Metonymy and Metaphor in Grammar

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We dedicate this volume
to the next generation of cognitive linguists

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Preface

The papers in this book continue and elaborate a research program that began with a theme session organized by two of the editors (Panther and Thornburg) at the 7th International Pragmatics Conference in Budapest (2000), which resulted in the volume *Metonymy and Pragmatic Inferencing* (2003) edited by Panther and Thornburg and published in Benjamins' Pragmatics & Beyond New Series. A related topic was pursued at the 7th International Cognitive Linguistics Conference (Santa Barbara, CA, July 22–27, 2001) in a theme session (with the same organizers) *How Universal are Conceptual Metonymies? A Cross-Linguistic Comparison*. These papers were published in a special issue with the same title in the journal *Jezikoslovlje* (4.1) in 2003, guest-edited by Panther and Thornburg. The current volume grew ultimately from a theme session *Metonymy and Metaphor in Grammar* organized by Klaus Panther, Linda Thornburg, Antonio Barcelona, and Günter Radden at the 8th International Cognitive Linguistics Conference (Logroño, Spain, July 20–25, 2003) and contains substantially revised and updated papers by participants in the theme session as well as a number of original invited papers.

We are grateful to the organizers of the 8th ICLC in Logroño for the opportunity to present our panel, to our panel participants and volume contributors, and to the discussants of the theme session, Laura Janda and George Lakoff. Special gratitude is extended to the authors of invited contributions, particularly Ronald Langacker, who supplied the lead chapter, Gary Palmer and his co-authors, Mario Brdar, Rita Brdar-Szabó, and Debra Ziegeler and Sarah Lee. We are indebted as well to Günter Radden for his editorial assistance at an early stage of this volume.

We thank Seline Benjamins, who showed interest in the project from its inception; Jan Nuyts and the co-editors of the series Human Cognitive Processing and two anonymous reviewers, who, through various drafts provided constructive criticism and encouraging feedback; Hanneke Bruintjes, Acquisition Editor, and Martine van Marsbergen and her colleagues in the Production Department, for making the final stages of the project easy for us. Finally, to the authors of *Metonymy and Metaphor in Grammar* we offer our deepest appreciation for your patience, for your commitment to the project, and for your contribution to furthering an understanding of the important role of figuration in grammar.

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May 2009

Introduction

On figuration in grammar*

Klaus-Uwe Panther and Linda L. Thornburg
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1. Introduction

Many linguists, if not most, would answer the question "What does figuration have to do with grammar?" by shaking their heads and retorting "Nothing whatsoever". Given the widespread skepticism of linguists about finding any connections between figuration and grammar, a book on metonymy and metaphor in grammar requires a sufficiently clear conception of grammar, on the one hand, and of figuration, on the other, to make a case for the interaction between the two. In the sections that follow we suggest some answers to the question of how figuration relates to grammar, focusing in particular on how figurative thought might *influence* grammar. In Section 2, we start out with a brief overview of some overarching features of cognitive linguistics, contrasting it with its main competitor, generative grammar, from and against which it historically emerged. In Section 3, we continue the discussion of generative and cognitive linguistic models focusing on how these models view the position of grammar in the overall architecture of language. In Section 4, we develop a reference frame for analyzing the relation between figuration and grammar. Sections 5 and 6 present data in support of the hypothesis that conceptual metaphor and conceptual metonymy motivate the distributional properties of grammatical elements. Section 7 characterizes the contributions to the present volume and relates them, where possible, to the framework developed in Section 4. Section 8 closes this introductory chapter with some suggestions for future research – stressing in particular the importance of figuration for the diachronic development of grammatical categories and its relevance to typological studies.

2. Cognitive linguistics

Cognitive linguistics is by no means a uniform theoretical paradigm. Some scholars even believe that the term 'cognitive linguistics' has been usurped by a group of California linguists from Berkeley and San Diego and their disciples in Europe and Asia in an

illegitimate way. This accusation can be heard, for instance, from generative linguists who claim that they are as much concerned with language and cognition as the representatives of the "California" or "West Coast" school of linguistics mentioned above. It is therefore useful and even necessary to clarify our understanding of the term 'cognitive linguistics' in this introductory chapter and to make explicit what we think are the basic tenets about the relation between language and cognition shared by the contributors to this volume.

There is certainly a sense in which otherwise quite divergent theoretical paradigms can be characterized as 'cognitive linguistic'. We use the spelling 'cognitive linguistics' with lower case *c* and a lower case *l* for this kind of theoretical orientation. In this broad sense, cognitive linguistics is a breakaway from a purely structuralist and deliberately non-psychological perspective that characterized much of synchronic 20th century linguistics in Europe and the United States up to the 1950s. Under this interpretation, Noam Chomsky is clearly a cognitive linguist. His famous review article (1959) on B. F. Skinner's book *Verbal Behavior* (1957) is often seen as the cognitivist turn in 20th century linguistics. For Chomsky, linguistic research is a tool for exploring an important aspect of the human mind (see Taylor 2002: 8). A central dichotomy in Chomsky's linguistic thinking is the distinction between competence and performance, and his tenet that the central object of inquiry of linguistics should be competence, i.e. the subconscious linguistic knowledge of native speakers, which, despite "poverty of stimuli" develops in normal children thanks to a richly structured innate language faculty.[1] As a result of the focus on competence, the role of performance in shaping grammar was considered to be a *quantité négligeable*.[2] The language faculty is metaphorized by Chomsky as a "mental organ" that functions according to its own rules and principles. In this framework, the language faculty is thus not derivable from more general human cognitive abilities. It is regarded as a module, an encapsulated mental "container" that is not shaped by other mental capacities of the human mind such as intelligence, perception, experience, or the interaction of humans with their environment.

Cognitive linguistics in the *narrow* sense, or 'Cognitive Linguistics' with a capital *C* and a capital *L*, as we are going to refer to it in order to distinguish it from 'cognitive linguistics', provides radically different answers to questions regarding the nature of the linguistic sign, the architecture of grammar, and the language faculty. Most of these answers are incompatible with the basic tenets of Chomskyan grammatical theory. The only common denominator of cognitive linguistics in the Chomskyan sense and Cognitive Linguistics is an antibehaviorist stance; i.e., both schools of thought consider language to be a *mental* phenomenon that cannot be adequately accounted for in behaviorist terms of stimulus and response patterns.

However, even Cognitive Linguistics cannot be considered as a homogeneous theoretical framework. There are several subparadigms that, on the surface, seem to coexist in peaceful harmony but, on closer inspection, turn out to be not always compatible with one another. We will not discuss such disparities among different subparadigms of Cognitive Linguistics in this section but focus on the underlying theoretical assumptions that these subparadigms share. These are briefly summarized in the following paragraphs.[3] Some important differences with regard to the overall architecture of these subparadigms are described in Section 3.

For most Cognitive Linguists human languages are *semiotic* systems in which forms are conventionally paired with meanings (including pragmatic meanings such as illocutionary potentials, generalized implicatures, etc.).[4] The semiotic character of language holds not only for individual lexemes but also for grammatical constructions, which code more or less abstract (schematic) contents and communicative functions. Constructions, or more generally, simple signs and complex signs, are not considered to be epiphenomena of universal grammatical principles, e.g. language specific instantiations of the X-bar schema (plus parameter settings) as assumed in one influential version of generative grammar; rather, they are the basic units of linguistic description and explanation (Lakoff 1987; Langacker 1987, 1991, 2000, 2008; Goldberg 1995, 2006). Constructions are organized in networks, not unlike the semantic networks formed by words (lexical fields), as known from structural linguistics. From the symbolic nature of constructions it follows that they have meaning. An important question concerning the meaning of a construction is how much of it can be compositionally derived. There is agreement among Cognitive Linguists that meanings of the parts of a construction contribute to the meaning of the whole, but the meaning of the whole is often not predictable, but holistic and idiomatic. Cognitive Linguistics also rejects the hypothesis that there exists an innate language faculty of the sort postulated by generative grammar. Rather, it is assumed that general cognitive faculties and learning mechanisms suffice to account for language acquisition (Tomasello 2003; Croft & Cruse 2004).

Another distinctive trait of Cognitive Linguistics is its emphasis on authentic linguistic data as the basis of linguistic analysis. In theory, although certainly not always in practice, Cognitive Linguists discard introspective data as unreliable, whereas the use of native speaker intuitions about well formedness is considered to be legitimate in generative linguistics.[5] In his monograph *Syntactic Structures* Chomsky (1957) dismisses the study of corpora as irrelevant for the formulation of linguistic generalizations. In contrast, Cognitive Linguists postulate that the study of language-in-use is a prerequisite to adequate linguistic accounts. Grammars should be "usage-based" (Langacker 1987: 46).[6] As a consequence, and facilitated by the availability of large electronic corpora and search tools, corpus linguistics has seen an enormous upsurge since the 1990s.

