning”, as they can be interpreted in a strictly compositional way. Also, an analysis of the contexts in which they appear reveals that the compounds and phrases seem to be interchangeable in most cases.

“Semantic specialization” is often used to mean listedness. Compounds like *Optimallösung* and *Sozialstruktur* do not seem to display semantic specialization, and they are coined ad hoc rather than being listed. Still, they are well-formed compounds. So what is a

compound then? In discussing this question, we would like to focus on the explanation of why a speaker would decide to use a (nonce) compound rather than a phrase. We argue that semantic and functional differences between compounds and phrases exist typically, but not necessarily, and that the syntactic structure of the context also has an impact on the coinage and use of compounds.

The arguments presented below are based on German A+N compounds. They are particularly suitable because the word order of A+N compounds and phrases match (at least in most cases - see section 2). With N+N phrases and compounds, on the other hand, such a match of word order can rarely be found, as phrases corresponding to N+N compounds are in the majority of cases realized by a DP or PP following the head (*Haustür – Tür des Hauses* house door ‘front door’, *Gartenschlauch – Schlauch für den Garten* garden hose ‘hosepipe’). Thus, unlike A+N combinations, N+N compounds and phrases differ in word order and complexity. A+N compounds and phrases therefore seem to be best suited for a comparison.³

The next section deals with the formal and semantic properties of A+N compounds. Section 3 discusses the property of semantic specialization. Section 4 examines the interplay between semantic and pragmatic characteristics of compounds. Finally, section 5 gives a broader explanation of the coinage and use of compounds, followed by the conclusion in section 6.

2. A+N compounds in German

2.1. Morphological and Phonological Restrictions

German A+N compounds can be characterized by three main features: the adjective bears the main stress, the adjective is not inflected, and these compounds are written as one word. Also, the adjective typically seems to be monomorphemic and monosyllabic. The noun, on the other hand, does not have any particular morphological or phonological features, see (2):

- (2) Buntspecht ‘spotted woodpecker’, Rotwein ‘red wine’, Vollmond ‘full moon’, Dickmilch ‘soured milk’, Tiefgarage ‘basement garage’, Altstadt ‘old town’, Festplatte ‘hard disk’

Accordingly, two restrictions on the adjective have been mentioned in the literature (e.g. Fleischer & Barz 1995, Erben 2006): Firstly, with regard to morphological structure, only monomorphemic adjecti-

ves are allowed. This accounts for the ungrammaticality of the forms in (3) since the adjective *trinkbar* 'drinkable' is derived from the verb *trinken* 'drink' and *werdend* is the present participle form of the verb *werden* 'become':

- (3) a. *Trinkbarmilch 'drinkable milk'
- b. *Werdendmutter lit. becoming mother 'mother-to-be'

This rule also explains why phrases are used as a naming device instead of compounds, as in the case of the phrase *werdende Mutter* 'mother-to-be': as the formation of the compound is excluded for morphological reasons, the phrase serves as an alternative naming strategy. However, some exceptions to this rule can be found, such as forms with the foreign adjectival suffixes *-iv* and *-al* as well as adjectives ending in *-ig* (Fleischer & Barz 1995:105):

- (4) a. Suggestiv_Afrage_N 'leading question', Intensiv_Akurs_N 'intensive course'
- b. Kapital_Averbrechen_N 'capital crime', Minimal_Alohn_N 'subsistence wage'
- c. Flüssig_Agas_N 'liquid gas', Billig_Aflug_N 'budget flight',
 Niedrig_Awasser_N 'low water'

Also, inflected forms may occasionally serve as adjectival constituents:

- (5) a. Mehrkosten 'extra costs',⁴ Höchstgeschwindigkeit 'maximum speed'
- b. Gebrauchtwagen 'used car', Lebendgewicht 'live weight'

Secondly, with regard to phonology, it has sometimes been claimed that A+N compounds only allow monosyllabic adjectives. As there are obviously many exceptions, this rule is often accompanied by an exception rule: according to Erben (2006:47), for example, polysyllabic adjectives are allowed, provided that their main stress is on the last syllable, see (6a). However, there are many counter-examples to this rule, as can be seen from (6b) (see also (4c) and other examples in the text).

- (6) a. Geheimwaffe 'secret weapon', Poláreis 'polar ice', Privatleben 'private life'
- b. Tróckenmilch 'powdered milk', Sáuerkirsche 'sour cherry', Édelmann 'nobleman'

For this reason, like Fleischer & Barz (1995) and others, we do not assume such a phonological constraint on the adjective.

2.2. *The Internal Semantic Relations of A+N compounds*

It is a widely held belief that the internal semantic relations of A+N compounds are much less complex than those of N+N compounds (e.g. Fleischer & Barz 1995, Donalies 2005). The semantic relationship between the adjective and the noun is described as being attributive only: the adjective constrains the meaning of the noun by determining or enforcing a characteristic property of the noun. For example, a *Hochhaus* lit. high house ‘tower block’ is a building which is significantly higher than an average building, and *Hochform* ‘top form’ refers to someone’s extraordinarily good form. This is in line with previous work on the semantics and function of nominal compounds in English. According to Downing (1977), a major function of compounding is the labelling of subcategories. More specifically, “generic-level categories are typically given single lexemes as labels, while their subcategories are labelled by means of a modifier combined with that lexeme, as in the conventional English *table* versus *coffee table*, *kitchen table*, or *operating table*” (Berman & Clark 1989:249). Markman (1989:126) argues that it is an intrinsic property of adjectives that they distinguish the members of a single category rather than any two objects.

