Taking stock of figurative language and grammar: Results and prospects

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Abstract

Traditionally, rhetoric and grammar have been thought of as distinct components in the overall architecture of language. This separation was already inherent in the medieval trivium, which comprised the three disciplines grammar, logic, and rhetoric. In this article, it is argued that metaphor and metonymy, here viewed as modes of thought, have an impact on grammatical, i.e. morphosyntactic, form and structure. Four case studies are presented that provide support for this hypothesis. Specifically, it is shown that metonymies are exploited to varying degrees in different languages. In the extreme case, a metonymy that is productive in one language may be completely blocked in another language. Finally, the significance of cross-linguistic comparisons of metaphor and metonymy exploitation for language typology is emphasized.

Traditionell werden Rhetorik und Grammatik als distinkte Bereiche der Sprache angesehen. Diese Trennung ist bereits im mittelalterlichen Trivium Grammatik, Logik und Rhetorik angelegt. Im vorliegende Beitrag wird die These verfochten, dass konzeptuelle Metaphern und Metonymien, hier als Denkmodi verstanden, die grammatische Form und Struktur (Morphosyntax) von Sprachen beeinflussen können. Diese These wird mit Hilfe von vier Fallstudien empirisch gestützt. Speziell wird gezeigt, dass Metonymien in ihrer Ausnutzung von Sprache zu Sprache variieren können und dass im Extremfall eine Metonymie, die in einer Sprache produktiv ist, in einer anderen Sprache geblockt ist. Der Artikel schließt mit der These, dass der übereinzelsprachliche Vergleich von Metaphern und Metonymien für die Sprachtypologie von großem Interesse ist.

1. Introduction

One of the major achievements of the cognitive linguistics movement is that it has brought to the fore the relevance of figuration, especially metaphor, for a deeper understanding of human conceptualization. Traditionally, metaphor was regarded as a somewhat "marked", deviant, or even abnormal language use, reflected in characterizations of metaphor as "the dreamwork of language" (Davidson 1978: 31), or as a language use that flouts one of the maxims of quality (Grice 1975), viz. truthfulness, whereby the speaker is understood as inviting the hearer to find a non-literal interpretation of an utterance. In contrast, in cognitive linguistics metaphor is regarded as both a pervasive figure of speech and, even more importantly, a figure of thought, an indispensable cognitive tool for humans to make sense of their selves, and their natural and socio-cultural environment (e.g. Lakoff/Johnson 1980, 1999; Lakoff 1987). Although it is probably not true that systematic metaphorical patterns in language *always* reflect corresponding patterns of thought, the significance of metaphor as a rhetorical device – and often as a way of thinking – seems to be well- established.

Another, and perhaps even more fundamental trope than metaphor, which has seen a renaissance in cognitive linguistics, is metonymy (e.g. Barcelona 2004, 2000; Panther/Radden 1999; Panther/Thornburg 2007; Panther/Thornburg 2009; Radden/Panther 2010). Various linguistic phenomena that have been regarded as typical examples of conceptual metaphor arguably have a metonymic basis. This holds e.g. for the "orientational" metaphors HAPPY IS UP and SAD IS DOWN, postulated by Lakoff and Johnson (1980: 15-16). Thus, Barcelona (2000: 43) suggests that the conceptual link between the concepts 'down' and 'sad' is metonymic rather metaphoric: a downward bodily orientation (e.g. a drooping posture) is quite naturally interpreted as a symptom (or more generally, an index) of sadness or depression. For another alleged metaphor, KNOWING IS SEEING, Radden (2002: 422) proposes an underlying metonymy as well. Visual input is a prime source of knowledge: what is visually experienced is cognitively processed and, as a result, known. Radden (2002: 413-416) provides good reasons why the experiential basis of many so-called primary metaphors, in the sense of Grady (1997) and Lakoff and Johnson (1999), is more adequately called 'metonymic'. In the same vein, in Panther (2006: 162–165), it is argued that the "correlation" postulated by Lakoff and Johnson (1999: 54-55) between e.g. closeness and intimacy is metonymic rather than metaphoric. Imagine a situation in which an observer (conceptualizer) perceives two people sitting very close to each other. In conjunction with further clues, e.g. eye contact, holding hands, etc., the conceptualizer will most likely interpret closeness as an indication that the two persons are emotionally involved with each other. This is an example of a spontaneous inferential process of the sort schematized in Figure 5 in section 3.3.1.

There is thus good evidence for the thesis that metaphor and metonymy have conceptual and communicative functions that go beyond rhetorical flourish and poetic embellishment, even if the impact of these cognitive mechanisms on thought is perhaps overstated in conceptual metaphor theory. What is less well-established and, in fact, less-researched is the relationship between conceptual metaphor and conceptual metonymy, on the one hand, and grammatical structure, on the other. The present article is an attempt to contribute to an elucidation of this relationship.