Cognitive Linguistics also differs from other cognitivist theories in the significance it attributes to (conceptual) metaphor and (more recently) to conceptual metonymy in the construction of meaning. It is now firmly established that these tropes are not merely ornamental figures of speech and writing but that they are crucially involved in human conceptualization. Metaphor and metonymy have been shown to be rooted in human bodily experience and interaction with the environment, a property that is often referred to as *embodiment*. For instance, humans use experientially grounded *image schemata* such as the 'container schema' or the 'path schema' as the basis for the creation of numerous conceptual metaphors and metonymies (see e.g. Lakoff 1987; Panther & Radden 1999; Panther & Thornburg 2003). The cognitive psychologist Ray Gibbs and his collaborators have conducted numerous experiments that strongly support the hypothesis that many metaphorical concepts are embodied (see Gibbs 1994, 2003; Gibbs & Colston 1995; Gibbs, Costa Lima, & Francozo 2004). It has also been shown that there exists culturally determined variation in the use of metaphor within the limits set by the "human condition"

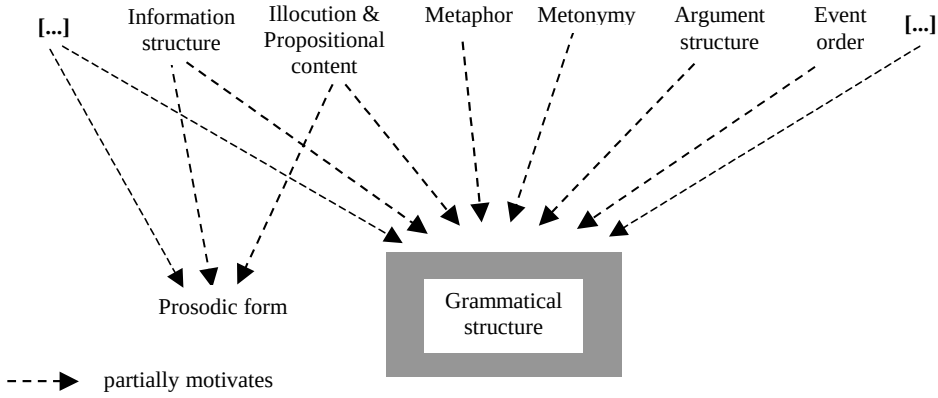

Figure 1. Conceptual-pragmatic factors influencing grammatical structure

(Kövecses 2005, 2006; see also Barcelona & Soriano 2004). The same can probably be said of the uses of high-level metonymies, some of which have been compared cross-linguistically not so much from the perspective of cultural variation as from the vantage point of grammatical differences among languages.[7]

A fairly widespread assumption in Cognitive Linguistics and functionalist theories of language that informs many of the contributions of the present volume is that grammatical patterns are *motivated*, at least partially, by conceptual and pragmatic factors.[8] In Figure 1 semantic-pragmatic phenomena are given that have been shown to have an impact on grammatical structure. For example, it seems almost a truism to point out that the subcategorization frame of verbs, adjectives, and nouns, i.e. the syntactic arguments they take, is not completely independent of their *conceptual* argument structure – even if syntactic argument structure cannot be fully predicted from conceptual argument structure. It is also clear that information structure has syntactic and prosodic effects and that the force and propositional content of illocutionary acts is, at least to a certain extent, mirrored in their syntax.[9] Work on sentence types would not make much sense if it were not assumed that there are correlations between the pragmatic function (illocutionary potential) of sentence types and their morphosyntactic properties. Another often observed case of (iconic) motivation is the correspondence between event order and the sequential order of (narrative) clauses.[10]

In contrast to the phenomena mentioned in the preceding paragraph, it is less clear that figurative thought, specifically, metonymy and metaphor, may have some impact on grammatical form. To show that this is indeed the case is one of the main purposes of the present volume. But before providing evidence for the claim that grammatical structure may be motivated by metonymy and metaphor, we must elucidate the notion of grammar itself.

3. The place of grammar in the architecture of language

What grammar is seems, at first glance, to be self-evident, but it turns out that the notion of grammar is highly theory-dependent. The term 'grammar' is often understood as referring to the overall architecture of language, as e.g. in Steen's book *Finding Metaphor in Grammar and Usage* (2007). In this broad sense, the grammar of a language consists of a set of components and the relations obtaining among them. Such components are the lexicon, the phonological, morphological, syntactic, and semantic systems, and possibly even pragmatics, as long as pragmatic meanings are lexically and grammatically coded in language (e.g. speech act functions of sentence types or politeness markers (honorifics)). In a narrow sense, which is the one that interests us here, grammar is concerned with formal (morphosyntactic) regularities of languages. We use 'grammar' in this narrow sense and, in what follows, consider its place in the overall architecture of language. For our purposes, we ignore the division between syntax and morphology (if it exists), but collectively refer to both components as *morphosyntax*.[11]

On the surface, the notion of grammar as morphosyntax seems straightforward: Grammar is concerned with the rules and principles governing the construction of words, phrases, and sentences in natural language. As will become clear however, no explication of the concept of grammar can be given that is not dependent on the theoretical framework in which it is couched.

In what follows we briefly review some linguistic models whose design features make reference to grammar and its relation to other linguistic components and, possibly, other non-linguistic mental abilities, such as perception and motor activity.[12] We restrict ourselves to the basic features of the linguistic models described. We do not consider (presumably universal) *constraints* on grammatical structure, which play an important role in the overall architecture especially of generative theories of language. Since such constraints do not seem relevant to the issue of whether and to what extent metonymy and metaphor are reflected in grammar, we feel entitled to ignore this feature of many linguistic models in the present context.

Our starting point is Noam Chomsky's classic *Aspects of the Theory of Syntax* (1965), which, in its time, was hailed as a groundbreaking theoretical achievement and strongly influenced the thinking of many linguists for at least a decade. In this work, Chomsky uses 'grammar' in the relatively broad sense as sketched in the preceding paragraph.[13] His version of generative grammar, often referred to as the *Standard Theory*, assumes that, on the sentence level, syntax assumes a mediating function between meaning and sound: syntactic deep structure is the input for semantic interpretation, syntactic surface structure provides the basis for phonological representations. Lexical insertion, which takes place on the level of deep structure, is guided by the syntactic properties of lexical items (e.g. word class, subcategorization frames, and selectional restrictions). The two syntactic levels of deep structure and surface structure are connected by formal, i.e. non-meaning bearing, transformations, which are themselves governed by a number of constraints restricting their generative power. Chomsky's position is known as the *autonomous syntax hypothesis*. This hypothesis states that syntax functions according to its own rules and principles; semantic and pragmatic information cannot figure in it; in fact, it is assumed to be irrelevant

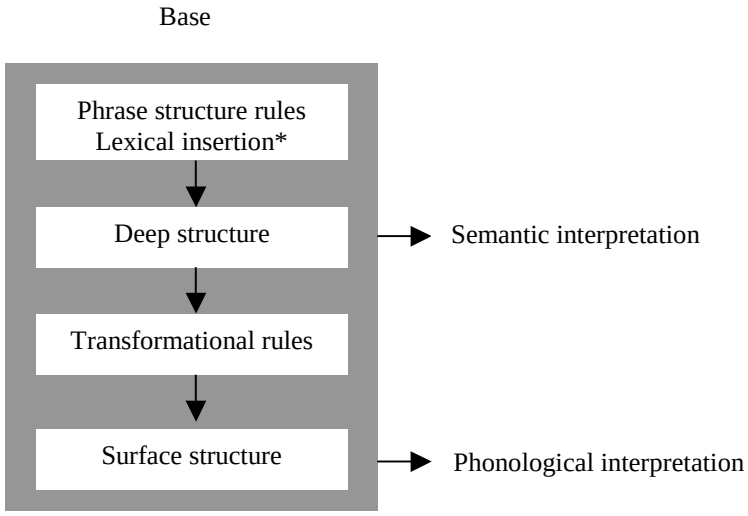

Figure 2. Standard Theory (Chomsky 1965)

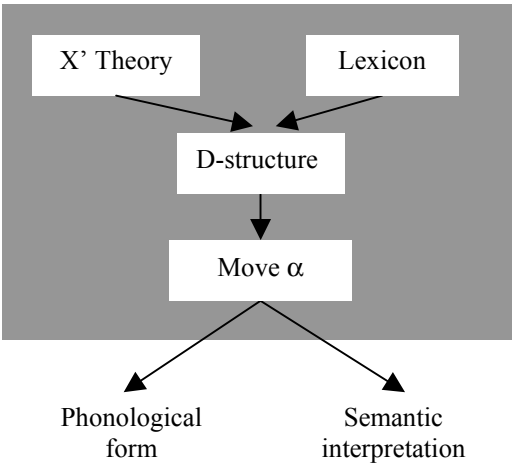

Figure 3. GB theory (adapted from Jackendoff 2002: 109)

to the formulation of syntactic generalizations. Chomsky's model is derivational in the sense that some components are fed by other components. These input-output relations are indicated in Figure 2 and the subsequent figures by means of solid arrows. In this figure, as in the ensuing diagrams, the grammatical component(s) and rule systems (in the narrow sense of 'grammar' defined above) are shaded in grey to distinguish them from non-grammatical components.