As mentioned at the end of section 1, the present research is based on A+N compounds because of the match of word order between phrases and compounds. However, the following overview shows that this is only true for one subclass of A+N compounds. This restriction has to do with the fact that not all A+N compounds can be described in such a way that the adjective denotes a salient property of the noun. Simoska (1999) identifies four semantic classes of German A+N compounds (apart from Bahuvrihi-compounds like *Rotkehlchen* ‘robin redbreast’ and compounds with a strong metaphorical meaning like *Hochzeit* lit. high period ‘wedding’). The attributive pattern described above constitutes the first class, see (7a). The second group consists of compounds in which the adjective modifies an activity related to the noun (which is not necessarily carried out by the referent of the noun), see (7b): a *Scharfschütze* ‘sharpshooter’ is not a shooter who himself is sharp but someone with the ability to shoot “sharply” or accurately (\neq *ein scharfer Schütze*) and a *Schnellgericht* lit. quick meal is a meal that can be prepared quickly rather than a meal which itself is quick. The third group consists of “causative” A+N compounds in which the noun referent causes a change of state such that another

(implicit) referent acquires the property denoted by the adjective, see (7c). *Magersucht* thin addiction for example is an addiction causing extreme thinness of the sick person and a *Jungbrunnen* lit. young fountain is said to bring youthfulness to whoever bathes in it. In the last group there is an attributive relation between the adjective and a noun which does not form part of the compound, see (7d), like *Feinbäckerei* fine bakery, where *fein* is an attribute of the pastries and not of the bakery, or *Frühbeet* early bed, which means a bed for early plants.

- (7) a. ATTRIBUTIVE: *Glatteis* ‘black ice’, *Altbau* ‘old building’, *Kleinkaliber* ‘small bore’
- b. EVENT MODIFICATION: *Scharfschütze* ‘sharpshooter’, *Schnellgericht* ‘instant meal’, *Simultandolmetscher* ‘simultaneous interpreter’
- c. CHANGE OF STATE: *Gelbfieber* ‘yellow fever’, *Magersucht* ‘anorexia’, *Jungbrunnen* ‘fountain of youth’
- d. IMPLICIT REFERENT: *Feinbäckerei* ‘confectionery’, *Frühbeet* ‘cold frame’, *Einzelhaft* ‘solitary confinement’

This overview shows that only adjectives of the first (“attributive”) subclass denote a salient property of the noun. This means that the word order of compounds and phrases only matches in this subclass. For this reason, we will focus on these compounds.

3. The Semantics of Compounds

Simoska (1999:170) argues that attributive A+N compounds do not necessarily have a non-compositional interpretation, i.e. a semantic specialization. Simoska claims that, contrary to general belief, some of these compounds are interpreted in a strictly compositional way, for example *Glatteis* slick ice ‘black ice’, *Komplettpreis* ‘complete price’, *Langhaar* ‘long hair’, *Nuklearwaffe* ‘nuclear weapon’ and *Jungvogel* young bird ‘baby bird’.

Indeed, it is at first glance hard to find a difference in meaning between these compounds and the corresponding phrases. A *Jungvogel* is apparently just a young bird. Accordingly, one would expect the compound *Jungvogel* and the phrase *junger Vogel* to be interchangeable. However, a study of these items in context⁵ reveals

that this is only partly true. There are in fact contexts in which both forms can be used without difference. This can be shown by example (8) in which both forms are used to refer to the same object (the first of which is the title of the article). Similarly, the substitution of *junger Vogel* with *Jungvogel* in (9) does not cause any difference in meaning or inappropriate use. (In these examples and all of the following ones, the original form of the text appears first, followed by the alternative form in square brackets. If they are not interchangeable for some reason, the inserted form is marked #.)

- (8) Junge Vögel [Jungvögel]. - Todeskandidaten sind Jungvögel [junge Vögel], die aus ihrem Nest gefallen sind oder von den Eltern verlassen wurden.⁶
'Young birds. – Youngbirds which fall from the nest or are abandoned by their parents are doomed to die.'
- (9) Wien hat eine große Turmfalken-Population, und das bedeutet, daß in der Bundeshauptstadt auch sehr viele junge Vögel [Jungvögel] dieser Art aus dem Nest fallen.⁷
'Vienna has a big kestrel population and this means that in the capital a lot of young birds fall from the nest.'

However, this is not true for all instances of *Jungvogel* / *junger Vogel*. In (10), the phrase cannot be replaced by the compound without causing a change of meaning. Here, *jung* 'young' is used in order to contrast with *alt* 'old'. It just means that one bird is significantly younger than the other one, but it does not necessarily mean that it is a baby bird (this is rather unlikely). (11) is an example of a particular meaning of *Jungvogel* which we found in roughly one third of all documents:⁸ here, *Jungvogel* primarily signifies 'offspring, next generation' and does not refer to the actual age of the birds. In this context, therefore, the compound cannot be replaced by the corresponding phrase.

- (10) So geschehen in diesen Tagen auf dem Fernmeldeturm, wo ein junger Vogel [#Jungvogel] einen älteren tötete.⁹
'This happened recently on the telecommunication tower, where a young bird killed an older one.'
- (11) Auf dem Storchenhof haben dieses Jahr fünf Storchenpaare zehn Jungvögel [#junge Vögel] aufgezogen.¹⁰
'At the stork farm five pairs of storks have raised ten young birds this year.'

