

25. Multi-word expressions

1. Introduction
2. General properties
3. Multi-word expressions and word-formation
4. References

Abstract

Multi-word expressions (MWEs) are complex lexical units, for example verbal idioms (bite the bullet) or frozen adverbials (all at once). Others, such as particle verbs (stick out) or complex nominals (day-care center), indicate a close relationship between MWEs and word-formation units. Focusing on this relation, the present article discusses commonalities and differences between MWEs and word-formation units and their mutual relations in the language system and in language use.

1. Introduction

According to a recent definition, MWEs are “lexical units larger than a word that can bear both idiomatic and compositional meanings. (...) the term multi-word expression is used as a pre-theoretical label to include the range of phenomena that goes from collocations to fixed expressions” (Masini 2005: 145). A similar but more detailed definition of MWEs (using different terminology) is given in Sprenger (2003: 4): “Fixed Expressions refer to specific combinations of two or more words that are typically used to express a specific concept. Typical examples of FEs that are referred to in the literature often have an opaque meaning or a deficient syntactic structure, for example, *by and large* or *kick the bucket*. However, these properties are not essential. The defining feature of a FE is that it is a word combination, stored in the Mental Lexicon of native speakers, that as a whole refers to a (linguistic) concept. This makes FEs ‘non-compositional’ in the sense that the combination and structure of their elements need not be computed afresh, but can be retrieved from the Mental Lexicon. However, the degree of lexical and syntactic fixedness can vary.”

These two definitions illustrate two of the problems one faces when dealing with MWEs. The first one is the abundant terminology related to MWEs, some of the most common terms being *chunk*, *cliché*, *collocation*, *extended lexical unit*, *fixed expression*, *formulaic sequence*, *idiom*, *idiomatic expression*, *lexical/lexicalized phrase*, *multi-word unit*, *phraseme*, *phraseologism*, *phraseological unit*, *phrasal lexical item*, *phrasal lexeme*, *prefabricated chunk*, *prefab*. Some of these terms can be regarded as synonyms; for the most part, however, their meanings overlap only partially. In addition, the definition of each individual term often varies among scholars. The terms also belong to different levels of description: whereas *extended lexical unit*, *fixed expression* or *multi-word expression/unit* are relatively general, others, such as *idiom* or *collocation*, have a more restricted meaning. Some studies use continuum models in order to capture different subclasses of MWEs on the basis of their degree of semantic compositionality, syntactic fixedness or lexicalization, cf. Wray (2002). In the following, we will use the term *multi-word expression* as a general term that includes phenomena with different degrees of syntactic fixedness and semantic compositionality. The second problem illustrated by the above definitions is the range of properties relevant for the definition of MWEs in the literature. These include semantic, syntactic, and pragmatic aspects as well as processing and frequency considerations. Again, there is much variation in the literature with respect to the properties relevant for defining MWEs.

Phraseology, the linguistic sub-discipline which deals with MWEs, is a relatively young branch of linguistics. After early phraseological studies in the Soviet Union in the 1940s, the main development of the Western phraseological research took place in the 1970s and 1980s, with Weinreich (1969), Fraser (1970), and Newmeyer (1974) being some of the influential

early studies. In addition to structural aspects, research on MWEs has become increasingly important in the fields of lexicography, text linguistics, first and second language acquisition, second language education and machine translation. In particular, research on MWEs has become an important part of (both theoretical and experimental) psycholinguistics, dealing with the comprehension of MWEs, their storage and mental representation, the acquisition and loss of MWEs, and speech production. Furthermore, the development of new methodological approaches as well as the availability of huge electronic corpora has made corpus linguistics extremely important for phraseological research in recent years, as can be seen from the numerous corpus-based/driven studies on MWEs. Corpus linguistic approaches are based on frequency data rather than on predefined linguistic criteria, leading to a much broader view of MWEs than that prevailing in more traditional phraseology. There is a close relation between corpus linguistics and phraseological research in usage-based frameworks, such as constructionist approaches to grammar, as these theories attach great importance to authentic corpus data (cf. section 3.2.). Since providing complete references for these aspects of phraseological research would exceed the scope of this article, the reader is referred to recent review articles of psycholinguistic and computational phraseology, cf. Gibbs and Colston (2007), Häcki-Buhofer (2007), Heid (2007, 2008), Moon (2007) and Sailer (2007).

The following list gives an overview of the phenomena commonly regarded as MWEs. Importantly, however, it is not intended as a classification of MWEs.

- Proverbs (*A bird in the hand is worth two in the bush*), quotations (*Shaken, not stirred*) and commonplaces (*One never knows*)
- Metaphorical expressions (*as sure as eggs is eggs* / German *so sicher wie das Amen in der Kirche* ‘lit. as sure as the amen in the church’, *autumn of one's life* / German *Herbst des Lebens*)
- Verbal idioms (*to kick the bucket, to shoot the breeze*, French *marcher sur des œufs* ‘to walk on eggshells’, German *jemanden nicht riechen können* ‘lit. to not be able to smell s.o., to not be able to stand s.o.’, Dutch *iemand met de nek aankijken* ‘lit. to look at s.o. with the neck, to look down on s.o.’)
- Particle / phrasal verbs (*to make up*, German *ankommen* ‘to arrive’, Dutch *bijvallen* ‘to approve’, Italian *mettere giù* ‘to put down’)
- Light verb constructions / composite predicates (*to have a look*, German *zur Abstimmung bringen* ‘to put to the vote’, French *faire partie de* ‘to be part of’)
- Syntactic / quasi noun incorporation (German *Auto waschen* ‘to wash car’, Dutch *piano spelen* ‘to play piano’, Danish *købe hus* ‘to buy (a) house’, Swedish *ha bil* ‘to have/own a car’)
- Stereotyped comparisons / similes (*as nice as pie, swear like a trooper*, Dutch *koud als steen* ‘cold as stone’, German *schimpfen wie ein Rohrspatz* ‘lit. to rant like a reed bunting, to rant and rave’, French *bête comme ses pieds* ‘stupid like one's feet’)
- Binomial expressions (*shoulder to shoulder* / German *Schulter an Schulter, by and by* / German *nach und nach, nourish and cherish* / German *hegen und pflegen*)
- Complex nominals (*man about town, weapons of mass destruction, sheep's clothing*, French *marché aux puces* ‘flea market’, Italian *atto di nascita* ‘birth certificate’, Spanish *sillo para niños* ‘baby high chair’, Russian *universal'nyj magazin* ‘department store’, *kiosk morozhenogo* ‘ice cream parlor’)
- Collocations (*strong tea, hard frost*, German *Zähne putzen* ‘to brush teeth’)
- Fossilized / frozen forms (*all of a sudden*, Dutch *in plaats van* ‘instead of’, French *en fonction de* ‘depending on’)
- Routine formulas (*Good morning, How are you doing?, Happy Birthday*)

This list of MWEs is neither complete nor generally applicable as, obviously, the question as to what counts as a MWE depends on the definition used. Also, it confuses semantic, syntactic, pragmatic, and distributional criteria. Thus, for instance, *strong tea* can be regarded as a complex nominal and a collocation at the same time. Nevertheless, these examples are useful as they give an impression of the range of relevant data. Naturally, not all of these kinds of MWEs can be dealt with in this article. In the context of this handbook, the focus is on the relation between MWEs and word-formation. For this reason, sentence-length expressions as well as routine formulas are not considered further. Instead, particular attention is paid to MWEs that have more or less direct counterparts in word-formation. In addition, the reader is referred to other pertinent articles in this handbook, for example [article 24 on particle verbs](#) and [article 23 on noun incorporation](#).