As a starting point, it is useful to consider the subject matter of this article from the broader perspective of how cognition relates to language and other human systems (perception, action, social interaction, culture, language, bodily experience, emotion, and possibly others), as diagrammed in Figure 1.



Figure 1. Cognition and its relation to other human systems (slightly revised version of Figure 1 in Panther/Radden 2011: 2)

The perspective taken in Figure 1 is that cognition, i.e. the higher human faculties of categorizing, inferencing, etc., is fed by and feeds into "peripheral" systems, one of which is language. The focus of this article is on the interaction between indexical thinking (conceptual metonymy) and iconic thinking (conceptual metaphor) (both printed in bold in Figure 1), and language, in particular, grammar. In the present context, conceptual metaphor refers to a structural resemblance between two conceptual domains or frames; in other words, the conceptual organization of a source domain of a metaphor is, at least partially, replicated in its target domain, in the sense of Lakoff and Johnson's (1980) metaphor theory. Language is here somewhat simplistically,

but for the present purpose sufficiently, characterized as consisting of a phonological, a grammatical, and a lexical component. The grammatical component, i.e. grammatical elements and constructions, is conceived of as meaningful, in accordance with basic tenets of cognitive linguistics. Meaning encompasses both "semantic" meaning in the narrow sense, as well as pragmatic (or communicative) function.

The dots between 'grammar' and 'lexicon' in Figure 1 are meant to indicate that the boundary between grammar (morphosyntax) and the lexicon is fuzzy (for more detailed discussion, see section 2). The double-headed arrows linking language and the other systems such as emotion, action, culture, etc., to cognition symbolize possible two-way interactions between the peripheral systems and cognition, i.e., it is assumed that cognition motivates language but may in turn be impacted by the latter (see Panther/Radden 2011 for a more detailed justification of this thesis). The present article is concerned exclusively with the way indexical thinking and iconic thinking unidirectionally motivate grammar, i.e., I ignore the interesting problem of possible Whorfian or Humboldtian effects of (lexico)grammar on cognition (see Panther/Radden 2011: 8–9 for a brief discussion of this issue).

In section 2, a working definition of grammar is proposed, very much in accordance with traditional views. Section 3 presents some grammatical phenomena that are motivated by conceptual metaphor or conceptual metonymy or a combination of both. Section 4 concludes this study with some remarks on desiderata for future research.

2. Grammar: A theory-dependent concept

The claim that metaphor and metonymy may motivate grammar requires for its substantiation a sufficiently clear concept of grammar. In what follows, the notion of grammar suggested in Panther and Thornburg (2009: 5–16) is adopted, which distinguishes grammar in the broad sense from a narrower conception that views grammar as only one component among others characterizing language as a whole. Grammar in the broad sense, as conceived of by e.g. Steen (2007), encompasses all components that are needed for a full description of a language, viz. its lexicon, phonology, morphology, syntax, semantics, and pragmatics (i.e. coded pragmatic functions such as illocutionary potential, honorifics, etc.). In the context of the present article, a narrower conception of grammar is needed.

Grammar in the narrow sense is not a self-evident concept given a priori, but highly theory-dependent. In Panther and Thornburg (2009: 5–12), the architecture of some formalist (generative) models is compared with that of cognitive linguistics models. The modular organization of generative grammar implies a strict separation of formal aspects of language (morphological and syntactic structure) from their semantic interpretation. Modularity is even embraced by Jackendoff (2002), whose work, in other respects, constitutes a significant rapprochement of formalist and cognitive linguistics approaches. In cognitive linguistics the modularization of form and function/meaning is considered to be artificial. The semiotic character of language and, consequently, the inherent meaningfulness of simple and complex grammatical units (constructions) is emphasized in this approach.

In this article, I do not argue for a particular cognitive-linguistic school of thought, but assume a less theory-laden and more "down-to-earth" position, very much in line with ordinary reference grammars. A convenient starting-point is Lakoff and Johnson's (1999: 481) characterization of syntax as "the study of generalizations over the distributions of [...] syntactic elements". If 'grammar' (i.e. morphosyntax) is substituted for 'syntax', and the circularity of Lakoff and Johnson's definition of syntax in terms of "syntactic elements" is disregarded, one point made by Lakoff and Johnson is worth stressing: it is "an empirical question whether semantic and pragmatic considerations enter into [...] distributional generalizations" (482). In other words, the autonomy of grammar thesis, and its rival, the idea that grammar is conceptually and pragmatically motivated, are not axioms but hypotheses that have to be supported (or falsified) by empirical evidence.