Similarly, the context can help to reveal differences in meaning between *Glatteis* and *glattes Eis*. Although both forms seem to be interpreted in a strictly compositional way, the context shows that *glatt* in the compound always means the danger of a slippery surface, whereas *glatt* in the phrase can be interpreted as ‘even’ or ‘slick’ without the connotation of danger. Thus, contrary to Simoska (1999), it is possible to identify a specialized meaning for the compound *Glatteis* as well as (in some cases) for *Jungvogel*, although it might be necessary to study the context in order to detect the difference. Furthermore, these examples show that compounds do not exhibit semantic specialization “right from the beginning”, but that they have a compositional interpretation which may be narrowed down in the course of lexicalization.

However, there are also examples in which a semantic difference between the compound and the corresponding phrase is not only hard to detect but does not seem to exist at all. This can be illustrated on the basis of the following examples: *Sozialstruktur* / *soziale Struktur*, *Optimallösung* / *optimale Lösung* and *Extremposition* / *extreme Position*. In (12)-(17), the compound and the phrase are completely interchangeable. There is no semantic difference between the two forms, and in particular there is no semantic specialization of the compound.

- (12) Eine Extremposition [extreme Position] vertritt im Streit um Hitler der französische Filmmacher Claude Lanzmann (...).¹¹
‘An extreme position in this conflict about Hitler is taken by the French filmmaker Claude Lanzmann.’
- (13) Zur gegenwärtigen Menschenrechtsdebatte sei festzustellen, daß es zwei extreme Positionen [Extrempositionen] hinsichtlich der Menschenrechte in der Welt gebe.¹²
‘With regard to the current debate on human rights it has to be stated that there are two extreme positions concerning human rights in the world.’
- (14) Die Software findet in tausendenden von möglichen Varianten die Optimallösung [optimale Lösung] für jeden Kunden.¹³
‘The software finds the optimal solution for every customer among thousands of possible variants.’
- (15) Dies ist die optimale Lösung [Optimallösung], denn die Pflege in einem Heim kann das Zuhause nicht ersetzen.¹⁴
‘This is the optimal solution as inpatient health care cannot replace home.’

- (16) Er beobachtete die Entwicklung von Sozialstrukturen [sozialen Strukturen] bei diesen Tieren.¹⁵
 ‘He observed the development of social structures with these animals.’
- (17) Gesellschaftliche Orientierungslosigkeit zerstört soziale Strukturen [Sozialstrukturen] und fördert Gewalt.¹⁶
 ‘Social disorientation destroys social structures and promotes violence.’

We collected all occurrences of the above six forms in the DWDS corpus and in the IDS corpus. As Table 1 shows, a comparison of the token frequencies of the three pairs does not yield a clear result. *Sozialstruktur* / *soziale Struktur* roughly have the same frequency; in total, they are more frequent than the other forms. *Extremposition* is a little more frequent than *extreme Position*, at least in the IDS corpus, but we only find few occurrences of it in the DWDS corpus. Finally, with *Optimallösung* it is the other way round: here the phrase is much more frequent than the compound. All in all, neither compound nor phrase seems to be generally more frequent, and both forms are used regularly.¹⁷

	DWDS	IDS
Sozialstruktur	299	685
soziale Struktur	204	574
Extremposition	7	206
extreme Position	11	130
Optimallösung	1	20
optimale Lösung	25	964

What is remarkable about the forms under discussion are the formal properties of the adjective as well as the meaning of the constituents and the complex forms. The adjectives *sozial*, *optimal* and *extrem* are Latin loans (in the case of *sozial*, they came into the language via French). Being polymorphemic, *sozial* and *optimal* form part of the exception rule formulated in section 2.1. Not only these adjectives but also the nouns *Struktur*, *Lösung* and *Position* as well as the resulting compounds describe abstract entities. It seems to be a general property of these adjectives that they only combine with nouns denoting an abstract entity, like *Optimalpreis* ‘optimal price’, *Optimalwert* ‘optimal value’ or *Optimalbedingung* ‘optimal condition’, but not with nouns denoting a

concrete entity, cf. *optimales Auto* vs. *Optimalauto* ‘optimal car’. Please note, however, that this is not to say that a compositional interpretation is restricted to compounds denoting abstract entities.

The compounds under discussion thus exhibit very similar formal and semantic features. It should therefore be possible to find more compounds with similar properties which also behave like these forms. Indeed, interchangeability / no semantic specialization can also be found for pairs like *Sakralmusik* / *sakrale Musik* ‘sacral music’, *Suggestivfrage* / *suggestive Frage* lit. suggestive question ‘leading question’, *Horizontalebene* / *horizontale Ebene* ‘horizontal level’, *Frontalangriff* / *frontaler Angriff* ‘frontal attack’. The list of pairs of this kind can be extended easily.^{18,19} We are thus not dealing with marginal cases.