In the following, we will start by reviewing the most important properties of multi-word expressions as discussed in the literature (section 2.). Section 3. then addresses the central topic, i.e. commonalities and differences between MWEs and word-formation units and their mutual relations in the language system and in language use.

2. General properties

Multi-word expressions are complex by definition. Consisting of a minimum of two words, they cut across word boundaries. Some approaches draw a distinction between function words and content words, either in the sense that a MWE should comprise at least one content word, such as in *as far as*, or that a sequence of two function words should also qualify as a MWE, e.g. *up to*. With regard to the upper limit, it is generally assumed that MWEs do not exceed the sentence boundary. It is obvious that a definition of MWEs hinges crucially on the definition of the word and of word boundaries, as will be further discussed in section 3.

MWEs are different from ‘regular’, purely syntactic complex expressions in that they form stable units with respect to various aspects. First, a MWE is a single lexical unit. This means that uttering a MWE involves the reproduction or retrieval of the phrase as a whole from the mental lexicon rather than the production or computation of the individual parts (for discussion, see, e.g. Wray 2008). MWEs are regarded as lexical units because they obviously form semantic units, that is, they function as an expression for a particular concept, just as words do.

Second, in the view of traditional phraseological research, prototypical MWEs by definition have non-compositional (or idiomatic) meaning, e.g. *to keep one’s fingers crossed* / German *die Daumen drücken* ‘lit. to press thumbs’. Although this is true for many MWEs, it is nowadays – thanks to the seminal paper by Nunberg, Sag and Wasow (1994) and others – generally accepted that non-compositionality should not count as a defining criterion for MWEs. This is why many approaches distinguish between several degrees of idiomaticity/non-compositionality of MWEs. However, the notion of non-compositionality is usually associated with several aspects of meaning, such as opacity, unanalysability or figurative meaning, which are often confused (or at least not made explicit) in the literature, cf. Svensson (2008). Generally, a distinction is made at least between fully opaque, non-decomposable MWEs (e.g. *red herring*), decomposable MWEs which contain one or several words with an idiomatic meaning (e.g. *black market*) and fully compositional, non-idiomatic MWEs (e.g. *fish and chips*). The latter are often referred to as ‘collocations’ (cf., e.g., Barz 1996, Riehemann 2001, Burger 2010) or as ‘institutionalised phrases’ (cf. Sag, Baldwin, Bond, Copestake and Flickinger 2002, Villavicencio, Bond, Korhonen and McCarthy 2005).

Third, MWEs have traditionally often been regarded as syntactically fixed expressions. However, as in the case of semantics, it is widely accepted nowadays that, although many MWEs are indeed syntactically fixed or otherwise deficient, this is not necessarily the case. Instead, MWEs exhibit a continuum of syntactic fixedness, which is often related to the

degree of compositionality of meaning (see, for instance, Fellbaum 2011). On the one end, there are, rather infrequently, fully invariant expressions (e.g. English *by and large* / German *im Großen und Ganzen*). Some MWEs contain unique elements, i.e. items that only appear in one particular MWE and do not have a meaning on their own ('cranberry collocations', cf. Moon 1998), e.g. *klipp und klar* 'lit. (klipp) and clear, clear as daylight'. Other MWEs are restricted with regard to syntactic operations such as anaphoric reference, passivization, relative clause formation, topicalization, modification, and others (cf. Nunberg, Sag and Wasow 1994, Dobrovolskij 1997, Moon 1998, Donalies 2009, Burger 2010, among others). For example, Dutch *rode kool* 'red cabbage' allows (in its MWE meaning) neither the modification of the adjective nor the insertion of another prenominal adjective, cf. **erg rode kool* 'very red cabbage', **rode dure kool* 'red expensive cabbage', cf. Booij (2009). However, although the word order is fixed in these cases, they are not fully invariant forms, as can be seen from similar examples in German. In spite of the syntactic restrictions, they exhibit regular inflection, e.g. *der blaue Fleck, dem blauen Fleck* 'blue mark, bruise'. On the other hand, many (often relatively complex) MWEs allow occasional variation in creative speech, e.g. by means of adjectival modification (cf. Ernst 1981, Fellbaum and Stathi 2006, Stathi 2007, Burger 2010), e.g. German *etwas unter den politischen Teppich kehren* 'to brush something under the political carpet'. Finally, there are underspecified MWEs, i.e. patterns with open slots. Two subclasses can be distinguished: (i) MWEs with a more or less fixed group of lexical items that may be inserted in these slots, resulting in expressions which are relatively similar semantically (cf. Dobrovolskij 1988), e.g. *to hit the roof/the ceiling*; German *jemandem eins aufs Dach/auf den Deckel/auf den Hut/auf die Nase/auf die Rübe geben* 'lit. to give somebody something on the roof/on the hat/on the nose/on the conk, to conk somebody'. (ii) Patterns with a variable slot to be filled by a non-restricted group of content words, such as the NPN construction (N by N, N for N, N after N, etc., e.g. *day after day*, cf. Jackendoff 2008). The NPN construction partially coincides with constructions known as binomials in traditional phraseology (e.g. Lambrecht 1984, Moon 1998, Burger 2010), e.g. Danish *to og to* 'lit. two and two, pairwise', *med hud og hår* 'lit. with skin and hair, neck and crop', German *null und nichtig* 'null and void', *Hab und Gut* 'goods and chattels'. Other examples of patterns with open slots are the 'time'-away construction (*Bill slept the afternoon away*, cf. Jackendoff 1997) or collocational sequences such as *a/an N of* or *at the N of* (e.g., *a kind/lot/number of, at the end/time/beginning of*; Renouf and Sinclair 1991, Biber 2009).