For the purposes of this article it is sufficient to adopt the following characterization of grammar:

(1) Grammar is concerned with the distribution of certain types of meaningbearing units; among them are closed-class units, such as function words, inflectional morphemes, word classes with open (e.g. noun, verb, adjective) and restricted membership (e.g. pronouns, conjunctions, complementizers, prepositions), and complex units (morphosyntactic constructions).

The characterization in (1) does not provide a set of necessary and jointly sufficient criteria that define grammar. As pointed out in section 1 and diagrammed in Figure 1, the boundary between grammar and individual items stored in the lexicon is fuzzy. There is no doubt that inflectional morphemes on verbs (tense, aspect) and nouns (number) are prototypical grammatical items. This can also be said about the closed set of pronouns found in the English language. Word classes, such as the categories noun, verb, adjective, preposition, conjunction, determiner, etc. are also good exemplars of schematic grammatical units. Word classes have to be distinguished from their members: members of open classes are typically lexical items (content words); but the individual members of parts of speech such as prepositions, conjunctions, and determiners are usually considered to be grammatical or function words. It has to be kept in mind, however, that the often-evoked dichotomy between 'open class' and 'closed class' items conceals the fact that there is no clear numerical cut-off point between the two categories. Moreover, the distinction between abstract (= grammatical) and concrete (= lexical) meanings is also blurry; schematicity of meaning is a matter of degree – not of binary contrast. It is therefore justified to assume a continuum, or at least, gradient, between grammar and the lexicon and call this continuum lexicogrammar. Figures 2 and 3 represent this conception of lexicogrammar. The degree of shading from left (darker-shaded) to right (lighter-shaded) is supposed to reflect the continuum between 'more grammatical' and 'more lexical' units. The darker-shaded areas on the left side of the figure contain what an ordinary "working linguist" (Lakoff/Johnson 1999: 481) would most likely regard as the prototypial units of grammar.



Figure 2. Lexical-grammatical continuum

Figure 2 does not take into account word classes (noun (N), verb (V), adjective (A), preposition (P), etc.) and the phrases they head (NP, VP, AP, PP, etc.); nor are grammatical relations (subject, direct object, indirect object, predicate, adjunct, etc.), constructions (transitive, ditransitive, resultative, caused-motion

construction, etc.) integrated into this diagram. These categories are, of course, uncontroversially part of grammar. Thus, in addition to the continuum in Figure 2, one can assume another continuum ranging from schematic grammatical units (simple and complex) to simple individual lexical items, with a number of intermediate values between these two extremes (see Croft/Cruse 2004: 255 for details). This continuum is diagrammed in Figure 3. For reasons of space, only three values are labeled in Figure 3.



Figure 3. Continuum between morphosyntax and lexemes

The three values on the continuum in Figure 3 can be illustrated with the following examples:

(2) a. *NP V NP* (transitive construction: complex and schematic)

b. How to $VP_{\mbox{\scriptsize ACTION}}$ (action construction: complex and partially schematic/lexical)

c. *house* (simple & lexical)

Following and slightly modifying Panther and Thornburg's (2009: 16) approach, *grammatical metaphors/metonymies* can now be characterized as follows:

(3) Grammatical metaphors / metonymies are based on conceptual metaphors / metonymies that motivate properties of grammatical units, i.e. units that are located in the darker-shaded regions of the two continua diagrammed in Figures 2 and 3. To the extent that the boundaries between grammar and the lexicon are fuzzy, the boundaries between grammatical and lexical metaphor / metonymy will also be fuzzy.

3. Figuration motivating grammar

3.1 Preliminary remarks

To begin with, it is necessary to clarify how some of the assumptions about metaphor and metonymy assumed in this article compare to those of some other scholars, more specifically Croft (2002, 2006) and Langacker (2009). Croft claims that metaphor applies to conceptually dependent and metonymy to conceptually autonomous structures. The terms 'conceptual dependence' and 'conceptual autonomy' go back to Ronald Langacker (see e.g. Langacker 2008: 199–201). According to Langacker (2008: 200), there is a fundamental conceptual difference between things and relationships: things, e.g. physical objects such as rocks, dogs, etc., can be characterized intrinsically without recourse to other entities, whereas relationships cannot be described without explicit mention of the participants involved in the relationship. To my knowledge, Langacker does not claim that conceptually dependent and conceptually autonomous structures are the loci of metaphor and metonymy, respectively.

If Croft's (2006: 321) thesis that metonymy involves "domain highlighting of autonomous predications" were correct, the locus of metonymic operations would be restricted to grammatical categories with autonomous referents, such as nouns and noun phrases. In other words, one would expect that metonymies can only be of the *referential* type. In contrast, metaphor would be restricted to dependent predications such as verbs, prepositions, and adjectives (see Croft 2006).