What is important is that, in all cases, there does not seem to be any semantic difference, all phrases and compounds being interpreted in a strictly compositional way. All forms should therefore be interchangeable. Although this is true for the examples in (12)-(17), it does not hold as a general rule. Despite the semantic equivalence, replacing a compound by a phrase or vice versa sometimes yields an inadequate result. This shows that the choice for one form or the other is by no means coincidental. There are reasons why the speaker would choose a compound instead of a phrase (or the other way round), despite their semantic equivalence. Instead of a semantic distinction, we claim that there is a functional distribution, but it is one which goes beyond a simple naming/description dichotomy. Syntactic constraints are also at work here. Ultimately, this also means that the definitions of compounds – forgetting the morphosyntax for a moment – cannot be based on semantics only; a proper definition must also account for these pragmatic and syntactic effects.

The next section examines the interaction between semantic and pragmatic properties of compounds. Particular attention is given to an observation that has not been mentioned so far, i.e. that at least some of the compounds discussed above are nonce words.

4. Meaning and Function: The Relation between the Semantics and Pragmatics of Compounds

The previous section dealt with the meaning of compounds and their corresponding phrases in terms of (non-)compositionality, but it did not examine the functions of the compounds and phrases. It is important, however, to keep the property of (non-)compositionality-

ty separate from the functional distinction between compounds and phrases. All one can reasonably say is that a non-compositional interpretation of compounds is enforced by their use as names.²⁰

Contrary to the assumption that semantic specialization is a defining property of compounds, we saw above that they may be interpreted in a completely compositional way, just like phrases can.²¹ And yet, they are perfectly coined compounds. What is their function in these cases?

Koefoed (1991, 1993) disputes the strict correlation between form and function described above, although he does say that (in Dutch) prototypical names have the form of words and prototypical descriptions are phrases (Koefoed 1993:11; see also De Caluwe 1991 and Fleischer 1997). He distinguishes (what he calls) the “social status”, i.e. name or description, from two sorts of “underlying meaning”, namely concept (“begrip”) versus singular idea (“eenmalige zaak”). According to Koefoed (1993:10ff.), a concept is a non-singular, established part of our realm of experience. A concept can be referred to via an established linguistic sign, its name, which can have the form of a (simplex/complex) word or a phrase (like *saurer Regen* ‘acid rain’). In addition, concepts can also be described. A description is a non-established linguistic sign which can be used to refer to an entity in a particular context only. A singular idea can never be referred to by a name (because names are always bound to established concepts) but only by a description – which again can have the form of a phrase or a complex word. An example of the latter would be a man wearing a captain’s hat who is referred to as ‘the captain’s hat’ (*kapiteinspet* / *Kapitänsmütze*, both clearly compounds in Dutch and German).²²

The *captain’s hat* example is similar to Downing’s (1977) famous *apple-juice seat*. In this example, *apple-juice seat* is meant to refer to a seat standing in front of a table with a glass of apple-juice on it. Downing, too, describes the function of a compound of this kind as being identical to that of a phrase, or, as in this case, of a demonstrative marker:

In such situations, reference must frequently be made to ephemeral states of affairs; and compounds based on relationships derived from these temporary states are often used in much the same way as descriptive phrases or demonstrative markers. [...] 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 1977:818f.]

According to Downing, such compounds are “deictic compounds”. Within the scope of a strict form-function correlation account, one would have to assume something like a ‘temporal concept’ for such cases which would ultimately blur the distinction between concepts and non-concepts. Such forms are obviously coined ad hoc for use in a certain situation, and they can only be interpreted correctly in that situation. It seems that they do not refer to established concepts and can therefore not be names.

However, does the same apply to (at least some of) the compounds in (12)-(17)? It can reasonably be argued that *Extremposition* or *Optimallösung* are not lexicalized but are rather nonce words. Nonce words, according to Hohenhaus (2005:364), are “somewhat ‘in between’ actual words and possible words: once attested, i.e. having (had) physical reality, they are clearly not (or no longer) merely possible, but nor do they ‘exist’ in the sense of being part of the lexicon – which is the usual understanding of the notion of ‘actual word.’” Hohenhaus (1995:65ff.) assumes four properties of nonce-words (new, context dependent, deviant, non-lexicalizable), only the first of which is a necessary condition: the item must be new for the particular speaker and formed actively, not retrieved from the speaker’s mental lexicon. The notion of nonce-formation is thus not limited to rather rare cases like the *apple-juice seat*, which are highly context dependent and (presumably) non-lexicalizable, but also covers the results of more regular word formation in the sense of being interpretable independently of the context, like the examples under discussion.

Semantic specialization of a compound requires lexicalization (note that the reverse is not true: the compound *Sozialstruktur* – just like *Frontalangriff*, *Sakralmusik* and *Suggestivfrage* – which can arguably said to be lexicalized, does not exhibit semantic specialization). Yet, according to Hohenhaus (1995:36f.), such nonce words may also serve as names: naming can be realized by nonce words as well as by lexicalized words. It being clear that nonce words cannot refer to established concepts,²³ this means that a new concept is introduced when the compound is coined. This process is called “hypostatization” (Lipka 1977, 1981), which means ascribing material or abstract existence in extralinguistic reality to a concept. Thus, the fact that a compound is a nonce word does not automatically mean that it is used as a description; it can just as well be used as a name.

Summing up, some compounds have a strict compositional meaning. This means that these compounds may be used as descriptions, just like the corresponding phrases can. In some cases, therefore, the compound and the phrase are perfectly interchangeable. However,

there are also cases in which this is not true: despite their equivalence, replacing one form by the other leads to inappropriate results. This means that, in these cases, the use of one form is determined by a particular factor which cannot be fulfilled by the other form. Some of the factors which determine the choice of a compound in one context and a phrase in another are discussed in the next section.