Finally, there is another aspect of MWEs' stability as units which has often been referred to in the literature as 'habitualness' or 'recurrence'. MWEs are combinations of a minimum of two words which language users prefer over alternative combinations with an equivalent meaning, so they occur more frequently (cf. Erman and Warren 2000). This criterion is of particular importance for the identification of collocations as they lack other properties such as deviant semantics or syntax. The question as to what should count as "more frequently" as well as methodological questions of measuring frequency have been subject to extensive discussion in the corpus linguistic literature, cf. Bartsch (2004), Biber (2009) for an overview. According to one common view, MWEs are a combination of lexical items whose frequency of co-occurrence is larger than would be expected on the basis of chance alone, cf. Gries (2008).

3. Multi-word expressions and word-formation

The relation between MWEs and word-formation can be considered under three aspects:

(i) The demarcation between MWEs and word-formation units. – Just like MWEs, word-formation units are complex units made up from a minimum of two constituents. Cross-linguistically as well as language-internally, languages differ greatly with regard to the degree

to which the distinction between morphological and syntactic complex entities is formally marked. For instance, while the distinction between nominal compounds and phrases can easily be made on the basis of stress and inflection in German, Dutch and Danish, this is much more difficult in languages like English, French or Spanish. This difference is also reflected by the fact that in the latter languages, compounds are not, or not consistently, written as one word, in contrast to German, Dutch and Danish, which exhibit a consistent distinction between morphological and phrasal complex nominals in terms of spelling. Particle verbs such as English *to look up*, German *aufgeben* ‘to give up’ or Dutch *opbellen* ‘to phone’ are another case in point as they appear either as one single unit or as two words, depending on the kind of sentence they appear in, e.g. *Er will den Plan aufgeben* ‘He wants to give up the plan’ vs. *Er gab den Plan auf* ‘He gave up the plan / gave the plan up’.

(ii) MWEs as alternative forms to word-formation units. – Often, MWEs and word-formation can be regarded as alternative means for naming a particular concept, e.g. German *weiß wie Schnee* ‘white as snow’ vs. *schneeweiß* ‘snow-white’, *schwarzer Tee* vs. *Schwarztee* ‘black tea’. In contrast to these examples, however, morphological and phrasal forms of this kind do not usually exist side by side. Instead, the existence of one form usually blocks the formation of the other. This raises questions as to the function of lexical entities and the factors determining the choice between word and MWE formation. These aspects have – to our knowledge – been given relatively little attention, both in the morphological and phraseological literature, the works by Fleischer (1982/1997, 1992, 1996, 1996a, 1997a) and Barz (1988, 1996, 2007) being exceptions to this.

(iii) Implications for the architecture of the language system. – Studying the processes of both word and MWE formation leads to important insights in the structure of the language system. This applies in particular to the question as to whether these processes can be described as regular and/or productive.

The following sections review the shared properties of multi-word expressions and word-formation units as well as the differences between them while taking the aspects mentioned above into account, in particular the aspect of competition between phrasal and morphological patterns.

3.1. Shared properties of multi-word expressions and word-formation units

Both MWEs and word-formation units are by definition complex expressions. As the constituents of MWEs are words, the parallel between MWEs and word-formation units can be narrowed down to the parallel between MWEs and compounds since compounds are made up of free morphemes (words and stems), whereas derivation involves the combination of free and bound morphemes. This parallel leads to the question as to whether compounds should be regarded as MWEs too, since in English (and other languages) it is relatively difficult to draw a clear distinction between nominal compounds and corresponding phrases on formal grounds, as mentioned above. However, this problem has only rarely been tackled explicitly in phraseological research, as has been pointed out by Granger and Paquot (2008). Whereas Moon (1998) excludes nominal compounds from her study because of their morphological nature, many studies of English MWEs not surprisingly include nominal compounds, e.g. Sag, Baldwin, Bond, Copestake and Flickinger (2002), Villavicencio, Bond, Korhonen and McCarthy (2005). Sometimes a distinction is drawn on the basis of the spelling (i.e. a form is considered as a MWE if written as two words, but not if written as one; e.g. Erman and Warren 2000, Copestake, Lambeau, Villavicencio, Bond, Baldwin, Sag and Flickinger 2002). Such a distinction, however, although understandable from the practical viewpoint of conducting a corpus study, is rather unsatisfactory from a theoretical point of view.

The next property shared by MWEs and word-formation units is their status as a lexical unit. More precisely, word-formation units are potential lexical units. That is, although most

word-formation units end up in the lexicon, there are also ad hoc forms that are only produced for occasional use in a particular context and therefore do not become lexicalized. MWEs, on the other hand, seem to be lexical by definition: MWEs with deviant semantic or syntactic properties necessarily have to be stored in the mental lexicon. However, in a broad view of MWEs that includes patterns with variable slots (cf. section 2.), MWEs must be regarded as potential lexical units too rather than as being lexical by definition. Acknowledging phrasal patterns of this kind means that there must also be non-lexicalized MWEs, i.e. MWEs that have been occasionally coined as instantiations from a certain phrasal pattern for use in a particular situation but have not become lexicalized.

Closely related to their lexical status is another property shared by MWEs and word-formation units: their function. Both forms function as linguistic signs for specific concepts, i.e. they are names. However, as has been repeatedly mentioned in the literature, word-formation units – and in particular compounds – may also be used as mere descriptions, i.e. as expressions that describe a concept but do not name it – just like “regular”, non-lexicalized phrases do. A case in point is the well-known example *apple juice seat* when used in a particular conversation to indicate a seat in front of which a glass of apple-juice has been placed (cf. Downing 1977). It is obvious that this use of *apple juice seat* does not involve the existence of a corresponding self-contained concept. Accordingly, one may wonder whether MWEs can have a descriptive function too. However, this question has – as far as we know – not yet been discussed in the literature.

Finally, both MWEs and word-formation units may have compositional or non-compositional semantics, and both may (but need not) contain constituents with a metaphorical meaning.

3.2. Differences between multi-word expressions and word-formation units

The main difference between MWEs and word-formation units is that, while both are complex expressions, MWEs are phrases, i.e. syntactic entities, whereas word-formation units are words, i.e. morphological entities.