On closer inspection, both constraints turn out to be problematical, if not false. There are referential metaphors such as the italicized expression in the following sentence:

(4) To see this is possible, we need to investigate *the foundations* of twodimensional semantics, and explore the many different ways in which the framework can be understood. [David Chalmers at http:// consc.net/papers/foundations.html] (my italics)

In (4), *the foundations* has a referential function and is motivated by the metaphor THEORIES ARE BUILDINGS. Vice versa, metonymies can be based on dependent predications. Suffice it to mention the ubiquitous RESULT FOR ACTION metonymy instantiated in imperatives such as (5):

(5) Know thyself.

The imperative construction, which typically serves to express directive speech acts, has as one of its felicity conditions the assumption that the hearer performs a future action. The stative verb *know* in (5) clashes with the actional sense conveyed by the imperative and is coerced into a dynamic sense, more precisely, an action sense that can be paraphrased as 'Do something to the effect so that you acquire knowledge about yourself'. Note that the German translation of this ancient Greek temple inscription is *Erkenne dich selbst*, with the action verb (*sich*) *erkennen*. The literal translation of the imperative *know*, i.e. *wisse*, cannot be used in this context.

Finally, it is necessary to point out how the terminology in this article differs from Ronald Langacker's notion *metonymic grammar* (Langacker 2009). Langacker uses the attribute 'metonymic' to refer to the indeterminacy and non-discreteness of grammar. It should have become clear from the preceding paragraphs that in the present article the concept of metonymy is not understood as a general property of grammar(s), but as a conceptual factor that, alongside metaphor, and other conceptual and pragmatic parameters has an *impact* on grammar.

Based on the conceptual apparatus elaborated, in what follows, examples are presented that illustrate the motivation of grammatical form by figurative thought. Section 3.2 briefly discusses two cases of grammatical metaphor; section 3.3 shows how metonymy may affect grammatical structure and also provides evidence that metonymies are exploited to varying degrees in different languages. In particular, it is demonstrated that a metonymy that is productive in one language may be restricted, or even blocked in another language.

3.2 Grammatical metaphor

3.2.1 Properties of metaphor

In this study, metaphor is defined in accordance with Lakoff and Johnson's (1980) conception as a set of mappings from one conceptual domain into another (see Figure 4). What has been added in Figure 4 are two additional properties that have been ignored by Lakoff and Johnson: first, that the interpretation of metaphor is, to a certain extent, dependent on the linguistic

context and the extralinguistic situation; and, second, that the use of a metaphor may trigger additional implicatures (pragmatic effects) that are not part of the metaphorical meaning proper.



Figure 4. Properties of metaphor

It should be noted that the notion of grammatical metaphor in this article is substantially different from its namesake in Systemic Functional Linguistics (e.g. Halliday 2004; for a comparison see Panther/Thornburg 2009: 13–14).

3.2.2 Grammatical metaphor

The notion of grammatical metaphor can be illustrated by comparing the conceptual structure of nouns and verbs. The word classes *N* and *V* share a number of semantic characteristics and these commonalities can be accounted for by conceptual metaphor. As examples, consider nouns such as *coffee*, *salt*, *sugar*, and *water*, and verbs and verbal expressions such as *run*, *swim*, *jog*, and *write letters*. At first blush, a mass noun like *coffee* and an activity verb like *run* do not seem to have anything in common. However, on closer inspection it turns out that there are interesting parallels in the conceptual organization of

the noun and the verb that can be described as metaphorical mappings. *Coffee* has the semantic feature SUBSTANCE, which corresponds to the lexical aspect ACTIVITY of *run*. As a substance, coffee is not defined by any particular shape or boundaries, and, analogously, *run* is neither coded for a beginning and nor for an end of the activity, i.e., it is unbounded in time. Furthermore, both substances and activities can be divided into smaller parts (at least, up to a certain point) without ceasing to be the same substance and the same activity, respectively. These observations are in line with Lakoff's (1990: 54) *Invariance Principle*: "Metaphorical mappings preserve the cognitive topology (that is, the image-schematic structure) of the source domain, in a way consistent with the inherent structure of the target domain". The metaphorical correspondences between substances and activities are diagrammed in Figure 5.



Figure 5. Grammatical metaphor ACTIVITIES ARE SUBSTANCES

One may question at this point whether the directionality of the metaphorical mappings assumed proceeds from SUBSTANCE to ACTIVITY. It might be objected that there is no directionality of mapping at all, but that there are simply correspondences between components of the SUBSTANCE domain and those of the ACTIVITY domain. However, if substances can be shown to be ontologically more basic than activities, then the unidirectional mapping approach (from more basic to less basic) becomes plausible (an issue that cannot be pursued here).