5. Why use a Compound?

The starting point of this paper is the functional split between compounds and phrases, i.e. the assumption that names typically have the form of a compound whereas descriptions are given in the form of phrases. However, we have argued that this is only a prototypical distribution and that the form is neither linked invariably to the meaning nor to the function.

In this section, we would like to return to the problem of the nature of the compound and the question as to which factors determine the choice between compound and phrase (cf. section 1). In the following, we shall give four answers to the question as to why somebody would use (or coin) a compound:²⁴

- in order to name something
- in order to replace a complex syntactic construction
- in order to (better) suit the syntactic context
- as a basis for word formation

Naming has been discussed at length in the preceding sections. Compounds can be used to refer to established concepts, and we assume that, although they are typically interpreted in a non-compositional way, compounds used for naming may also be given a completely compositional interpretation. Two special cases of this group should be mentioned here: firstly, in the case of hypostatization, the name does not refer to an established class, but the mere coinage of a name brings a concept into being. Hypostatization can therefore often be found in fictional text types such as science fiction (see Hohenhaus 1995). Secondly, on the basis of the naming/hypostatization function, a compound can also be coined in order to achieve a humorous effect. If hypostatization means the introduction of a (yet unknown) concept, in a humorous context a compound can be used to introduce an absurd concept, like in the well-known comedy sketch by Loriot (“Herren im Bad”) about two men sitting together in a bathtub in a hotel room, see (18):²⁵

- (18) M-L: Können Sie mir sagen, warum Sie in meiner Badewanne sitzen?
Dr.K.:Ich kam vom Ping-Pong-Keller und hatte mich in der Zimmernummer geirrt. Das Hotel ist etwas unübersichtlich.
M-L: Aber jetzt wissen Sie, dass Sie in einer Fremdwanne sitzen und baden trotzdem weiter!
'ML: Can you tell me why you are sitting in my bathtub?
Dr. K:I came from the ping-pong room and I made a mistake with the room number. The hotel is slightly confusing.
M-L: But now you know that you are sitting in someone else's bathtub and you go on bathing nevertheless!

The point is based on the fact that a concept such as 'someone else's bathtub' does not exist and that there is no need for it and no reasonable interpretation beyond the literal, compositional meaning. It is rather used to enforce the accusation. Thus, the explanation for the coinage of the compound is to achieve a comical effect.

In sections 3 and 4, we showed that compounds can be used as descriptions because they may have a fully compositional meaning and they may be coined ad hoc without the intention of storing them. However, we have not yet discussed *why* compounds are used as descriptions, i.e. why compounds in the descriptive function may be preferred to phrases. Replacing a complex syntactic construction (syntactic recategorization) has been described as the second, equally essential aspect of word formation, complementary to naming, by Lipka (1981), Kastovsky (1982), Hansen (1999) and others.²⁶ Several functional subclasses and stylistic variants have been proposed by those authors as well as by Downing (1977, 1984), Lipka (1987), Schmid (2005) and Hohenhaus (2007), although it is sometimes unclear whether they are meant to be subclasses of the recategorization function or functions in their own right. As we think that a clear demarcation often cannot be drawn, we shall subsume them under the descriptive function, and, making no claim to be complete, describe some of them very briefly.

The first functional subclass is form compression.²⁷ Compounds which are used for form compression are often used in headlines and, along with nominalizations, they are a typical feature of the so-called 'nominal style' which is used primarily in technical, scientific and administrative texts. Compounds make it possible to condense complex information into one word. The creation of abstract notions makes it easy to communicate a lot of information with few words. However, due to the complexity of the words, nominal style is often difficult to understand as the internal relations are not expressed explicitly.

The use of nominal style and the coinage of headlines thus typically lead to the creation of nonce compounds which normally have a fully compositional meaning and are not meant to denote an established concept. An example of form compression is the compound *Fernstraßenbauprivatisierungsgesetz* in (19), where we also find another nominal compound with a fully compositional meaning, namely *Finanzierungsquellen*. Using nominal style can thus serve as an explanation for the coinage and use of *Fernstraßenbauprivatisierungsgesetz* instead of the phrase *Gesetz zur Privatisierung des Fernstraßenbaus* or *Gesetz zur Fernstraßenbauprivatisierung* or *Gesetz zur Privatisierung des Baus von Fernstraßen* (which would all be perfectly acceptable – and these are not the only possibilities).

- (19) Das Fernstraßenbauprivatisierungsgesetz gibt uns Möglichkeiten an die Hand, die neuen Finanzierungsquellen zu erschließen.²⁸
'The law governing the privatization of highway construction enables us to tap sources of funding.'

Compounds may also be coined for deictic reference in order to increase text cohesion, and they are used like demonstrative markers. Deictic compounds like Downing's (1977) *apple juice seat* are always nonce words. They establish text cohesion as they refer explicitly to objects and events mentioned before in the text, and they are at the same time concise because all reference is packed into one word in a clear and conclusive and nevertheless short way. The property of conciseness as well as the ad hoc status are responsible for the fact that these compounds can only be interpreted depending on the context and the situation and that there is no intention of using them beyond that context (see also Seppänen 1978, Dressler 1982, Dederding 1983). Text cohesion is therefore another reason for the coinage and use of a compound without it being a name, and it is also a reason for using a compound instead of a phrase. However, please note that deictic compounds are found primarily with N+N compounds and not with A+N compounds because with N+N compounds the corresponding phrases are much more complex than the compound is. Moreover, deictic compounds refer back to objects and events in the preceding text whereas A+N compounds such as those discussed in (12)-(17) refer to abstract concepts as they are based on the reader's general knowledge of the world rather than on his knowledge of the preceding text.