A first question related to this difference in status between MWEs and word-formation units has to do with their mutual relations: should MWEs and word-formation units be regarded as alternative means that complement each other or as competitive processes instead? Obviously, lexical categories differ greatly with regard to their attraction to MWE formation and word-formation. According to Fleischer (1996a, 1997a) and Barz (2007), MWEs are abundant in the verbal domain, but they are less frequent with nouns and adverbs and even more infrequent with adjectives in German (and presumably also in other (Germanic) languages). This unequal distribution can be related to the corresponding word-formation processes: whereas verbal compounding does not exist in German, or exists there only marginally, and the number of verbal prefixes is relatively restricted, nominal compounding is highly productive. That is, MWEs and word-formation units seem to complement each other, supporting the view of MWEs and word-formation as alternative means of expanding the lexicon. Of course, other factors are important in this connection too. For instance, MWEs (especially verbal ones) are often said to exhibit a high degree of expressivity (e.g. *to sweat blood* / German *Blut und Wasser schwitzen*). Likewise, German MWEs seem to include a high proportion of technical terms and proper names (e.g. *Echte Kamille* ‘German chamomile’, *Totes Meer* ‘Dead Sea’). Thus, stylistic factors also play an important role in the alternation between MWEs and word-formation.

There also seems to be a major difference in between the way in which MWEs and word-formation units come into existence. Word-formation units, we can assume, are the result of regular, more or less productive word-formation rules (or patterns or schemas, depending on the particular framework used). On the other hand, many MWEs are made from existing

phrases in a secondary process, i.e. through semantic reinterpretation or specialization, or just by becoming habitual through frequent use (cf. Fleischer 1997a, Barz 2007). These changes may also affect the syntactic properties of the phrase, for example by causing it to lose its syntactic flexibility. Such a view of MWEs and word-formation units in fact implies a fundamental difference between them: word-formation is a primary process, it is regular and – given extralinguistic motivation – it is more or less predictable, whereas MWE formation is a secondary process, i.e. an unsystematic and idiosyncratic lexicalization of phrasal units, and it is not predictable at all. However, in addition to highly idiosyncratic MWEs resulting from the alteration of existing phrases, there are also many MWEs that are obviously based on patterns or schemas. The NPN construction and the ‘time’-*away* construction mentioned in section 2. are pertinent examples of this. Also, lexical A+N phrases (e.g. German *blauer Fleck*, Dutch *rode kool*, cf. section 2.) can be regarded as instantiations of an abstract lexical schema that is equipped with additional morphosyntactic restrictions (compared to regular, non-lexicalized A+N phrases, cf. Booij 2009).

Under the assumption that MWEs may be formed from abstract underlying patterns or schemas, MWEs become more similar to word-formation units, and the difference between MWEs and word-formation is less fundamental than described above. This view, however, makes important assumptions about the architecture of the language system as it assumes the existence of regular and productive phrasal patterns within the lexicon. Obviously, such a view is incompatible with a modular view of the grammar system, i.e. a strict separation of grammar and the lexicon as set forth in mainstream generative grammar. On the contrary, it is in full agreement with the fundamental assumptions behind a number of related frameworks known as ‘constructionist’ theories (e.g. Goldberg 1995, 2006, Croft 2001, Jackendoff 2002), and, similarly, cognitive grammar (e.g. Langacker 1987, 1991; for an overview of different linguistic frameworks and MWE research, see Wray 2008, Gries 2008). Leaving aside many details and differences, these theories share the assumption that ‘constructions’, i.e. symbolic units that are pairings of form and meaning, constitute the basic elements of the language system, and that there is no such thing as a strict divide between grammar and lexicon. Not surprisingly, much recent work on MWEs is constructionist-based, for example Riehemann (2001), Masini (2005, 2009), Booij (2002, 2009, 2010), Jackendoff (1997, 2008), Poß (2010). It can be said without doubt that the increased interest of theoretical linguistics in research into MWEs is connected with the development of constructionist frameworks during the past decades: work on specific constructions such as the *let alone* construction in Fillmore, Kay and O’Connor (1988) and the insight that MWEs are central to language and cannot be disregarded as marginal by linguistic theory (e.g. Jackendoff 1995) were fundamental for the further development of constructionist theory. Even earlier, similar ideas of considering MWEs as being variable syntactic patterns with open slots within the lexicon have been developed in more traditional research on phraseology under the name of *Modellbildung* (cf. Häusermann 1977) and *Phraseoschablone* (cf. Fleischer 1982/1997).

3.3. Competition between phrasal and morphological patterns

Fellbaum (2011: 454) speculates that “perhaps the most important function of many idioms, which may account for their universality and ubiquity, is that they provide convenient, pre-fabricated, conventionalized encodings of often complex messages.” In contrast to ‘regular’ phrases, the central functions of MWEs are the encoding of complex messages and the providing of names for (complex) concepts (‘nominative function’, cf. Fleischer 1982: 129). This can be illustrated by comparing the MWE *black market* with its paraphrase (taken from Merriam-Webster): “illicit trade in goods or commodities in violation of official regulations; also: a place where such trade is carried on”.

MWEs like *black market* share their naming function with morphologically complex words like compounds (cf. Barz 2007). If, therefore, a clear formal distinction cannot be drawn between complex morphological and phrasal entities, this functional equivalence may lead to the assumption of ‘mixed’ rather than pure morphological or syntactic entities. For instance, it has been proposed that English A+N sequences might be constructions that are neither fully lexical nor fully syntactic and that there might therefore be a significant area of overlap between syntax and lexicon (cf. Sadler and Arnold 1994, Giegerich 2005).

The shared function of complex morphological and phrasal entities becomes even more significant through language comparison. Comparing English A+N units with their counterparts in Dutch and German reveals that speakers of Dutch very often use MWEs (*zwarte markt* ‘black market’, *rode wijn* ‘red wine’) where German has compounds for the same concepts (*Schwarzmarkt*, *Rotwein*) (cf. section 2. for some criteria for distinguishing phrases from compounds in Dutch and German). Dutch, like German, has A+N compounds (*fijnstof*, *Feinstaub* ‘fine particles’, *zuurdeeg*, *Sauerteig* ‘sour dough’), and German, like Dutch, allows for phrases being used as lexical units (*saurer Regen*, *zure regen* ‘acid rain’). However, these forms are not equally distributed in both languages: hundreds of lexicalized A+N compounds in German correspond to A+N phrases in Dutch (*Dunkelkammer* – *donkere kamer* ‘darkroom’, *Vollmond* – *volle maan* ‘full moon’; cf. Booij 2002, Hüning 2010). Within one language, lexicalization of one form often blocks the other, corresponding form (as indicated by #), e.g. *grüne Welle* ‘lit. green wave, progressive signal system’ vs. #*Grünwelle*, *die Dunkelkammer* ‘darkroom’ vs. #*die dunkle Kammer* (although this is a well-formed phrase, it is blocked for the specific interpretation expressed by the compound). The same is true for Dutch, where the potential compound #*zuurregen* and the potential phrase #*dunne druk* are blocked by the existence of *zure regen* ‘acid rain’ and *dundruk* ‘lightface’.