The next major innovation in generative grammar in the early 1980s was *Government-Binding Theory* (GB) (e.g. Chomsky 1981). For our purposes, it is sufficient to point

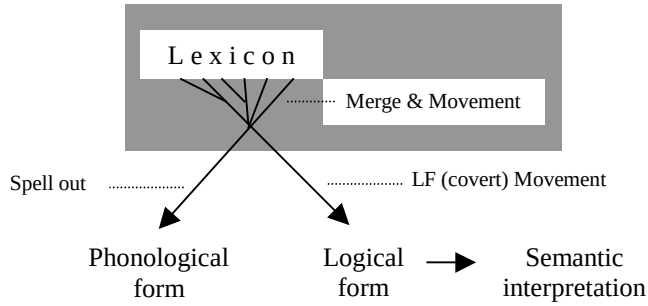

Figure 4. Minimalist Program (adapted from Jackendoff 2002: 109)

out that morphosyntax preserves its central position in the model: as in the Standard Theory, the logico-semantic and the phonological components are dependent on the autonomous syntactic component. The basic dogma, viz. the autonomy of syntax, stands as firm as ever (see Figure 3).

Finally, the *Minimalist Program* developed by Chomsky in the 1990s (see e.g. Chomsky 1995), in an effort to reduce the complexity of the GB model, also assigns a central position to syntax: syntactic structures are created through the operations of *Merge* and *Movement* and phonological form, logical form, and semantic interpretation are again dependent on syntactic structure (see Figure 4).

Among generative grammarians, Ray Jackendoff represents a minority position because he has explicitly abandoned the doctrine of the *centrality* of syntax, which characterizes all of the models diagrammed in Figures 2–4. Jackendoff (2002) regards the syntactic component, the conceptual component, and the phonological component as parallel and autonomous. This view diverges sharply from the orthodox position sketched above that logical form (and meaning) and phonology are parasitic on syntax. However, Jackendoff remains committed to the generative enterprise in assuming that syntax (alongside with phonology and semantics) is autonomous, i.e. supposedly functioning according to its own rules and principles. Phonology, syntax, and the conceptual system are interconnected via "interface rules". Furthermore, the phonological and conceptual components are linked to non-linguistic modules such as "hearing and vocalization" and "perception and action" (see Figure 5).

An interesting feature of Jackendoff's model not explicitly represented in Figure 5, is the assumption that there exist "aspects of meaning that are relevant in determining grammatical structure" (Jackendoff 2006: 353; see also Pinker 1989; and Mohanan & Wee 1999 for the same view). Despite this acknowledgment, which in generative grammar can be traced back to at least Chomsky (1985: 87), even in Jackendoff's model, syntax retains a central position.[14] While the phonological and semantic components are linked to and receive input from non-linguistic modules, syntactic rules and principles are not directly connected to cognitive capacities outside the language faculty. Finally, Jackendoff also remains true to the generative enterprise in his belief that there exists a specifically designed human language faculty.

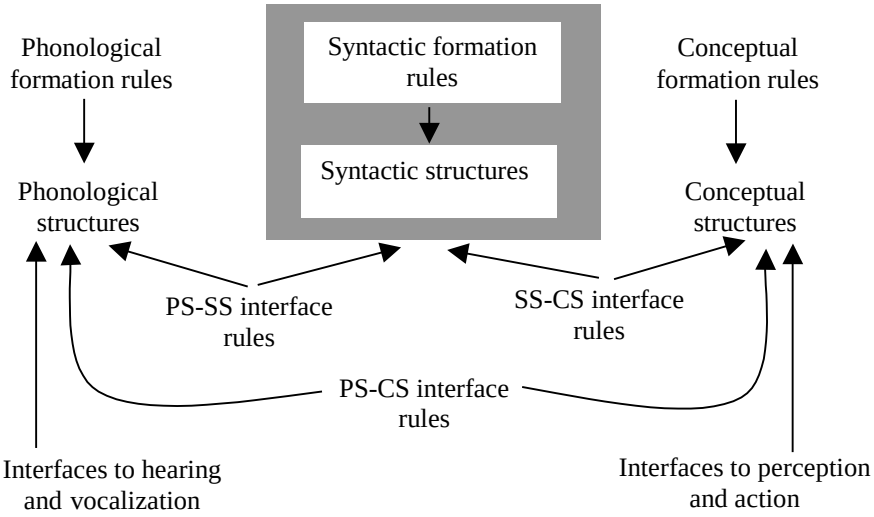

Figure 5. Jackendoff's architecture of grammar (Jackendoff 2002)

We now turn to two models that can be regarded as representative of Cognitive Linguistic thinking about the architecture of language. In what follows, we restrict ourselves to what we think are essentials, at the risk of oversimplifying the overall picture somewhat. The following diagrams are partially based on Ronald Langacker's (2005: 102) discussion of what he sees as the most important differences between *Cognitive Grammar* (in his sense) and what is usually referred to as *Construction Grammar*.

Let us first consider the architecture of Construction Grammar. We rely here on the model developed by Goldberg (1995), adding a few features that she does not discuss in great detail in her monograph but that we think are implicitly assumed to be part of this model (see Figure 6).

Construction Grammar is a non-derivational theory, i.e., linguistic expressions are not generated by a set of rules (interacting with constraining principles). We indicate this non-derivational property by means of lines connecting different components of the model, rather than arrows as in the derivational theories sketched in Figures 2–5. Most construction grammarians would probably readily embrace the view that perceptual, experiential, and motor activities (modes of interaction with the "outside" world) (at least, partially) feed into the conceptual system.[15] Clausal constructions reflect what Goldberg (1995: 5) calls "scenes basic to human experience". Construction Grammar starts from the axiom that constructions are conventional form-meaning pairs with at least one non-predictable formal and/or semantic property (see also Goldberg 2006: Ch. 1).[16] The use of the term 'conventional' in this definition of course does not imply that Construction Grammar views the relationship between form and meaning as *arbitrary* in the Saussurean sense. Rather, it remains an open question how much of grammatical structure is actually *motivated* by conceptual structure, in particular, conceptual metaphor and metonymy. In Goldberg's well-known monograph *Constructions: A Construction Grammar Approach*

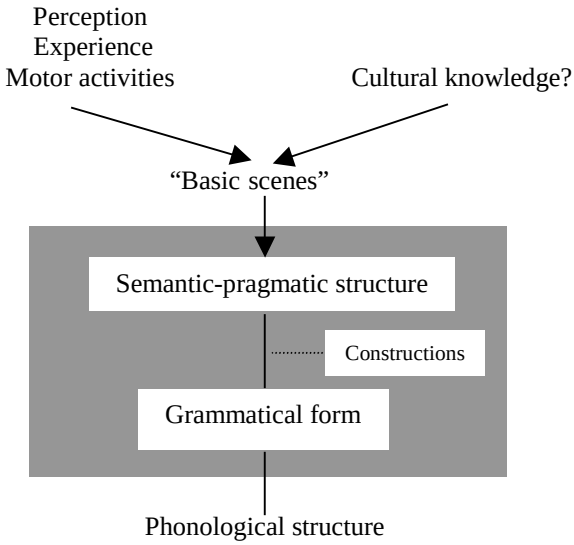

Figure 6. Architecture of Construction Grammar

to Argument Structure (1995), conceptual metaphors, alongside other principles, account for the polysemy of individual constructions such as the Resultative Construction, which is based on another construction, the Caused Motion Construction.[17] To our knowledge, Construction Grammarians do not say much, if anything, about the reflection of cultural knowledge in grammar, that is, what has been termed in other more anthropologically inspired frameworks as *ethnosyntax*.[18] Nonetheless, Construction Grammar is certainly not incompatible with the hypothesis that conceptual structure and cultural knowledge may shape the grammatical structure of languages to a certain extent.