According to Lipka (1987, 2007), (humorous) attention-seeking, may be another stylistic function of compounds, as in (20), where the compound *Großproblem* is apparently coined in order to form a paral-

lel structure with *Großprojekt*. This again is a clear example of the context-dependent coinage and use of a compound which is not intended for use outside this context.

- (20) Am Ende war aus Großprojekten immer ein Großproblem geworden.²⁹
'In the end large-scale projects always became a large-scale problem.'

The above examples illustrate that both the naming and the descriptive function may give rise to the coinage / use of a compound instead of a phrase and that there are even types of descriptions in which compounds are generally preferred to phrases. However, it goes without saying that functional explanations of this kind do not apply to all cases in which a language user decides to use a compound.

Apart from a functional explanation for the coinage and use of compounds, as has been proposed in the literature, we claim that there are also formal explanations which have to do with the use of phrases/compounds as the basis for word formation and with the syntactic context of a phrase/compound.

The syntactic context may play a crucial role for the decision between compound and phrase, in that compounds fit the syntactic context better than the corresponding phrases do (provided that the compound has a fully compositional meaning). However, this just means that we are pushing the decision as to whether to use a compound or a phrase in a certain direction. Non-compliance does not cause ungrammaticality, as can be seen from the counter-examples. Our argumentation is based on the example of two syntactic structures; it seems very likely that there are more structures which may be relevant.

The first one is coordination and gapping, i.e. the deletion of a constituent in a coordinated structure, resulting in an elliptic structure, see (21)-(24). One of the conditions for coordinated structures as well as for gapping structures is that both conjuncts are of a similar type. This means that they ideally belong to the same part of speech or at least have the same syntactic function (see Lang 1984, Klein 1993). The form of the first, "controlling" conjunct thus determines the form of the second conjunct – in other words, a coordinated structure can only be built up from two similar constituents. Thus, for example the choice of the compound *Wirtschafts[struktur]* in (21) makes the choice of the compound *Sozialstruktur* much more likely than the choice of the phrase *soziale Struktur*.

- (21) Aus den jüngsten Daten über die Wirtschafts- und Sozialstruktur geht ferner hervor, daß (...) ³⁰
'Moreover, it can be seen from the latest data on the economic and social structure that ...'
- (22) Wie können Frauen gerechte wirtschaftliche und soziale Strukturen fördern? ³¹
'How can women support fair economic and social structures?'
- (23) Die Frage: "Wollen Sie den Frieden?" ist also keine echte, sondern eine suggestive Frage. ³²
'The question: "Do you want peace?" is thus not a real question but a leading one.'
- (24) Deshalb müssen manchmal (...) schnelle, aber nicht unbedingt optimale Lösungen entworfen werden. ³³
'For this reason it is sometimes required to develop quick but not necessarily optimal solutions.'

However, it is also possible to coordinate a phrase (*bessere [Lösung]*) and a compound (*Optimallösung*) because they are both NPs even though they do not belong to the same part of speech, see (25). (25) is not ungrammatical, but it is less well-formed than the coordinated structures in (21)-(24) are, and there are only few examples of this type in our collection of text documents. ³⁴

- (25) Selbstverständlich scheidet aus Verkehrs- und Platzgründen die Lösung am Bahnhof aus, das Bösfeld wäre eine bessere, aber eben nicht die Optimallösung. ³⁵
'Of course, the solution at the station is out of the question for reasons of traffic and the available space, and the Bösfeld would be a better solution – but not the optimal one.'

The second example of a syntactic structure which may influence the choice between compound and phrase are A+N constructions preceded by (another) modifier, in most cases an AP. Obviously, the more "compact" construction in which the second modifier (the adjective) is integrated as the first constituent of the compound is preferred over a noun preceded by two single modifiers. This tendency can be illustrated by the distribution of preceding modifiers in the case of the compound *Sakralmusik* and the phrase *sakrale Musik* in the IDS corpus: 56 compounds out of 147 are preceded by a modifier, mostly an AP like in (26), but only 8 phrases out of 175, see (27).

- (26) tief beeindruckende Sakralmusik³⁶
'deeply impressing sacral music'
- (27) alte buddhistische sakrale Musik³⁷
'old Buddhist sacral music'

Thus, a syntactic context in which the A+N construction is preceded by a modifier is likely to influence the choice in the direction of a compound. We hypothesize that this can be explained by a general quest for form compression which is not restricted to certain text types (see above). Moreover, with regard to cases like (26) and (27), the preference can also be explained on the basis of the "Gesetz der wachsenden Glieder", as proposed by Otto Behaghel in 1909. According to this rule, a short word always precedes a longer one if the two are exchangeable. Using a compound like in (26) can therefore also be a strategy for avoiding the undesirable word order exemplified in (27).