The fact that lexicalization of a phrase can be blocked by the existence of a compound and that compounding can be blocked by the existence of a MWE shows that the syntactic and the morphological pattern are in competition with each other. This has been taken as a further argument against theories in which syntax and lexicon are seen as distinct modules of a language, since blocking only takes place among lexical elements (cf. Booij 2002, 2010, among others).

The question, then, is which factors determine the choice of one of the two patterns for encoding a certain concept. One factor is probably analogy with existing forms. For German A+N sequences, the choice between both patterns seems to be sensitive to type frequency effects, as shown by Schlücker and Plag (2011). The realization of an A+N sequence as either a compound or a phrase is largely dependent on the availability and the number of similar constructions in the mental lexicon of the speakers.

Blocking is, however, almost never absolute. Expressions like *grüner Tee* and *Grüntee* ‘green tea’ or *schwarzer Markt* and *Schwarzmarkt* ‘black market’ are used side by side, even in one text. The coexistence and use of both the compound and the synonymous phrase might be explained by the need for stylistic variation. It could, however, also indicate a diachronic change. Synchronically, the compound *Schwarzmarkt* is more conventional and more frequent, but diachronically, the meaning was first expressed by the phrase *schwarzer Markt*. This phrase has been gradually replaced by the compound since the middle of the 20th century. Thus, the existence of a MWE and a synonymous compound might be an indication for a transitional phase in which one is replaced by the other. This replacement on the lexical level could correspond to the changing degrees of productivity of the patterns.

Thus, the syntactic and the morphological A+N pattern may function as competing categories. This is, however, only true for a subset of all possible A+N combinations because of a restriction on A+N compounding according to which the adjective has to be monomorphemic in A+N compounds. Thus, morphologically complex adjectives may be part of a lexicalized phrase, but not of an A+N compound (*der wissenschaftliche Mitarbeiter* –

**der Wissenschaftlichmitarbeiter* ‘scientific assistant’; *die treulose Tomate* – **die Treulostomate* ‘lit. faithless tomato, fair-weather friend’). A phrase is therefore a much more flexible means of coining a name consisting of an adjective and a noun than a compound as there are no restrictions on its formation.

Greater flexibility and applicability seems to be a general property of phrasal patterns as compared to compounds. This can also be illustrated by what is known as a ‘phrasal simile’ in the literature (other terms are ‘frozen simile’ or ‘stereotyped comparison’, cf. Fiedler 2007: 43). According to Wikberg (2008: 128) a “simile can be defined as a figurative expression used to make an explicit comparison of two unlike things by means of the prepositions *like*, (*as*) ... *as* or the conjunctions *as*, *as if*, *as though*.” Similes thus can be conceived of as fixed comparative frames, i.e. as patterns with open slots. They have the structure of a typical comparison and can be used predicatively or adverbially.

We will focus on two frequent types of these comparisons, an adjectival type ((*as*) *strong as a horse*, (*as*) *white as snow*) and a verbal type (*to eat like a horse*, *to sleep like a log*). These phrasal similes can be found in many languages. Fleischer (1992: 63) even states a particular phraseological affinity of comparative structures and binomials.

According to Wikberg (2008), similes have to be distinguished from literal comparisons and from metaphors. While literal comparisons are reversible (*olive oil is like a fine wine* – *a fine wine is like olive oil*), similes are not (*Kim is like a ray of sunshine* – **a ray of sunshine is like Kim*) (examples taken from Wikberg 2008: 129). From a functional point of view, similes resemble metaphors: speakers ascribe some characteristic to something or somebody by making use of a supposed similarity. Similes are, however, more explicit, which explains why metaphors are sometimes seen as elliptical similes. The German MWE *er ist (so) dumm wie ein Esel* ‘he is (as) stupid as a mule’, in this view, corresponds to the metaphor: *er ist ein Esel*.

In our context, it is interesting that similes and compounds often function as alternative means for expressing a particular concept. Many similes of the adjectival type have a lexical equivalent (an N+A compound): (*so*) *weiß wie Schnee* ‘as white as snow’ – *schneeweiß* ‘snow-white’. In the compound, the phrasal comparison is compressed into one word. This can therefore be regarded as a case of ‘univerbation’. It is an endocentric compound and the adjective functions as the syntactic and semantic head. As in the phrasal expression, the comparison is made explicit by giving the ‘tertium comparationis’ (the adjective), which is modified by the first element of the compound (the noun). The comparison can thus be expressed syntactically/phraseologically or morphologically without a difference in meaning: *ihre Haut war weiß wie Schnee / schneeweiß* – ‘her skin was as white as snow / snow-white’.

This parallel, however, only holds for the adjectival type of phrasal similes. Verbal comparisons cannot be expressed by means of a compound: *frieren wie ein Schneider* ‘lit. to freeze like a tailor, to be very cold’ – **schneiderfrieren*; *schimpfen wie ein Rohrspatz* ‘lit. to rant like a reed bunting, to rant and rave’ – **rohrspatzschimpfen*. This type of noun incorporation is ungrammatical, and verbal compounding is in general highly restricted in German. This illustrates once more (as in the A+N case above) that the syntactic patterns are less restricted, and accordingly more flexible, than the morphological ones.

For the adjectival type, the coexistence of both the MWE and the compound is well-established in many cases. Pairs like *flink wie ein Wiesel* (‘lit. (as) nimble as a weasel’) – *wieselflink* or *schlank wie eine Gerte* (‘lit. (as) tall as a whip’) – *gertenschlank* are well-known to native speakers of German. In many other cases, however, the compound is not conventionalized. Words like *haubitzenvoll* (< *voll/blau wie eine Haubitze* ‘lit. drunk like a howitzer, as drunk as a skunk’) or *bohnenstrohdumm* (< *dumm wie Bohnenstroh* ‘lit. dumb like bean straw, as thick as a brick’) are grammatical and can be found via Google, but they are not conventionalized and their use is highly marked. The relationship between the two patterns is asymmetrical: all compounds expressing a stereotyped comparison have a

corresponding phrasal comparison but not vice versa. There are many phrasal similes without a corresponding compound.

Another difference concerns the syntactic behaviour of similes and compounds. Both can be used predicatively or as an adverbial, but only the compound can be used prenominal as an attribute in an NP (*der Kleinwagen war wieselflink / flink wie ein Wiesel* ‘the compact car was as nimble as a weasel’ – *der wieselflinke Kleinwagen*). MWEs, on the other hand, can only be used in postnominal position to modify a noun (as an apposition): *der Kleinwagen, flink wie ein Wiesel*.

Thus, as in the A+N case, the morphological and the phrasal comparative pattern are competitive only with regard to a relatively small subset of all possible similes. Compounding is, again, much more restricted than MWE formation. On the other hand, compounds are words, and this makes them more versatile with regard to their syntactic range of use.