Among Cognitive Linguists, George Lakoff stands out as one of the surprisingly few scholars who has *explicitly* argued that grammar (syntax) is, at least partially, conceptually-based (e.g. Lakoff 1987; Lakoff & Johnson 1999). In their book *Philosophy in the Flesh* Lakoff and Johnson (1999: 481) characterize syntax as "the study of generalizations over the distributions of [...] syntactic elements." With the syntactocentric and autonomous syntax view of generative grammar in mind, these authors emphasize that it is "an empirical question whether semantic and pragmatic considerations enter into [...] distributional generalizations" (482). In other words, the autonomy or non-autonomy of syntax cannot be stipulated by fiat. Note that the focus here is as much on the question of what grammatical (syntactic) constructions mean, as on how much of meaning and pragmatic function is actually reflected in the distributional properties of syntactic (i.e. formal constructional) elements. Figure 7 sketches some important features of the architecture of Lakoff's model.

Lakoff's own work provides good evidence for the impact of perception, experience, and action on conceptual and, ultimately, grammatical structure. Lakoff has also repeatedly pointed out that *sociocultural* factors may shape conceptual categorization and, derivatively, the grammar of languages. Well-known examples are his studies of the noun

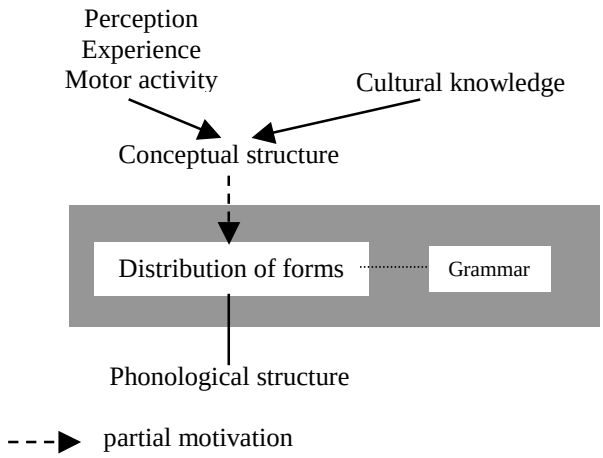

Figure 7. Lakoff's architecture of language (Lakoff & Johnson 1999)

classifier system in Dyirbal and of the Japanese noun classifier *hon* (Lakoff 1987: 92–109). Lakoff argues quite convincingly that the seemingly arbitrary class of nouns in Dyirbal, which comprises, among other things, lexemes denoting 'women', 'fire', and 'dangerous things', is conceptually motivated, and much of this motivation, one might add, must be rooted in cultural norms and views about women in Dyirbal society.

Lakoff thus has a strong bias towards conceptually motivated grammar. Ronald Langacker (2005: 103) seems to be more cautious in this respect. In his brief discussion of generative grammar and the autonymous syntax hypothesis, he distinguishes between what he calls the 'strong autonomy hypothesis' and the 'weak autonomy hypothesis'. 'Weak autonomy', in his parlance, means "that grammar cannot be fully predicted from meaning and other independent factors (e.g. communicative constraints)" (103). In contrast, the strong autonomy hypothesis implies "that grammar is distinct from both lexicon and semantics, constituting a separate level of representation whose description requires a special set of irreducible grammatical principles" (103). Langacker embraces the weak autonomy hypothesis but is strongly opposed to the strong autonomy hypothesis. Langacker's conception of grammar can be roughly diagrammed as Figure 8.

An important feature of Langacker's model is that syntax, or more generally, grammar, is not viewed as a separate level of linguistic organization, in contrast to all of the other linguistic models we have reviewed thus far, including Construction Grammar. As Langacker (2005) himself points out, Construction Grammar, including Croft's (2001) Radical Construction Grammar, *does* assume a level of grammar that is distinct from phonological form. In contrast, in Langacker's model, the semantic pole of a linguistic symbol or structured assembly of symbols is directly linked to phonological form. For Langacker, grammar, which forms a continuum with the lexicon, is by definition meaningful. It is this tenet that Langacker's Cognitive Grammar shares with other branches of Cognitive Linguistics, but Langacker is more radical than other Cognitive Linguists in denying the existence of a distinct level of morphosyntactic organization.[19]

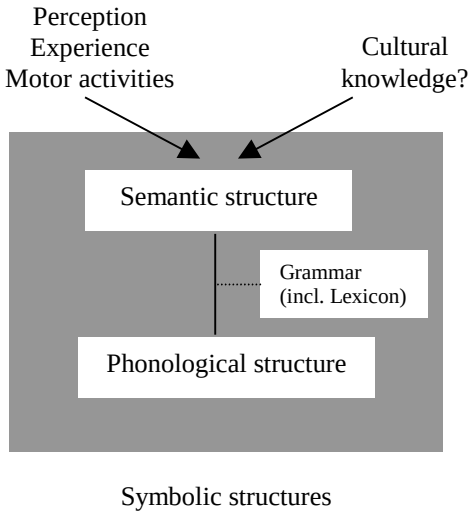

Figure 8. Architecture of Cognitive Grammar (adapted from Langacker 2005: 105)

In the lead article to the present volume, titled "Metonymic grammar", **Ronald Langacker** makes another important contribution to the debate on the nature of grammar. He challenges the prevalent view in structuralist and formal (generative) linguistics that linguistic elements are discrete and combined in well-defined ways to yield more complex structures. This presumption of discreteness and determinacy of grammar, Langacker argues, is undermined by research in Cognitive Linguistics. For example, there exist no clear boundaries between linguistic meaning and encyclopedic knowledge (two domains that are usually kept strictly apart in formalist models). Also, the ubiquity of *active zones* (as in *My cat bit your dog*, where strictly speaking it is not the cat but the cat's teeth that can bite (part of) the dog), metonymy, metaphor, and conceptual blending speak against the idea that grammar is discrete and determinate. Note that Langacker uses the term *metonymy* in a narrow sense and a broad sense here. When talking about the nature of grammar, what he has in mind is the wide sense of metonymy as a property characterizing grammar *in general*. In his contribution, he argues that grammatical relationships between two elements are not precisely determined. In other words, Langacker claims that "[e]xplicit linguistic coding gets us into the right neighborhood [...] but from there we have to find the right address by some other means" (46). A case in point is the relationship between POSSESSOR and POSSESSED in an expression such as *Mary's book*, which without further context, remains indeterminate as to what kind of relationship obtains between Mary and the book. In other words, the exact relationship between *Mary* and *book* has to be metonymically inferred.[20]

It is important to note at this juncture that we have in mind a narrower notion of metonymy than Langacker has when we talk about 'grammatical metonymy'. We view metonymy as a *conceptual* phenomenon, and ask ourselves how this phenomenon interacts with, or influences, grammatical structure. Metonymy is contrasted here with figures of thought and communication like metaphor, on the one hand, and conceptual phenomena

such as argument structure (participants and their roles), figure-ground organization, etc., on the other (see Figure 1 above).

To conclude this section, we have argued that grammar cannot be defined properly without consideration of its relations to other linguistic and cognitive components. As we have seen, even within Cognitive Linguistics there exists internal variation with regard to the position grammar occupies in the overall architecture of language and thought. Our task is thus to develop a theoretical reference frame that defines in sufficient clarity the relation of grammar to other linguistic and non-linguistic components. It is only then that we can tackle the problem of how metonymy and metaphor contribute to grammatical structure. We turn to this issue in the following section.

4. Figuration and grammar

4.1 Setting the stage

In a framework like Chomsky's Standard Theory, as sketched in Figure 2 above, Romeo's exclamation in Shakespeare's *Romeo and Juliet* (II, 2)

(1) But soft! What light through yonder window breaks?
It is the East, and Juliet is the sun!

would be judged as a piece of deviant language use. The second predicate nominal in the second line, *the sun*, selects the feature [–ANIMATE] for the subject of the clause, which clashes with the feature [+HUMAN] of the subject *Juliet*.[21] *Juliet is the sun* exemplifies a violation of a selectional restriction on lexical insertion, which can be resolved only by a pragmatic interpretation strategy.[22] On this view, metaphor, and more generally, metaphorical language is usually outside the linguistic system, i.e., it is simply ill formed. Metaphors can of course be given some interpretation, but they belong to the realm of "performance" rather than "competence". An analogous analysis would hold for standard referential metonymies such as

(2) The pen is mightier than the sword.

that violate selectional restrictions of the lexical item *mighty*.

The Chomskyan solution to the problem of figurative language is in some sense analogous to the pragmatic approach proposed in Grice's (1975) theory of rational communication.[23] In Grice's view, the figurative interpretation of e.g.