Lakoff's Invariance Principle poses a constraint on the mappings that can occur between source and target: the inherent image-schematic structure of the target domain cannot be violated – in other words, mappings from the source

domain are blocked if the conceptual structure of the target domain is not compatible with that of the source domain. One such incompatibility between source and target appears to be that substances are relatively stable across time whereas activities are usually of limited duration (see Figure 5). Consequently, the source feature STABLE ACROSS TIME does not have a corresponding attribute in the target domain of activities.

The principle that the inherent conceptual structure of the target may override that of the metaphorical source seems plausible; however, it is not always easy to determine what counts as an incompatible target domain. As a case in point, consider the polysemy of the verb *give* in ditransitive constructions:

- (6) Mary gave John a book.
- (7) Mary gave John a kiss.

In an "ordinary" transfer case, such as (6), the result of the agent's giving is the recipient's possession of the object transferred. However, in the case of the situation described in (7), the result of giving is not that the recipient "has the kiss". To this observation one can add that a precondition for an ordinary transfer of objects is that the giver has the object. In contrast, the agent who performs the action of kissing does not "have the kiss" beforehand. These facts seem to point to the conclusion that the ontological structure of the target domain may block the metaphorical correspondences. Since actions "vanish", i.e. cease to exist after they have been performed (and since they do not exist before they are carried out), the conclusion that there are no metaphorical correspondences between "having an object" and "having an action" is warranted. However, on a more abstract level, there may exist correspondences between source and target that are not subject to the principle 'target structure overrides source structure'. In the case of (6) and (7), there are analogies between the precondition that one must *have* an object before one can give it to somebody (as in (6)), and the general precondition for actions that the agent must be *capable* of doing them (as in (7)). Moreover, there is an analogy between the result of an act of giving, viz. that the recipient has the object given ((6)), and the consequence of an action, viz. that it has some *impact* or *effect* on the patient (see e.g. Panther 1997: 122; Ruiz de Mendoza Ibáñez/Mairal Usón 2007: 38). The terms 'result' for the source sense of give and 'consequence' for the target meaning have been chosen deliberately to reflect a difference in the kind of *implication* that is operative in the two domains. In the case of the source sense, the result is *entailed* (the recipient has the thing); in the case of the target sense, the consequence is pragmatically *implicated*. People assume by default that a kiss has some impact or effect on the patient, but this expectation seems to be cancellable:

(8) Mary gave John a kiss, but it didn't seem to affect him.

The analysis proposed for the two senses of *give* and the metaphorical correspondences linking them is diagrammed in Figure 6.





To summarize, at first sight, the relationship between (6) and (7) does not look like a perfect one-to-one mapping; however, the override principle need not be invoked in this case if the correspondences between source and target are viewed from a wider perspective. Obviously, in the case of (7), neither the giver nor the recipient/patient can literally "possess" an action, but from giver's perspective the ability to carry out an action is comparable to the possession of a thing – both mean that agents have control over the things they possess and the actions they are able to perform. As to the result or consequence of giving (for both the literal sense and the metaphoric sense), there is also an analogy between source and target in the sense that the recipient/patient in both domains is passive and affected by the act of giving. A final point to be elaborated is why the metaphor diagrammed in Figure 6 can be called a 'grammatical metaphor'. The difference between the source verb $give_1$ and the target verb $give_2$ is that the latter has undergone some semantic bleaching. While in (6) the type of action (transferral of a thing to a recipient) is coded in the verb form $gave_1$, in (7) $gave_2$ does not say much more than that some generic action is performed that (presumably) has some impact on the patient. In (7), the specific action performed by the agent is coded in the direct object noun phrase *a kiss*. The verb $give_2$ is thus more to the left on grammar-lexicon continum than $give_1$ (see Figure 2) and therefore can be categorized as a 'light' verb, or, at least, a 'lighter' and more grammaticalized verb than $give_1$.

3.3 Grammatical metonymy

3.3.1 Properties of metonymy

The use of the term 'metonymy' as an analytical tool for describing grammatical metonymies requires a short characterization of its properties. These properties can be read off from Figure 7.



Figure 5. Propertes of metonymy

Metonymy is an indexical or inferential relation whereby a target meaning is accessed from a source meaning (also called a 'conceptual vehicle') within the same conceptual domain or frame. As a result of the metonymic operation, the target meaning becomes conceptually more prominent than the source meaning, although the latter is always a (backgrounded) part of the overall metonymic sense. Other conceptual elements within the frame plus the linguistic context and extralinguistic situation may also facilitate the identification of the intended target (for further details and additional properties of metonymy, see e.g Panther/Thornburg 2007, and the sources cited therein).