3.4. Constructionalization

In phrasal similes the noun tends to lose its literal meaning. The comparison often seems to be ‘strange’ or far-fetched (Donalies 2009: 76). Why is *Bohnenstroh* ‘dumb’ (*dumm wie Bohnenstroh sein* ‘lit. dumb like bean straw, to be as thick as a brick’)? What has drunkenness to do with a skunk (*as drunk as a skunk*)? Other comparisons seem to be motivated. For instance, it seems reasonable to consider a weasel as agile (*flink wie ein Wiesel*). In most comparisons, however, the intensifying meaning dominates the meaning of the expression as a whole. This seems to be true for MWEs as well as for compounds: *dumm wie Bohnenstroh* means ‘very dumb’ and *wieselflink* means ‘very agile’.

This kind of abstract intensification of meaning suggests the existence of abstract ‘models’ (Burger 2010: 44) or ‘constructional schemas’ (in the sense of Construction Grammar, cf. Booij 2010 [and article 12 on construction grammar](#)) for intensifying MWEs and compounds in German:

MWE: [(so) A wie N] ↔ ‘very A’
Compound: [N + A]_A ↔ ‘very A’

These schemas can be seen as subschemas of a more general literal comparison schema (in the MWE case) and of a more general schema for N+A compounding. In German, most N+A compounds express a comparison, but there are also other meaning relations, e.g. *lebensfremd* ‘lit. life foreign, remote from everyday life’, *knielang* ‘lit. knee long, knee-length’ etc. The comparative subschemas in question inherit some of their general properties from the general schemas for the MWEs and the compounds. However, they add the intensifying meaning which is part of the construction itself rather than of the constituent words.

This idea can be related to the variability found in many of the MWEs. As Fiedler (2007: 43-44) points out, many phrasal similes can be filled very flexibly with lexical material:

[as happy as X]: (*as*) *happy as Larry/a clam/a lark/a pig in muck/a sandboy*
[work like X]: *work like a horse/a dog/a slave/a Trojan/a black/a nigger/like stink*

Phrasal similes also allow for (limited) variation and modification, for example by means of adjectival modification, if this can be interpreted as a further signal of intensification, e.g. *dumm wie altes Brot* ‘as dumb as (old) bread’, *schwarz wie die finstre Nacht* ‘as black as the (dark) night’. Compounds, on the contrary, do not allow such modifications, since they are words. Variation and modification can be seen as aspects of the greater expressivity of phrases as compared to compounds.

The constructional meaning accounts for the fact that the meaning of a phrasal simile can be inferred even in the case of modified or unknown comparisons. Although a speaker/hearer does not always know the meaning of the noun someone/something is compared with, he or she is able to understand the meaning of the utterance. For instance, even without knowing the meaning of *Haubitze* ‘howitzer’ it is obvious that somebody who is *blau/voll/betrunken wie eine Haubitze* ‘lit. blue/full/drunken like a howitzer’ is very drunk. The constructional schema also accounts for the interpretability of unknown loan translations like *besoffen wie ein Molch* (from *as drunk as a newt*) and of occasional ad hoc comparisons (*Nerven dünn wie Zahnseide* ‘lit. nerves as thin as dental floss, nerves on edge’; Donalies 2009: 76). Newly-coined nonsense comparisons are also interpreted according to the constructional meaning, such as *er stinkt wie ein Gartenzwerg* ‘lit. he stinks like a garden gnome, he stinks very much’.

Comparative compounds, on the other hand, also tend to lose the comparison as an element of their meaning when intensification becomes the central aspect of the compound’s semantics. N+A compounds expressing a gradation or intensification of the adjective usually go back to formations expressing a comparison. The German compound *stocksteif*, for example, got its meaning ‘very stiff’ through the comparison *steif wie ein Stock* ‘as stiff as a stick’. By analogy, new compounds with the constituent *stock* have been coined (cf. Fleischer and Barz 1995: 231): *stockblind* ‘stone-blind’, *stockkonservativ* ‘conservative to the core’, *stockbürgerlich* ‘philistine to the core’, *stockkatholisch* ‘catholic to the core’, *stockreaktionär* ‘very unprogressive’ etc. This use of *stock-* might also be related to the existence of adjectival participle *verstockt* ‘obdurate’ and related words. In any case, the literal meaning of the noun *Stock* has been lost. These adjectives can be accounted for by assuming a subschema of the one given above, in which the position of the N is lexically filled: [*stock* + A]_A ↔ ‘very A / extremely A / A to the core’.

The element *stock* is no longer (synchronically) identical to the noun *Stock*, it has become a ‘prefixoid’ or even a ‘prefix’ (for a discussion of the concept of ‘affixoid’, see, e.g. Stevens 2005). The comparison is no longer part of the meaning, so these compounds do not correspond to a MWE expressing a stereotyped comparison. In a case like this, the phrasal simile can be seen as a starting point for the development of a new morphological pattern. Through ‘univerbation’, the comparison can be expressed by a compound. The compound becomes lexicalized, the meaning may become more abstract (intensification), and the relation to the meaning of the corresponding noun becomes opaque. Through the use in a series of compounds, the first element (the noun) is reinterpreted and eventually becomes a bound morpheme. Ultimately, this can change the status of the compounds in question. They are interpreted as instantiations of a productive derivational word-formation process rather than as examples of compounding.

Summing up, the developments outlined here strongly support the idea of a hierarchical lexicon, containing words, MWEs, constructions and constructional schemas on different levels of abstraction (cf. Jackendoff 2008, Booij 2010). Subschemas allow for generalizations of subsets of words and MWEs within a morphological category or within a certain phrasal construction. The examples presented here show that there is a functional overlap between syntax and morphology (or the lexicon). MWEs and compounds often share certain functions and meanings, but as a result of their different origin and structural status (syntactic phrase vs. morphological compound) they also differ with respect to their range of use. The two patterns compete such that it sometimes is not really possible to make a distinction between an MWE and a complex word, as in the case of English A+N constructions. The overall picture is, however, that MWEs and compounds are largely a complementary means for creating lexical units.