There is one exception to this last point which concerns the modification of adjectives: whenever the adjective in a phrase is modified, the phrase cannot be replaced by the corresponding compound. A syntactic modifier can apply to the head of a compound only or to the whole compound, but not to the modifying (in German: left-hand) part of a compound, see (29b).³⁸ Modification of this constituent can only be realized via syntactic modification, i.e. in a phrase, see (28), (29a). For this reason, whenever the adjective in a given A+N combination is modified, this A+N combination has to be realized as a phrase.

- (28) Das Außenministerium vertritt leider eine sehr extreme Position.³⁹
'Unfortunately, the foreign ministry holds a very extreme position'
- (29) a. eine [[sehr extreme] [Position]]
b. *eine sehr Extremposition

Finally, although it has been repeatedly argued that a no-phrase-constraint (Botha 1984) does not exist, i.e. that phrases may in principle serve as the basis for word formation (see Lieber 1988, Meibauer 2003), there is a very strong tendency to use a compound instead of a phrase as the basis for word formation if both are possible (i.e. as long as we are not dealing with lexicalized phrases such as *Saure-Sahnekuchen*, 'sour cream cake'). This can be illustrated by numerous examples of compounds used as a basis for word formation, for example those in (30), which all have the structure [[A N] N]. By contrast, no occurrences of the corresponding phrases as a basis for word formation have been found in the text corpora we used.

- (30) Sozialstrukturatlas ‘atlas of social structures’, Suggestivfragestellung ‘(asking a) leading question’, Jungvogelschau ‘young bird exhibition’, Sakralmusikwerk ‘work of sacral music’, Langhaardackel ‘long-haired dachshund’, Kurzhaarfrisur ‘short hairstyle’

We do not claim this list of factors to be exhaustive. On the contrary, we are convinced that there are more factors on the level of the syntactic context which determine the choice between compound and phrase. Our main aim is to present arguments against a strict dichotomy between compounds and phrases which is based on semantic and functional properties and to show that the choice for either of these forms also depends on contextual factors such as the syntactic structure.

6. Conclusion

In this paper, we have argued against two widespread assumptions about compounds. Firstly, we have claimed – contrary to a position often argued for in the literature – that compounds do not necessarily display semantic specialization and that semantic specialization is not an appropriate property with which to contrast compounds and their corresponding phrases. Although the meaning of many compounds is non-compositional, there are also compounds which are interpreted in a strictly compositional fashion. Moreover, lexicalized phrases, too, may have a specialized, non-compositional meaning. We therefore conclude that semantic specialization is not a necessary, defining property of compounds.

Secondly, and in the same vein, we have claimed that the functional split between compounds and phrases describes a tendency rather than a rule. We have argued that, although compounds are in many cases a naming device and phrases are often used to describe entities, there are also descriptive compounds and phrases which have a naming function. We even assume that there are subclasses of the descriptive function which cannot be found at all with phrases but only with compounds - form compression, for example.

Moreover, we have shown that it is not only the function which may be responsible for the usage or coinage of a compound. Instead, we have argued that the choice of a compound in place of a phrase may also be based on the syntactic structure of the context.

Thus, neither semantics nor function can predict correctly at all times whether a given A+N construction is realized as a compound or

a phrase. Although the formal difference between German nominal compounds and phrases is indisputable, it is impossible to relate this difference to a general difference in the semantic or pragmatic distribution.

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Notes

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¹ One of the main arguments of the opponents is that ‘semantic specialization’ cannot only be found with compounds but also with phrases; e.g. Bloomfield (1933:227f.), Henzen (1947:40f.), Donalies (2003:88ff.).

² According to Levi (1978:44), the idea of semantic specialization ultimately contradicts the productivity of the word formation process, since it presupposes the lexicalization (or “listedness”) of the compound: “[...] in effect denies the undeniable (i.e., suggests that speakers and listeners cannot make use of spontaneous and creative coining of nominal compounds without a breakdown in communication).” Instead, Zimmer (1971, 1972) introduces the notion of an ‘appropriately classificatory’ relation: in order to coin and use a compound adequately, “[...] the relation between the constituent elements of the potential compound must be [...] ‘appropriately classificatory’ (henceforth AC). [...] A noun A has an AC relationship to a noun B if this relationship is regarded by a speaker as significant for his classification – rather than description – of B.” (Zimmer 1972:4).

³ Actually, we assume that the difference between compounds and phrases is ultimately just one instance of a more basic functional differentiation, i.e. the difference between words and phrases; see note 22.

⁴ *Mehr* ‘more’ is a comparative degree.

⁵ The research was undertaken on the basis of two German text corpora: the “Deutsches Referenzkorpus” (IDS-Mannheim; www.ids-mannheim.de; > 2.2 billion tokens) as well as “Das digitale Wörterbuch der deutschen Sprache des 20. Jahrhundert” (DWDS; www.dwds.de; 100 million tokens).

⁶ O99/JUN.89284 Neue Kronen-Zeitung, 24.06.1999 (IDS).

⁷ N95/AUG.28908 Salzburger Nachrichten, 03.08.1995 (IDS).

⁸ Query for *Jungvogel* in the IDS corpus with 797 hits, randomly reduced to 200.

⁹ M03/APR.22744 Mannheimer Morgen, 05.04.2003 (IDS).

¹⁰ A98/DEZ.83108 St. Galler Tagblatt, 22.12.1998 (IDS).

¹¹ E99/AUG.20445 Züricher Tagesanzeiger, 07.08.1999 (IDS).