In what follows, the impact of metonymy on grammar is illustrated with two case studies. In both studies a cross-linguistic perspective is taken, which, to my knowledge, was, for the first time, more systematically explored in a special issue of the Croatian journal *Jezikoslovlje* (edited by Panther/Thornburg 2003; for a more recent study see Brdar 2007).

A good starting point to tune into the intricacies of grammatical metoymy is an observation in Franz Boas' monumental *Handbook of American Languages*. Boas (1911: 657) (also cited in Lévi-Strauss 1962: 3) points out that in Chinook, an American-Indian language spoken along the Columbia River in the northwest of the United States, "[...] a great many adjectives and verbs are expressed by substantives". What he means by this slightly muddled statement is that in Chinook "qualities" (657) are coded as head nouns in a subject or object position, whereas in English they are mostly coded as adjectival modifiers Thus, the English sentence

(9) The bad man killed the poor child.

would be rendered in Chinook as

(10) 'The badness of the man killed the poverty of the child'.

Interestingly, as Boas notes, English has an analogous, but less systematically exploited construction instantiated by examples such as (11a,b):

(11) a. He went the whole length of the way.

b. He mastered the difficulties of the problem. (Boas 1911: 657)

Boas seems to believe (without discussing the matter further) that the Chinook sentence is just a way of expressing the idea 'The bad man killed the poor

child', i.e., in his view, the Chinook noun phrase 'the badness of the man' and 'the poverty of the child' are assumed to be referentially identical to 'the bad man' and 'the poor child', respectively. If this is true, then (9) is an instantiation of the conceptual metonymy ATTRIBUTE (of an object) FOR OBJECT. Thus, in the Chinook example the attributes BAD and POOR stand for 'bad person' and 'poor person', respectively.¹ However, a word of caution is in order here. Possibly, the transliterated Chinook sentence literally means what it says; its grammatical structure could reflect a conceptualization of the Sentence would then be that it is the 'badness' of the person, rather than the person as such, that kills the 'poverty of the child', rather than the child. However, this literal interpretation creates the new problem that what is killed is the attribute 'poverty' of the child, rather than the child as a human being. A literal interpretation of (10) seems therefore somewhat implausible.

If the Chinook data are meant to be interpreted metonymically, they constitute a excellent example of how metonymy can motivate grammatical structure. They would also provide evidence for the claim that metonymies are exploited to varying degrees in different languages. In the extreme case, a metonymy may be fully productive in one language, and blocked in another language. I now turn to two brief case studies illustrating these issues.

3.3.2 Grammatical metonymy

The first case study, which is of a more exploratory nature, considers the constructional schema *How to VP* (Panther/Thornburg 2000: 215–216), as in

(12) How to do things with words.

As illustrated in (12), in the default case, the verb phrase (VP) in this construction denotes an action. Thus, expressions such as *How to be tall* are considered impossible because (*be*) *tall* denotes a state that cannot be accomplished intentionally. However, one finds sentences with other stative predicates that are perfectly acceptable in English:

(13) How to be happy.

¹ It is not clear whether *poor* refers to 'lacking money, wealth, etc.' or to 'deserving pity'. Lévi-Strauss (1962) translates *poor child* as *pauvre enfant*, thus interpreting *poor* in the latter sense.

The only reasonable interpretation of *be happy* in (13) is an actional one: (13) could be a book title that teaches readers what to *do* so that, as a result of their actions, they find happiness. In other words, the construction *How to VP* coerces *(be) happy* into an 'action' meaning by means of the metonymy RESULTANT STATE FOR ACTION.

Another way of expressing approximately the same content as (13) is (14):

(14) How to become happy.

Sentence (14) contains the inchoative (dynamic) verb *become*. Like (13), it needs to be elaborated metonymically into an actional interpretation. The relevant metonymy for the interpretation of (14) is RESULTANT PROCESS FOR ACTION. The target meaning of both (13) and (14) is roughly 'How to achieve happines'.

An interesting question arises as to how the *How to VP* construction is *coded* in other languages than English and to investigate whether in these other languages stative equivalents like *happy* occur and are *metonymically* shifted to an actional interpretation. With this research agenda in mind, an exploratory corpus study was conducted with the help of the search engine WebCorp, the results of which are shown in Table 1.² The following expressions were searched:³

English

- (15) How to be happy. (stative coding)
- (16) How to become happy. (process coding)

German

(17) Wie man glücklich ist. (stative coding)

(18) Wie man glücklich wird. (process coding)

French

(19) Comment être heureux. (stative coding)

² WebCorp is a free online corpus made available by the Research and Development Unit for English Studies in the School of English at Birmingham City University. It uses the web as a data base (http://www.webcorp.org.uk/live/guide.jsp).