4. References

- Bartsch, Sabine 2004 *Structural and Functional Properties of Collocations in English: A Corpus Study of Lexical and Pragmatic Constraints on Lexical Co-occurrence*. Tübingen: Narr.
- Barz, Irmhild 1988 Wortbildung und Nomination. *Zur Theorie der Wortbildung im Deutschen*, 19-24. Berlin: Akademie Verlag.
- Barz, Irmhild 1996 Komposition und Kollokation. In: Clemens Knobloch and Burkhard Schaefer (eds.), *Nomination - fachsprachlich und gemeinsprachlich*, 127-146. Opladen: Westdeutscher Verlag.
- Barz, Irmhild 2007 Wortbildung und Phraseologie. In: Harald Burger, Dimitrij Dobrovolskij, Peter Kühn and Neal R. Norrick (eds.), *Phraseologie / Phraseology: An International Handbook*, vol. 1, 27-36. Berlin/New York: Mouton de Gruyter.
- Biber, Douglas 2009 A corpus-driven approach to formulaic language in English: Multi-word patterns in speech and writing. *International Journal of Corpus Linguistics* 14: 275-311.
- Booij, Geert 2002 Constructional idioms, morphology, and the Dutch lexicon. *Journal of Germanic Linguistics* 14: 301-329.
- Booij, Geert 2009 Phrasal names: A constructionist analysis. *Word Structure* 2: 219-240.
- Booij, Geert 2010 *Construction Morphology*. Oxford: Oxford University Press.
- Burger, Harald 2010 *Phraseologie: Eine Einführung am Beispiel des Deutschen*. 4th ed. Berlin: Erich Schmidt.
- Copestake, Anne, Fabre Lambeau, Aline Villavicencio, Francis Bond, Timothy Baldwin, Ivan Sag and Dan Flickinger 2002 Multiword expressions: linguistic precision and reusability. In: *Proceedings of the Third International Conference on Language Resources and Evaluation (LREC 2002)*, 1941-1947. Las Palmas, Canary Islands.
- Croft, William 2001 *Radical construction grammar*. Oxford: Oxford University Press.
- Dobrovolskij, Dimitrij 1997 *Idiome im mentalen Lexikon: Ziele und Methoden der kognitivbasierten Phraseologieforschung*. Trier: Wissenschaftlicher Verlag.
- Dobrovolskij, Dmitrij 1988 *Phraseologie als Objekt der Universalienlinguistik*. Leipzig: VEB Verlag Enzyklopädie.
- Donalies, Elke 2009 *Basiswissen deutsche Phraseologie*. Tübingen/Basel: Francke.
- Downing, Pamela 1977 On the creation and use of English compound nouns. *Language* 53: 810-842.
- Erman, Britt and Beatrice Warren 2000 The idiom principle and the open choice principle. *Text - Interdisciplinary Journal for the Study of Discourse* 20: 29-62.

- Ernst, Thomas 1981 Grist for the linguistic mill: Idioms and “extra” adjectives. *Journal of Linguistic Research* 1: 51-68.
- Fellbaum, Christiane 2011 Idioms and collocations. In: Claudia Maienborn, Klaus von Heusinger and Paul Portner (eds.), *Semantics: An International Handbook*, vol. 1, 441-456. Berlin/New York: Mouton de Gruyter.
- Fellbaum, Christiane and Ekaterini Stathi 2006 Idiome in der Grammatik und im Kontext: Wer brüllt hier die Leviten? In: Kristel Proost and Edeltraut Winkler (eds.), *Von Intentionalität zur Bedeutung konventionalisierter Zeichen: Festschrift für Gisela Harras zum 65. Geburtstag*, 125-146. Tübingen: Narr.
- Fiedler, Sabine 2007 *English Phraseology: a Coursebook*. Tübingen: Narr.
- Fillmore, Charles J., Paul Kay and Mary Catherine O’Connor 1988 Regularity and idiomaticity in grammatical constructions. *Language* 64: 501-538.
- Fleischer, Wolfgang 1982 *Phraseologie der deutschen Gegenwartssprache*. Leipzig, VEB Bibliographisches Institut.
- Fleischer, Wolfgang 1992 Konvergenz und Divergenz von Wortbildung und Phraseologisierung. In: Jarmo Korhonen (ed.), *Phraseologie und Wortbildung - Aspekte der Lexikonerweiterung*, 53-65. Tübingen: Niemeyer.
- Fleischer, Wolfgang 1996 Phraseologische, terminologische und onymische Wortgruppen als Nominationseinheiten. In: Clemens Knobloch and Burkhard Schaefer (eds.), *Nomination, fachsprachlich und gemeinsprachlich*, 147-170. Opladen: Westdeutscher Verlag.
- Fleischer, Wolfgang 1996a Zum Verhältnis von Wortbildung und Phraseologie im Deutschen. In: Jarmo Korhonen (ed.), *Studien zur Phraseologie des Deutschen und des Finnischen II*, 333-344. Bochum: Brockmeyer.
- Fleischer, Wolfgang 1997 *Phraseologie der deutschen Gegenwartssprache. 2.*, durchgesehene und ergänzte Auflage. Tübingen: Niemeyer.
- Fleischer, Wolfgang 1997a Das Zusammenwirken von Wortbildung und Phraseologisierung in der Entwicklung des Wortschatzes. In: Rainer Wimmer und Franz-Josef Berens (eds.), *Wortbildung und Phraseologie*, 9-24. Tübingen: Narr.
- Fleischer, Wolfgang and Irmhild Barz 1995 *Wortbildung der deutschen Gegenwartssprache. 2.* durchgesehene und ergänzte Auflage. Tübingen: Niemeyer.
- Fraser, Bruce 1970 Idioms with a transformational grammar. *Foundations of Language* 6: 22-42.
- Gibbs, Raymond W. and Herbert L. Colston 2007 Psycholinguistic aspects of phraseology: American tradition. In: Harald Burger, Dmitrij Dobrovolskij, Peter Kühn and Neal R. Norrick (eds.), *Phraseologie / Phraseology: An International Handbook*, vol. 2, 819-836. Berlin/New York: Mouton de Gruyter.