(3) You are the cream in my coffee. (Grice 1975: 53)

is based on an inference (conversational implicature) triggered by the semantic anomaly of utterance (3), which is literally false (in terms of Chomsky's Standard Theory it is a violation of a selectional restriction). The flouting of the first Maxim of Quality 'Be truthful' is the point of departure of a reasoning (inferential) process in the addressee's mind, which leads to an understanding of what the hearer believes to be the speaker's intended

meaning (see also Reimer & Camp 2006). Grice's approach to metaphor and other tropes is based on the assumption that figurative language is deviant and needs to be pragmatically adjusted to make sense. In this case, the deviance manifests itself in the fact that, literally, metaphorical and other figurative utterances often exhibit a categorial falsehood. In essence, this does not seem to be very far removed from a Chomskyan account in terms of a violation of selectional restrictions.

Neither formalist theories, such as generative grammar, nor Gricean pragmatics see any connection between grammar and figuration. But there are theories that assume such a connection, one of them being *Systemic Functional Linguistics* (SFL), which makes use of the notion of *grammatical metaphor* (Halliday 2004; Taverniers 2004, 2006).[24] To illustrate the concept of grammatical metaphor in SFL, consider the italicized expression in (4):

(4) They started a *letter writing* campaign. (Taverniers 2004: 7)

In terms of SFL, the expression *letter writing* codes a *process*. Now, SFL stipulates that the *default* coding of a process is a finite clause (e.g. *They wrote letters*). The coding of this process as in (4) involves a *transfer* from the default coding to another coding – here a nominalization. It is this transfer that is called 'grammatical metaphor'.

One might be tempted to assume that the notion of grammatical metaphor in SFL finds its analogue in Cognitive Linguistics. The nominal compound *letter writing* is also regarded as a (conceptual) metaphor in Cognitive Linguistics: it could be named ACTIVITIES ARE SUBSTANCES. Nominals prototypically denote THINGS (e.g. *pencil*) or SUBSTANCES (e.g. *powder*). The conceptual system treats the activity 'write letters' as if it were a substance and this conceptualization is reflected in the grammatical system: the activity is syntacticized as a nominal (see Figure 9).

The metaphorical mappings from the source domain SUBSTANCE into the target domain ACTIVITY are quite straightforward. Both substances and activities have no inbuilt boundaries; both are divisible into smaller parts without losing their *essential* property of being substances or activities, respectively. Smaller quantities of powder are still powder, and, analogously, the activity of letter writing does not cease to be letter writing when it is divided into smaller events (at least up to a certain point). There are thus important correspondences between substances and activities, but not all properties of substances are mapped onto activities. For example, substances are fairly stable across time, but we know from experience that activities are usually more short-lived than substances and often have an uncoded beginning and end. For a subset of attributes there is thus a *structure-preserving mapping* from the source domain SUBSTANCES into the target domain ACTIVITIES, but this mapping does not work for all attributes.[25]

On closer inspection, it becomes clear that Cognitive Linguistics and SFL do not share the same notion of grammatical metaphor, as examples (5) and (6) illustrate (from Taverniers 2006: 322):

(5) John *must* have left. (not metaphorical)

(6) *I think* John has already left (because the lights are off). (metaphorical)

In SFL sentence (6) is considered a grammatical metaphor because the modal sense "is expressed not within the clause, but through a separate expression" (Taverniers 2006: 322).

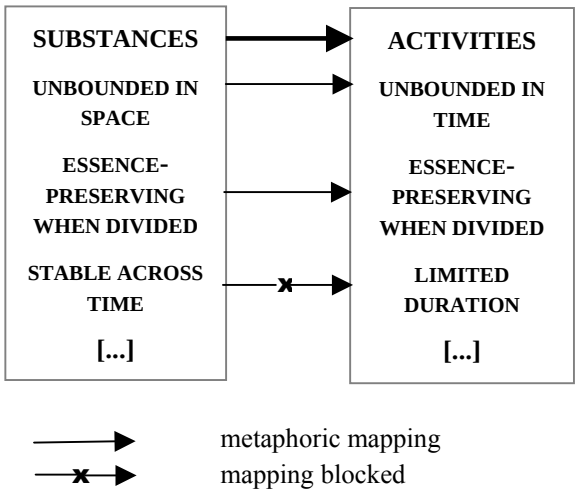

Figure 9. Grammatical metaphor: ACTIVITIES ARE SUBSTANCES

In other words, (6) is a "metaphorical" expansion of the "basic clause" (5) (Taverniers 2004:7). The grammatical metaphor here really amounts to a shift from one construction type to another construction type. In Cognitive Linguistics, metaphor involves a set of correspondences (mappings) between a source domain and a target domain. In this framework, the relation between sentences (5) and (6) would not be regarded as metaphorical. Moreover, neither (5) nor (6) in isolation exemplify cases of conceptual metaphor in the sense of Lakoff and Johnson.

Traditionally, the distribution of individual lexical items in the clause would not be considered to be part of grammar. But since Cognitive Linguists have adduced good reasons for the claim that lexicon and grammar form a continuum, it makes good sense to replace the term 'grammar' with 'lexicogrammatical system', or, *lexicogrammar*, *tout court*. If it is assumed that the lexicon and grammar form a continuum, there is no clear-cut distinction between individual lexical items, and more "grammatical" or "functional" elements such as determiners and aspectual morphemes, or parts of speech with an abstract type (class) meaning such as nouns, verbs, adjectives, etc. All of these units are meaning-bearing and are thus potentially subject to metonymic and metaphoric operations.

In what follows, we suggest a characterization of grammatical metaphor and grammatical metonymy that is inspired by, but not completely identical with, Lakoff and Johnson's conception of grammar (morphosyntax) as described in Section 3 above. We assume the following:

(7) i. Lexicogrammar is concerned with the distribution of meaning-bearing units, viz. individual open-class lexical items, function words/morphemes, and word classes (parts of speech) in constructions (and possibly in discourse).

ii. We speak of *lexicogrammatical metonymy/metaphor* if and only if the distributional properties of a meaning-bearing simple or complex linguistic sign is motivated, i.e. at least partially determined by conceptual metaphor/conceptual metonymy.

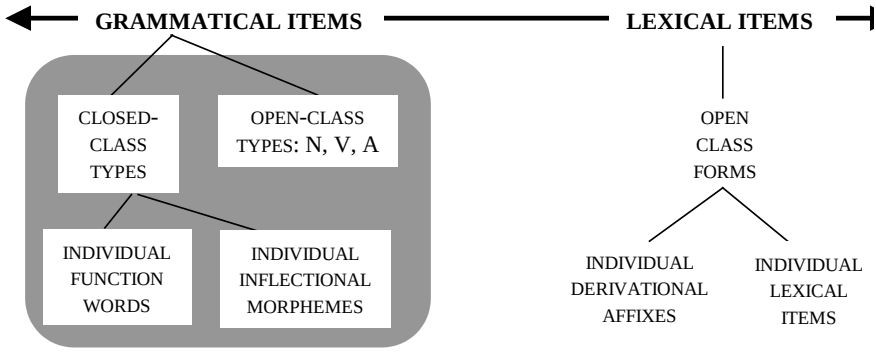

Figure 10. Lexicogrammar continuum

The notion of lexicogrammar assumed in (7i) and (7ii) allows for the possibility of some linguistic phenomena being more "grammatical" than "lexical", and vice versa. Figure 10 represents some clear cases of elementary grammatical and lexical units whose distributional properties in constructions and discourse are studied by "ordinary" grammarians.

There is nothing unusual about the content of Figure 10; it is commonplace to distinguish between e.g. open-class and closed-class forms and to assume that inflectional morphology can have important *syntactic* functions (e.g. case morphemes in highly inflected languages), in contrast to derivational morphemes, which are usually regarded as functional means to enrich the lexicon. Furthermore, parts of speech such as nouns, verbs, and adjectives are abstract types with no phonological specification; they are felt to be grammatical units rather than belonging to the lexicon. In contrast, at the other end of the spectrum, there are the individual words that make up the lexicon of a language. As long as one keeps in mind that the distinction between grammatical elements and lexical units is not binary, but gradable, it is not harmful to distinguish between grammar and lexicon.

Talmy (2001: 28) advances the interesting hypothesis that topological or topological-like concepts such as 'point', 'linear extent', 'locatedness', 'singularity', and 'plurality' tend to occur as grammatical elements. Among the non-topological notions that he has found that grammaticalize easily, are 'material', 'space', 'time', 'motion', 'medium', and 'entity currently indicated/communicating'. Other concepts seem to resist coding as grammatical elements – e.g. 'absolute/quantified magnitude (of distance, size, etc.)', 'shape/contour of line', and 'color'. If Talmy's observations are correct, they support the view that a distinction between grammar and lexicon can be made even if the boundaries between the two are fuzzy.