³ Note that in German (unlike English and French) it is not possible to code the content of (15) and (16) by means of an infinitival construction. Sentences (17) and (18) literally mean something like 'How one is happy' and 'How one becomes happy', respectively.

(20) Comment devenir heureux. (process coding)⁴

LANGUAGE	Stative coding		Process coding		Total
	RESULTANT		resultant		
	STATE FOR		process for		
	ACTION		action		
	N	%	N	%	N
English	295	76%	94	24%	389
German	30	32%	66	68%	96
French	178	81%	41	19%	219

Table 1. Coding and metonymy exploitation in WebCorp (December 14, 2011)

Although the relatively small data set tabulated in Table 1 does not warrant definitive conclusions, at least an interesting hypothesis emerges: stative coding in conjunction with the RESULTANT STATE FOR ACTION metonymy seems to be quite frequent in English (76%) and French (81%), whereas German prefers process coding (see (18)) and uses the metonymy RESULTANT PROCESS FOR ACTION to access the target meaning. In another study Panther and Thornburg (2000) compare the exploitation of the RESULT FOR ACTION metonymy, or more generally, the EFFECT FOR CAUSE metonymy, in English and German and conclude that the metonymy is more systematically exploited in English than in German.

The second case study presented here involves the metonymically induced shift of modal meanings to 'actuality' meanings. In its most schematic form, this high-level metonymy may be called VIRTUALITY FOR REALITY. Some languages make a very productive use of this metonymy (e.g. English and German), others, e.g. Hungarian and Spanish, restrict or even block its exploitation. In English and German, the metonymy affects modal auxiliaries (in particular, *can* and *could*), which form a small set with idiosyncratic

⁴ At the first French cognitive linguistics conference in Bordeaux (2005), where these data (collected from a Google search), and their analysis were first presented by the present author, one of the participants, a native speaker of French, pointed out that he felt that *Comment trouver le bonheur* 'How to find happiness' is a more idiomatic way of expressing 'How to be happy' than is (20). A WebCorp search of *Comment trouver le bonheur* yields 91 examples, i.e. more than twice as many as for (20). Still, (20) is fully acceptable and for methodological reasons it makes sense to compare minimal pairs like (19) and (20).

morphosyntactic properties and are thus grammatical or function words *par excellence*. The metonymy also applies to other modal expressions such as e.g. *be able to, have to, be allowed to,* testifying again to the existence of a lexicogrammatical continuum. Some of its subtypes are instantiated by metonymies such as OBLIGATION (to act) FOR ACTION, PERMISSION (to act) FOR ACTION, POTENTIALITY FOR ACTUALITY (Panther/Thornburg 1999), and ABILITY (for sense perception) FOR ACTUAL SENSE PERCEPTION (briefly, ABILITY FOR PERCEPTION). Examples of such 'actuality' metonymies are:⁵

- (21) John *could hear* his mother rummaging in the basement. (for 'John *heard* his mother rummaging in the basement')
- (22) I *can smell* the bread in the oven. (for 'I *smell* the bread in the oven')
- (23) They *had to close down* the factory. (for 'They *closed down* the factory')
- (24) Mary *was able to finish* her dissertation before the end of the year (for 'Mary *finished* her dissertation before the end of the year')

In what follows only one modal metonymy, i.e. ABILITY FOR PERCEPTION, and its manifestations in English, Hungarian, and Spanish is discussed. I begin with some data involving perception verbs in English and Hungarian (see Panther/Thornburg 1999):

(25) Can you see him?

Látod? (Keresztes 1992: 34)

see-2.SG.PRES.IND.DEF

(26) *Can* you *see* him well? Jól *látsz*?

well see-2.SG.PRES.IND.INDEF

⁵ Regarding the use of *be able to* Bhatt (2000: ch. 5) assumes that, in one of its senses, this expression has an *actuality entailment*. Thus *Yesterday, John was able to eat five apples in an hour* entails 'Yesterday, John ate five apples in an hour'. Bhatt even concludes that the term 'actuality entailment' is misleading because 'ability' is not asserted at all and thus "[t]he actuality entailment is all there is" (180). Bhatt's analysis is at odds with the assumptions advocated here in that (i) his example is a metonymy (ABILITY FOR ACTUALITY), (ii) consequently the source sense of *be able to* is still present (but backgrounded), and (iii) metonymies are like implicatures in the sense that they are defeasible (see e.g. Panther & Thornburg 2007 for discussion of these issues).