- Giegerich, Heinz J. 2005 Associative adjectives in English and the lexicon-syntax interface. *Journal of Linguistics* 41: 571-591.
- Goldberg, Adele 1995 *Constructions: a construction grammar approach to argument structure*. Chicago: University of Chicago Press.
- Goldberg, Adele 2006 *Constructions at work: the nature of generalization in language*. Oxford: Oxford University Press.
- Granger, Sylviane and Magali Paquot 2008 Disentangling the phraseological web. In: Sylviane Granger and Fanny Meunier (eds.), *Phraseology. An interdisciplinary perspective*, 27-49. Amsterdam/Philadelphia: Benjamins.
- Gries, Stefan Th. 2008 Phraseology and linguistic theory: a brief survey. In: Sylviane Granger and Fanny Meunier (eds.), *Phraseology. An interdisciplinary perspective*, 3-25. Amsterdam/Philadelphia: Benjamins.
- Häcki Buhofer, Annelies 2007 Psycholinguistic aspects of phraseology: European tradition. In: Harald Burger, Dmitrij Dobrovol'skij, Peter Kühn and Neal R. Norrick (eds.), *Phraseologie / Phraseology: An International Handbook*, vol. 2, 836-853. Berlin/New York: Mouton de Gruyter.
- Häusermann, Jürg 1977 *Phraseologie: Hauptprobleme der deutschen Phraseologie auf der Basis sowjetischer Forschungsergebnisse*. Tübingen: Niemeyer.
- Heid, Ulrich 2007 Computational linguistic aspects of phraseology II. In: Harald Burger, Dmitrij Dobrovol'skij, Peter Kühn and Neal R. Norrick (eds.), *Phraseologie / Phraseology*, vol. 2, 1036-1044. Berlin/New York: Mouton de Gruyter.
- Heid, Ulrich 2008 Computational phraseology In: Sylviane Granger und Fanny Meunier (eds.), *Phraseology. An interdisciplinary perspective*, 337-360. Amsterdam/Philadelphia: Benjamins.
- Hüning, Matthias 2010 Adjective + noun constructions between syntax and word formation in Dutch and German. In: Alexander Onysko and Sascha Michel (eds.), *Cognitive Perspectives on Word Formation*, 195-215. Berlin/New York: Mouton de Gruyter.
- Jackendoff, Ray 1995 The Boundaries of the lexicon. In: Martin Everaert, Erik-Jan Van der Linden, André Schenk and Rob Schreuder (eds.), *Idioms structural and psychological perspectives*, 133-165. Hillsdale (New Jersey): L. Erlbaum.
- Jackendoff, Ray 1997 Twistin' the night away. *Language* 73: 534-559.
- Jackendoff, Ray 2002 *Foundations of language*. Oxford: Oxford University Press.
- Jackendoff, Ray 2008 Construction after construction and its theoretical challenges. *Language* 84: 8-28.
- Lambrecht, Knud 1984 Formulaicity, Frame Semantics, and Pragmatics in German Binomial Expressions. *Language* 60: 753-796.

- Langacker, Ronald 1987 *Foundations of cognitive grammar. Volume I: Theoretical Prerequisites*. Stanford CA: Stanford University Press.
- Langacker, Ronald 1991 *Foundations of cognitive grammar. Volume II: Descriptive applications*. Stanford CA: Stanford University Press.
- Masini, Francesca 2005 Multi-word expressions between syntax and the lexicon: the case of Italian verb-particle constructions. *SKY Journal of Linguistics* 18: 145-173.
- Masini, Francesca 2009 Phrasal lexemes, compounds and phrases: A constructionist perspective. *Word Structure* 2: 254-271.
- Moon, Rosamund 1998 *Fixed expressions and idioms in English: A corpus-based approach*. Oxford/New York: Clarendon Press.
- Moon, Rosamund 2007 Corpus linguistic approaches with English corpora. In: Harald Burger, Dmitrij Dobrovol'skij, Peter Kühn and Neal R. Norrick (eds.), *Phraseologie / Phraseology: An International Handbook*, vol. 2, 1045-1059. Berlin/New York: Mouton de Gruyter.
- Newmeyer, Frederick 1974 The regularity of idiom behaviour. *Lingua* 34: 327-342.
- Nunberg, Geoffrey, Ivan Sag and Thomas Wasow 1994 Idioms. *Language* 70: 491-538.
- Poß, Michaela 2010 *Under Construction: Cognitive and Computational Aspects of Extended Lexical Units*. Utrecht: LOT.
- Renouf, Antoinette and John Sinclair 1991 Collocational frameworks in English. In: Karin Aijmer and Bengt Altenberg (eds.), *English Corpus Linguistics*, 128-143. London/New York: Longman.
- Riehemann, Susanne Z. 2001 A constructional approach to idioms and word formation. Ph.D. dissertation. Stanford University.
- Sadler, Louisa and Douglas J. Arnold 1994 Prenominal adjectives and the phrasal/lexical distinction. *Journal of Linguistics* 30: 187-226.
- Sag, Ivan, Timothy Baldwin, Francis Bond, Anne Copestake and Dan Flickinger 2002 Multiword expressions: A pain in the neck for NLP. In: *Proceedings of the Third International Conference on Intelligent Text Processing and Computational Linguistics*, 1-15. Mexico City.
- Sailer, Manfred 2007 Corpus linguistic approaches with German corpora. In: Harald Burger, Dmitrij Dobrovol'skij, Peter Kühn and Neal R. Norrick (eds.), *Phraseologie / Phraseology: An International Handbook*, vol. 2, 1060-1071. Berlin/New York: Mouton de Gruyter.
- Schlücker, Barbara and Ingo Plag 2011 Compound or phrase? Analogy in naming. *Lingua* 121: 1539-1551.

- Sprenger, Simone 2003 Fixed expressions and the production of idioms. Ph.D. dissertation. Nijmegen: Max Planck Instituut voor Psycholinguïstiek.
- Stathi, Katerina 2007 A corpus-based analysis of adjectival modification in German idioms. In: Christiane Fellbaum (ed.), *Idioms and Collocations: Corpus-based Linguistic and Lexicographic Studies*, 81-108. London: Continuum.
- Stevens, Christopher M. 2005 Revisiting the affixoid debate: On the grammaticalization of the word. In: Torsten Leuschner, Tanja Mortelmans and Sarah De Groot (eds.), *Grammatikalisierung im Deutschen*, 71-83. Berlin/New York: De Gruyter.
- Svensson, Maria Helena 2008 A very complex criterion of fixedness: Non-compositionality. In: Sylviane Granger and Fanny Meunier (eds.), *Phraseology. An Interdisciplinary Perspective*, 81-93. Amsterdam/Philadelphia: Benjamins.
- Villavicencio, Aline, Francis Bond, Anna Korhonen and Diana McCarthy 2005 Introduction to the special issue on multiword expressions: Having a crack at a hard nut. *Computer Speech and Language* 19: 365-377.
- Weinreich, Uriel 1969 Problems in the analysis of idioms. In: Jaan Puhvel (ed.), *Substance and Structure of Language: Lectures Delivered before the Linguistic Institute of the Linguistic Society of America, Univ. of California, Los Angeles*, 23-81. Berkeley: University of California Press.
- Wikberg, Kay 2008 Phrasal similes in the BNC. In: Sylviane Granger and Fanny Meunier (eds.), *Phraseology. An Interdisciplinary Perspective*, 127-142. Amsterdam/Philadelphia: Benjamins.
- Wray, Alison 2002 *Formulaic Language and the Lexicon*. Cambridge: Cambridge University Press.
- Wray, Alison 2008 *Formulaic Language: Pushing the Boundaries*. Oxford: Oxford University Press.

Matthias Hüning and Barbara Schlücker, Berlin (Germany)