Before analyzing linguistic phenomena in terms of how figurative meanings interact with grammatical structure, we briefly characterize the notions of metaphor and

metonymy that underlie grammatical metaphor and grammatical metonymy conceptually (for a more detailed discussion of our approach to conceptual metaphor and metonymy, see e.g. Panther 2006, Panther & Thornburg 2007). For our purposes, it is sufficient to define conceptual metaphor as a case of *structural* similarity, i.e. a set of correspondences (mappings) between two conceptual structures (source and target). The relation between source and target can be seen as *iconic* (isomorphic): the target meaning is, mostly, conceptually organized in the same way as the source meaning, although certain correspondences may be blocked due to the inherent conceptual structure of the target meaning. An example of such an isomorphic mapping is the ACTIVITIES ARE SUBSTANCES metaphor discussed in Section 4.1 and diagrammed in Figure 9.

In contrast to (most cases of) metaphor, conceptual metonymy is characterized by exactly *one* link between source and target. The semiotic relation between metonymic source and target is *indexical*, i.e., the source meaning functions as a thought vehicle that more or less automatically evokes the target meaning. We regard the metonymic target meaning as a conceptual elaboration of the source meaning, in which the latter remains an integral part of the target meaning, but becomes backgrounded as a result of the metonymic operation. The relation between source and target meaning in both metaphor and metonymy is contingent. By 'contingent' we mean that this relation is not logically or conceptually necessary; rather it is shaped by experiential, perceptual, and motor interactions of humans with their environment, and their culture-specific beliefs and practices.[26]

On the basis of the preceding discussion, we characterize grammatical metonymy/metaphor as follows:

(8) *Grammatical metonymies/metaphors* are *conceptual metonymies/metaphors* that motivate distributional properties of function words, grammatical morphemes, and word classes (nouns, verbs, adjectives, etc.). To the extent that the boundaries between lexicon and grammar are fuzzy, the boundaries between lexical metaphor/metonymy and grammatical metaphor/metonymy will also be fuzzy.

4.2 Source or target: What motivates grammatical structure?

If a range of phenomena, albeit with fuzzy boundaries, exists that can rightfully be called 'grammatical metonymy' and 'grammatical metaphor', it remains to be determined what exactly shapes the distribution of grammatical elements. The possible factors are

(9) i. the source meaning,
ii. the target meaning,
iii. a combination of both source and target meaning

of the figure of thought in question.

Which of (9i–iii) is the crucial factor shaping the grammatical system is an empirical question in the sense of Lakoff and Johnson (1999) (see Section 3 above). As a first approximation, we formulate two working hypotheses:

(10) i. In the case of grammatical metaphor the relevant factor shaping lexicogrammatical structure is typically the *source* meaning of the metaphor.

ii. In the case of grammatical metonymy the relevant factor shaping lexicogrammatical structure is typically the *target* meaning of the metonymy.

With regard to grammatical metaphor, we thus would expect the distribution of lexicogrammatical elements to be more sensitive to the source meaning of the metaphor in question. In contrast, with regard to grammatical metonymy, we would expect the distribution of lexicogrammatical elements to be more sensitive to the target meaning of the metonymy in question. These are of course empirical hypotheses and must be systematically tested against empirical data. All we can do in this introductory chapter is to illustrate and support them with some examples in the subsequent two sections.

5. Grammatical metaphor

To illustrate hypothesis (10i), we start with a phenomenon known in many languages as the Historical or Narrative Present, which is based on the conceptual metaphor PAST IS PRESENT, i.e., events that are situated in the past are reported by a narrator as if they happen at the moment of speaking (see e.g. Brdar 2007: 47).[27] Consider the following oral narrative collected by Nessa Wolfson (1982: 98):

(11) Mom! You wouldn't believe what Mark just *did*. I *was* in my room reading and he *comes* in and *starts* telling me about Merry. I *didn't listen* so he *grabs* my book, *closes* it, *pushes* me down in my chair and when I *hit* him he *complains* that I'*m bothering* him! [italics ours]

The metaphorical structure of a clause such as *[...] so he grabs my book* in (11) can be represented as in Figure 11.

The pragmatic and sociolinguistic complexities of the Conversational Historical Present (CHP) cannot be exhaustively described by the term 'grammatical metaphor'. Ultimately, the function of grammatical metaphors and metonymies must be studied in a broader discourse context. For our purposes, it suffices to note that in ordinary conversational discourse the CHP usually alternates with the Past Tense and that the switch from one tense to the other often occurs within the same sentence (as in example (11)). The main point in the present context is that the PRESENT (source) is metaphorically mapped onto the PAST (target), and the grammatical reflex of this mapping is that the Present Tense is used where – non-metaphorically – the Past Tense would occur. From this simple observation one might infer that in grammatical metaphors the source meaning is *prominent*, i.e. leaves its mark on grammatical form. To see that this conclusion needs some modification, consider utterance (12), another example from Wolfson (1982: 30). We have enclosed the clauses in numbered brackets and italicized the relevant verb forms and time adverbials:

(12) [*This morning* he *came by* and *waved*]$_1$ and [he never *comes by* and *waves*]$_2$ but [*this morning* he *comes by* and *waves*]$_3$.

The first (narrative) clause in (12) contains only past tense forms and the time adverbial *this morning*, which here refers to a (recent) past time and functions as a temporal setting

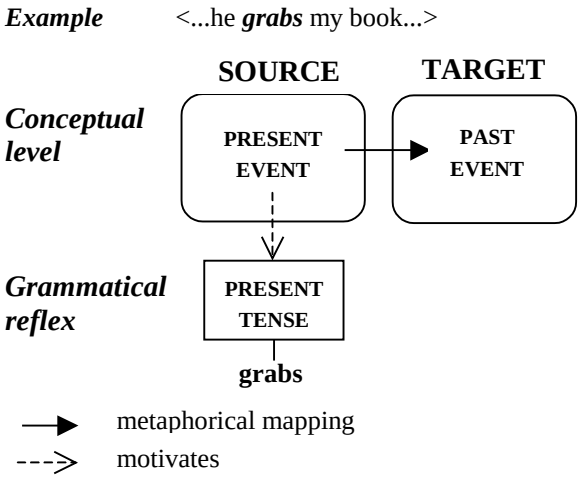

Figure 11. The grammatical metaphor PAST IS PRESENT

for the events reported. The first clause refers to two specific events in the Past Tense; in the second clause the Present Tense is used in a habitual sense; and the third clause reports two specific past events ('coming by' and 'waving') in the CHP. The third clause is especially interesting because the past time adverbial *this morning* and the CHP *co-occur* in it without creating a feeling of *contradiction* in the minds of language users.[28] The third narrative clause shows that it is possible for elements that belong to two distinct temporal frames to be used together in the same clause. The use of the Present Tense is a reflection of the source domain of the metaphor, viz. PRESENT; the time adverbial, which here is not affected by the metaphor, is a reflection of the temporal domain PAST. This situation is diagrammed in Figure 12.

However, the time adverbial itself may also be affected by the metaphor PAST IS PRESENT, as in (13):

(13) But *now* he *comes by* and *waves*.

which, we assume, is an acceptable alternative version of the third clause in (11). In sentence (13) all temporal elements (time adverb and verb forms) are consistently metaphorized. The past is consistently talked about as if it were the present. In other words, in example (13), the metaphorical source domain PRESENT determines the present tense forms of the verbs as well as the selection of a time adverbial with present time reference. We represent this state of affairs in Figure 13.

As a second set of more complex examples, let us consider instantiations of a grammatical metaphor that underlies a type of subject–predicative nominal agreement in German (cf. Köpcke, Panther, & Zubin 2008). The phenomenon is illustrated by the sentences in (14) and (15):