- (27) I could hear his sneering laughter ... (Panther & Thornburg 1999)
 Hallottam [...]
 hear-1.SG.PAST.IND.DEF
- (28) I am on the right streak tonight, I *can feel* it. Ma este jó úton járok, *érzem*.
 [...] feel-1.SG.PRES.IND.DEF
- (29) I *can taste* the vanilla.

Érzem a vanília ízét.

feel-1.SG.PRES.IND.DEF the vanilla taste-ACC

(30) I *can smell* the garlic.

Érzem a fokhagyma szagát.

feel-1.SG.PRES.IND.DEF the garlic smell-ACC

Examples (25)–(30) reveal that English (and presumably also German) exploits the ABILITY FOR PERCEPTION metonymy systematically whereas Hungarian blocks the use of ability modals if the 'actuality' sense is intended. This observation is in line with the general tendency in Hungarian that the use of the POTENTIALITY FOR ACTUALITY metonymy, of which ABILITY FOR PERCEPTION is a subtype, is more restricted than in English (see Panther/Thornburg 1999, 2003).

Comparing English and Spanish, Ruiz de Mendoza and Pérez-Hernandez (2003: 110) observe an analogous discrepancy in the exploitation of the metonymy ABILITY FOR PERCEPTION. They contrast the English sentences (31)–(34) with their Spanish counterparts (35)–(38) (including the cognitive verb *understand* as well):

- (31) I *can see* the Thames from my window. (for 'I see the Thames from my window')
- (32) I can hear well. (for 'I hear well')
- (33) She *could feel* the pain in her knee. (for 'She felt the pain in her knee')
- (34) I can understand what you say. (for 'I understand what you say')
- (35) Veo el Támesis desde mi ventana.

see.1.SG.PRES the.M.SG. Thames from my window

'I see the Thames from my window'

(36) *Oigo* bien.

hear.1.SG.PRES well

'I hear well'

- (37) Sentía el dolor en la rodilla.feel.3.SG.PAST the.M.SG pain.M.SG in the.FEM.SG knee.FEM.SG'She felt the pain in her knee'
- (38) *Entiendo* lo que dices.

understand.1.SG.PRES it that say.2SG.PRES

'I understand what you say'

Spanish behaves like Hungarian in blocking systematically the use of 'ability' modals in the descriptions of situations in which the perceptual event actually occurs. This tendency, which seems to amount to a near-perfect generalization, can also be seen in data from the plurilingual CLUVI parallel corpus, compiled at the University of Vigo. The following are examples from the Corpus of English-Spanish Literary Texts:⁶

- (39) a. As always, he *could smell* the smoke from many fires, and he *could see* the hazy stars and *feel* the damp of the night air so that he covered his nose from it.
 - b. Como siempre, *olía* el humo de muchos fuegos y *veía* las confusas estrellas y *sentía* la humedad del aire nocturno, así que se cubrió la nariz para preservarse de él.
- (40) a. Above, the surface of the water was an undulating mirror of brightness, and he *could see* the bottoms of the canoes sticking through through it.
 - b. Arriba, la superficie del agua brillaba como un ondulante espejo, y él *veía* los fondos de las canoas que la cortaban.

⁶ The Corpus of English-Spanish Literary Texts comprises 122, 251 words of nineteenth and twentieth century English-language texts and their translation into Spanish. The authors translated are John Steinbeck, H. G. Wells, and Edgar Allen Poe.

- (41) a. Kino *could feel* warm blood running from his forehead, and he *could hear* Juana calling him.
 - b. Kino *sintió* la sangre caliente manar de su frente, y *oyó* que Juana le llamaba.

To conclude, a strong case can be made for the thesis that the exploitation of metonymic principles varies cross-linguistically (see also Brdar/Brdar-Szabó 2009 for a recent cross-linguistic study), including the extreme case where a metonymy that is fully productive in one language is blocked in another.

4. Conclusion and outlook

It has been demonstrated in this article that metaphor and metonymy are not just rhetorical devices that lead their own lives outside the linguistic system but that they have repercussions not only on the lexicon, but also on grammar. These findings pose a problem for theories of grammar that partition language into autonomous modules, in particular a syntactic component whose rules and principles cannot make reference to semantic and pragmatic factors, let alone figurative thinking.

For the last ten years scholars have conducted some cross-linguistic research on the role of metaphor and metonymy in grammar in a large variety of languages (a recent volume dedicated to this topic is Panther/Thornburg/ Barcelona 2009). This work has yielded some interesting results, showing, among other things, that the applicability and degree of exploitation of (grammatical) metonymy and presumably also (grammatical) metaphor is language-dependent. The systematic comparison of metaphor and metonymy exploitation in different languages may also yield new insights into linguistic typololgy. However, it is clear that many open questions remain and that much work will have to be done on the motivation of grammatial structure by figurative thought, both intra- and interlinguistically.

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