¹² *Zur Frage der Menschenrechte in bürgerlicher und sozialistischer Gesellschaft* [29.12.78], in: Archiv der Gegenwart 48 (1978), 22258 (DWDS).

¹³ VDI06/AUG.00348 VDI Nachrichten, 25.08.2006 (IDS).

¹⁴ V99/SEP.41801 Vorarlberger Nachrichten, 02.09.1999 (IDS).

¹⁵ N91/JUN.01387 Salzburger Nachrichten, 20.06.1991 (IDS).

¹⁶ E97/JAN.02146 Züricher Tagesanzeiger, 29.01.1997 (IDS).

¹⁷ Although the frequency counts for *Optimallösung / optimale Lösung* at hand do not support this statement, we are convinced that, generally speaking, there is no preference for one form or the other in these constructions.

¹⁸ For example formations with *normal, adverbial, funktional, territorial, rational, auditiv, aktiv, fiktiv, kognitiv* ...

¹⁹ Nevertheless, there are also phrases like *soziale Schicht* 'social stratum' or *soziale Marktwirtschaft* 'social market economy' which satisfy the formal characteristics described above but still do not have a compositional meaning. These phrases are lexicalized and they block the corresponding compounds.

²⁰ See for example Zimmer (1971:C16): "[...] it seems to me that in general the naming function of compounds, which I would claim is based on the potentially classificatory nature of the relation between their constituents, furnishes an important criterion for the appropriateness of compounding in the great majority of cases." Koefoed (1993:11), on the other hand, claims that compositionality has nothing to do with the distinction between names and descriptions: "Ook de mate van compositionele berekenbaarheid is niet beslissend voor het onderscheid tussen namen en omschrijvingen." "The degree of compositional computability is not decisive for the difference between names and descriptions either." [translation by BS & MH]

²¹ Similarly, Bisetto & Scalise (1999:36f.) argue for Italian that the meaning of the compounds often does not differ from the meaning of the corresponding phrases.

²² However, it seems obvious that such a metonymic use cannot only be found with complex words (compounds as well as derivations) but also with simplex words, such as in the well-known example *Das Schnitzel will zahlen* 'The escalope wants to pay' where *Schnitzel* refers to the customer who wants to pay. This actual meaning of *Schnitzel* depends on the context and no one intends to establish it permanently, so it is a clear case of a description. From this point of view, the prototypical functional distribution between compounds and phrases described above boils down to a functional difference between words and phrases, or lexicon and syntax, where lexical entities usually have a naming function and syntactic entities are descriptions, but both can also be used differently.

²³ Apart from rare cases of established concepts without a name, like (in German) the pieces made of wood or plastic which are used on the conveyor belt in a supermarket in order to separate the purchases of each customer.

²⁴ The same question has been posed by Downing (1984) with regard to English N+N compounds. Downing, too, claims that, besides a naming function, compounds may have a purely descriptive function as well as a deictic one. However, Downing does not take other factors such as the syntactic structure of the context into account.

²⁵ We owe this example to Ewald Lang.

²⁶ Note that these authors take them to be the two essential, complementary functions of word formation (not compounding only), and that they do not examine the functional division between word formation and syntax.

²⁷ This is similar to what has been described by Erben (2006:25), Fleischer & Barz (1995:90) and others as univervation (in a synchronic sense), i.e. as a structural tendency to use one complex word instead of a string of words. They (and others) assume that, in these cases, compounds are used for "Informationsverdichtung" (data compression). However, we would like to emphasize that, in our view, and in contrast to compounds which exhibit semantic specialization, it is not the meaning which is compressed but the form.

- ²⁸ <http://www.ltsh.de/pressticker/2001-05/11/15-53-18-0935/pi.txt>, accessed 29.08.2008.
- ²⁹ <http://www.zeit.de/2007/18/Chinatown>, accessed 20.03.2008.
- ³⁰ N91/AUG.08755 Salzburger Nachrichten, 21.08.1991 (IDS).
- ³¹ A98/MAI.32326 St. Galler Tagblatt, 16.05.1998 (IDS).
- ³² Eschenburg, Theodor, *Staat und Gesellschaft in Deutschland*, Stuttgart: Schwab, 1956, 135 (DWDS).
- ³³ C98/AUG.03479 Computer Zeitung, 06.08.1998 (IDS).
- ³⁴ It is possible to assume that the choice of article (definite / indefinite) also influences the choice between compound and phrase. This again shows that the syntactic structure has a co-determining function only.
- ³⁵ M01/MAI.33643 Mannheimer Morgen, 07.05.2001 (IDS).
- ³⁶ A98/NOV.75576 St. Galler Tagblatt, 24.11.1998 (IDS).
- ³⁷ A00/JUN.41712 St. Galler Tagblatt, 16.06.2000 (IDS).
- ³⁸ Semantic bracketing paradoxes like *die reitende Artilleriekaserne* 'the horse-riding artillery barracks' or *das adelige Damenstift* 'the noble ladies' monastery form an exception to this rule. However, the main difference is that we find an A+N+N structure in these cases. For this reason, syntactically it is possible for the adjective to modify either the first or the second noun, although the second option leads to a deviant semantic interpretation. In (29), however, we have an Adv+A+N structure. Syntactically, the adverb can only modify the adjective, but not the noun. For this reason, in (29) b) is ungrammatical and not (only) a semantic bracketing paradox.
- ³⁹ P00/MAR.09876 Die Presse, 16.03.2000 (IDS).

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