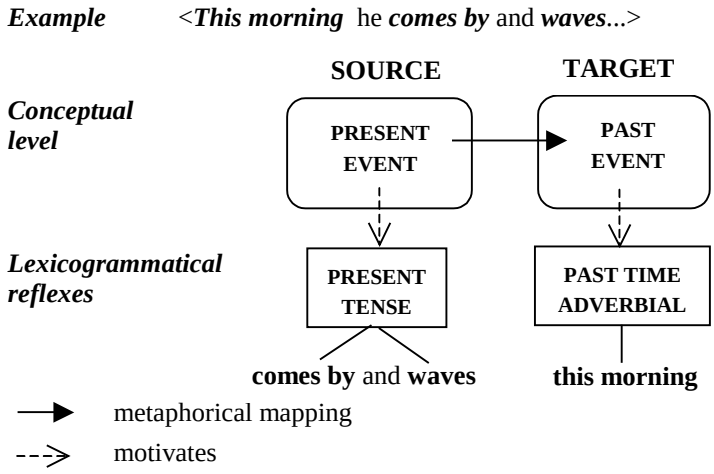

Figure 12. The metaphor PAST IS PRESENT and past time adverbial combined

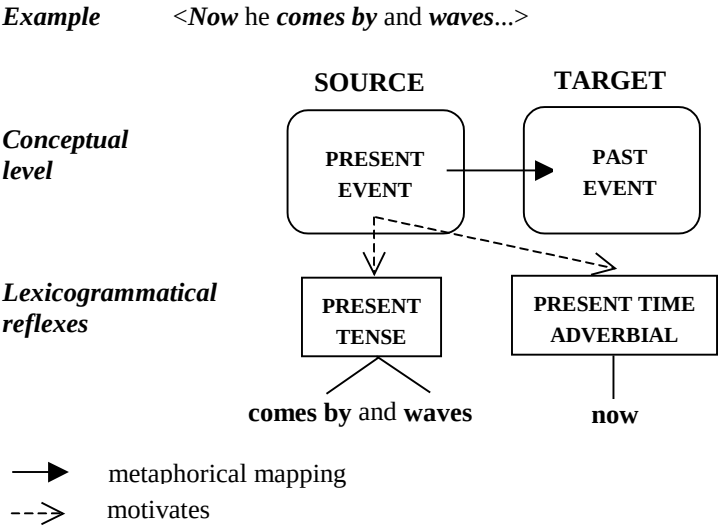

Figure 13. The metaphor PAST IS PRESENT and present time adverbial combined

(14) a. Beate ist Eigentümerin dieses Grundstücks.
Beate.FEM is owner-FEM of.this property
'Beate is the owner of this property'

b. Die Stadt ist Eigentümerin dieses Grundstücks.
the.FEM city.FEM is owner-FEM of.this property
'The city is the owner of this property'

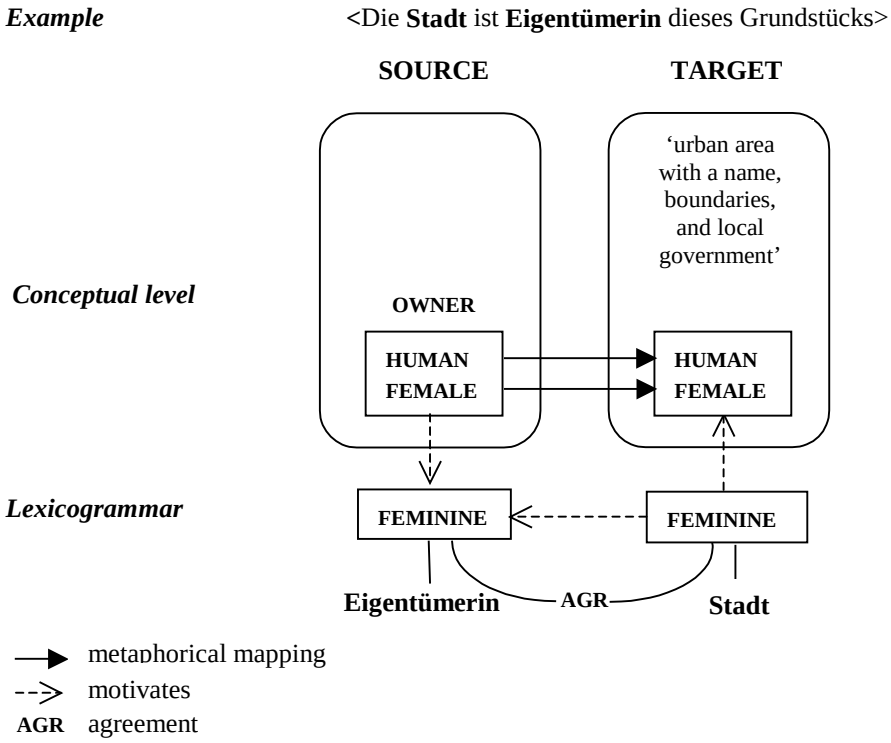

Figure 14. Metaphor and gender interaction

c. Die Stadt ist Eigentümer dieses Grundstücks.
the.FEM city.FEM is owner.MASC of.this property
'The city is the owner of this property'

(15) a. Der Landkreis ist Eigentümer dieses Grundstücks.
the.MASC county.MASC is owner.MASC of.this property
'The county is the owner of this property'

b. *Der Landkreis ist Eigentümerin dieses Grundstücks.
the.MASC county.MASC is owner.FEM of.this property
'The county is the owner of this property'

The suffix *-in* in German refers by default to FEMALES of the category (usually humans) denoted by the stem; their grammatical gender is without exception FEMININE. In (14a), there is agreement between the grammatically feminine and conceptually female noun *Beate* and the predicate nominal *Eigentümerin* 'female owner', which is also grammatically feminine and conceptually female.[29] There is nothing metaphorical about this sentence.

Sentence (14b) is constructionally parallel to (14a); its subject is *die Stadt* 'the city', the article and noun of which exhibit the grammatical feature FEMININE, but *Stadt*, by definition, has no natural gender. In (14b) the city is conceptualized *as if* it were a female human being and, accordingly, it is possible to have the grammatically feminine and conceptually female noun *Eigentümerin* in the predicate nominal position, although this is

Figure 15. Daniel Berger nach Angelika Kauffmann, *Die drei Bildenden Künste*, Kupferstich, 1786 (Source: http://www.uni-potsdam.de/u/fea/kunst/projekt3.htm)

not necessary, as can be seen from (14c), where the grammatically masculine predicate nominal *Eigentümer* 'owner' is used. Sentence (14b) exemplifies metaphorical personification that could be dubbed CITIES ARE HUMAN FEMALES. How does this metaphor come about? First, we assume that the grammatical gender FEMININE of the subject *die Stadt* "encourages", or more technically *licenses*, an interpretation of the city as female-like. This interpretation motivates the use of a predicate nominal that is itself grammatically FEMININE (grammatical agreement). The predicate nominal *Eigentümerin* is conceptually HUMAN and FEMALE and projects these features metaphorically onto the meaning CITY, thus reinforcing a conceptualization of *Stadt* as a female human being. The interesting point, which, to our knowledge has not been made yet in the literature on metaphor, is that a *grammatical property* (here: the gender feature FEMININE), which is *culturally* associated with the semantic property FEMALE, enables a metaphorical process. Figure 14 summarizes the analysis we propose.

Additional support for our analysis comes from the fact that a masculine noun such as *Landkreis* 'county, district' *requires* the masculine predicate nominal *Eigentümer* – the use of the feminine form *Eigentümerin* in (15b) is ungrammatical.

The cultural association of many feminine German nouns with the semantic property FEMALE is especially evident with abstract nouns like *Kunst* 'art', which is grammatically FEMININE:[30]

(16) Kunst ist die Vermittlerin des Unaussprechlichen.
art.FEM is the mediator-FEM of.the unspeakable
'Art is the mediator of the unspeakable'

In (16)) art is metaphorized as a woman, which results in grammatical and conceptual agreement with the predicate nominal *Vermittlerin* 'female mediator'. This conceptualization of art as a woman seems in turn to be motivated by the tradition in Western culture to represent the arts (muses) as young females. For example, the three plastic arts are often depicted allegorically as women, as in the 18th century copperplate engraving in Figure 15.

The grammatical and metaphorical structure of (16) is exactly the same as that of (14b). The feminine grammatical gender of *Kunst* 'art' combined with the traditional Western conceptualization (ART IS A YOUNG WOMAN) and pictorial representation of the arts as human females motivate the use of the grammatically FEMININE and conceptually FEMALE form *Vermittlerin* 'female mediator' in the predicate nominal position of (16), which thus agrees both grammatically and conceptually with the subject *die Kunst* 'the art'. [31]

In conclusion, the grammatical and metaphorical analysis of increasingly more complex examples seems to support our view that metaphorical processes have an impact on grammar and that the source domain plays a crucial role in structuring the grammatical properties of the target. However, as (14) and (15) have revealed, grammatical features themselves sometimes have cultural correlates, gender being a case in point, and such grammatical properties may trigger metaphorical processes, which, in turn, feed back into the grammatical system.

6. Grammatical metonymy

To prepare the stage for the discussion of grammatical metonymy it is useful to recall the notion of grammatical metaphor in Systemic Functional Linguistics (SFL) discussed in Section 4.1 above. In a recent article, Taverniers (2006: 322) contrasts utterances with a directive illocutionary force like the following:

(17) a. Could you send your proposal by email, please?
b. Please send your proposal by email.

For Taverniers (2006: 32–33) the "default encoding of a command" is the imperative, as exemplified in (17b). Sentence (17a), she says, contains additional codings, such as the address form *you* and the modal auxiliary *could*. She proposes that (17a) is a "metaphorical variant" of (17b), i.e. a grammatical metaphor.

It is clear that Taverniers' view of grammatical metaphor is very different from the conception of figurative thinking in grammar that we have thus far developed. Typically, the utterance of (17a) with the intended interpretation as a request, rather than a question, is considered an instance of a conventionalized indirect speech act with a directive force. Panther and Thornburg (e.g. 1998, 2007), inspired by Gibbs' (1994) work, have argued that indirect speech acts involve *metonymic* reasoning within frames that are called *speech act*

scenarios. The syntax of indirect speech acts is also considered in SFL; in SFL "grammatical metaphor" constitutes a relation between sentences. In contrast, we consider the impact that *cognitive mechanisms* like metaphor and metonymy bring to bear on (lexico)grammatical structure. For conventionalized indirect illocutionary acts like (17a), there is very strong evidence that the distribution of *lexicogrammatical* elements like the adverb *please*, in particular its preverbal position in conventionalized indirect speech acts like (17a) above, is dependent on the metonymic *target* meaning of the illocutionary act (what Searle 1975 calls the 'primary illocutionary act').[32] Consider example (18), a line by pop singer Chan Marshall in her song "Song to Bobby", addressed to her idol Bob Dylan.[33]

(18) Can you please be my man?

This utterance, like (17b), contains the preverbally located *please*, which pragmatically makes sense only if a target sense 'I ask you to be my man' is assumed. Moreover, the verb phrase *be my man* is literally *stative*; but directive speech acts impose the condition on their propositional content that a future *action* is predicated of the hearer. Thus, more precisely, the target sense of (18) is 'I ask you to do something to the effect so that you are my man'. This kind of target sense coercion is effected by the metonymic principle RESULT FOR ACTION.

Finally, one might wonder what the status of the modal *can* is in indirect speech acts such as (17a) and (18). It has often been suggested (e.g. Searle 1975) that the use of *can* in indirect requests is *idiomatic* – although Searle emphasizes that conventional indirect requests with *can* are *not* idioms. Others, e.g. Sadock (1972), have characterized utterances like (17a) and (18) as 'speech act idioms'. The claim that conventional indirect requests are idiomatic or even idioms is usually justified by the observation that alternatively available expressions such as *be able to* or *have the ability/possibility to* are not used conventionally to convey indirect requests. Also, different from *can*-requests, they do not freely collocate with *please*:

(19) a. *Are you *please* able to be my man?
b. *Do you *please* have the ability to be my man?
c. ?Are you able to be my man, *please*?
d. ??Do you have the ability to be my man, *please*?

In contrast to Searle and Sadock, we suggest that the use of *can (you)* as a conventional illocutionary indicator of (indirect) requestive force is motivated. Panther and Thornburg (2006) have argued that *can* is the "leftmost" member of a *manner scale* of the sort <*can*, *be able to*, *have the ability to*>. The term 'manner' is inspired by Grice's (1975) Maxim of Manner, one of the principles that guides rational conversation. A manner scale is a scale consisting of terms that are (approximately) synonymous, but differ in the kind of pragmatic effects (implicatures) they produce. The members of the scale are distinguished in terms of length (number of syllables/morphemes) and their degree of grammaticalization (or, conversely, lexicalization): *can* is the shortest and phonologically most reduced element in the scale (often pronounced [kən]), and we claim that, in this quality, it is the most likely candidate for acquiring a *grammatical* function. In fact, it has become a quasi-grammatical marker for a sentence type with a directive illocutionary potential. Moreover, as is well known, *can* belongs to a closed set of elements (modal auxiliaries)

with specific morphological characteristics. To conclude, the use of *can* (and *could*, for that matter) in conventionalized indirect directives is not an unexplainable idiosyncrasy, as Searle's and Sadock's accounts in terms of idiomaticity suggest, but a motivated lexicogrammatical reflex of the combined effects of the conceptual metonymy ABILITY (to act) FOR REQUEST (to act) and the value of *can* relative to other synonymous expressions on a manner scale.

The structure and functioning of conceptual metonymy have been explored for about ten years now (see the seminal articles by Kövecses & Radden 1998 and Radden & Kövecses 1999; see also Brdar 2007 and Panther & Thornburg 2007 on recent research), but it has not received the same attention as metaphor, even though metonymy is arguably more fundamental than metaphor (see e.g. Barcelona 2000, Radden 2002 for insightful discussion of this point).

We assume that prototypical conceptual metonymies highlight or make *prominent* the target meaning of the metonymic process while at the same time backgrounding the source meaning. Diachronically, the source meaning might eventually vanish, i.e. result in what Riemer (2002) calls a post-metonymy. With regard to grammatical metonymy, one would thus expect the target meaning to shape the distribution of at least some lexicogrammatical elements in a construction. In what follows, we discuss two sets of examples to support this hypothesis.

The impact of metonymy on grammar has been demonstrated convincingly by a number of researchers: a nonexhaustive list includes Barcelona (2003, 2004, 2005, in press), Ruiz de Mendoza Ibáñez and Pérez Hernández (2001), Ruiz de Mendoza Ibáñez and Mairal (2007), Ziegeler (2007), and Brdar (2007), whose monograph contains case studies from various grammatical domains and an excellent bibliography for further reference. In what follows, we present two additional sets of data that, in addition to the already accumulated evidence, provide further support for the impact of metonymy on grammar.

Grammatical metonymy is ubiquitous in cases that involve the interaction of constructions and the aspectual meanings of verbs used in them. As an illustrative case consider the following text from an American newspaper:[34]

(20) Democrat Otis Hensley [...] promised to *find* a way to get legislators not to tie up coal severance tax dollars [...].

Sentence (20) contains what can be called an *Action Construction* (Panther & Thornburg 2000, 2007). The verb *promise* conceptually requires a propositional content that is subsequent in time to the time of promising, viz. an action to be performed by the promiser. As is well known, one way of coding the propositional argument of *promise* is an infinitive clause with an understood subject referent, as exemplified in (20). Given the conceptual constraint that the propositional argument of verbs such as *promise*, *pledge*, *request*, *order*, *advise*, *persuade*, *convince*, etc., involves a future action, one would expect that only verbs denoting actions be used in the infinitive clause. The use of the verb *find*, which has the basic sense 'discover or perceive by chance or unexpectedly', seems to falsify this prediction.[35] One usually encounters *find* in constructions like the following:

(21) Mary found a ten-dollar bill in the gutter.

Vendler (1957: 147) calls punctual verbs of the *find* class *achievement terms*, and distinguishes them from *states*, *activities*, and *accomplishments* (146). Accomplishments are often (though not necessarily), goal-directed *actions*, and *find* in (20), in contrast to *find* in (21), denotes an accomplishment rather than an achievement. The difference between the two verb senses, the achievement sense ($find_1$) and the accomplishment sense ($find_2$), can be illustrated in more detail by the following (made-up) utterances:

(22) a. When/at what time did Mary $find_1$ (by chance) the ten-dollar bill? (achievement)
b. Mary $found_1$ the ten-dollar bill (by chance) *at two o'clock*. (achievement)

(23) a. How long did it take Otis Hensley to $find_2$ a way to get legislators not to tie up coal severance tax dollars? (accomplishment)
b. Otis Hensley $found_2$ a way to get legislators not to tie up coal severance tax dollars *in ten days*. (accomplishment)

In (22a, b) the interrogative expressions and the time adverbial refer to a time point; if the speaker had used an expression such as *how long did it take* or *in five hours*, respectively, the notions of action and intentionality would have been conveyed, i.e., *find* would have an accomplishment sense. In (23a, b), the meaning conveyed in the two utterances is clearly that of an accomplishment. It is not impossible to use *When/at what time did Otis Hensley find a way [...]* or *Otis Hensley found a way [...] at two o'clock [...]*, but such a change in the wording would result in the interpretation that the politician happened to come across a solution by chance, not by thoughtful planning. Thus (23a, b) invite the inference that a time period of goal-directed activity leads to the culmination point of 'finding'.

We are now in a position to describe how the senses of $find_1$ and $find_2$ are related. First, the previous discussion has revealed that the achievement sense of *find* is a conceptual part of its accomplishment sense. The accomplishment meaning of $find_2$ can be paraphrased informally as 'look for/seek (intentionally) x with the envisaged goal/result of finding x'. Second, we observe that the sense of $find_2$ is a metonymic elaboration of the sense of $find_1$, and it is this elaborated sense that becomes prominent in sentences like (20). Whereas 'looking for something' is a goal-directed (telic) activity that does not necessarily lead to a successful result, when the activity does lead to a result, as in the case of $find_2$, it becomes an accomplishment. The metonymy involved can be called RESULTANT ACHIEVEMENT FOR ACCOMPLISHMENT, which is a subtype of the RESULT FOR ACTION metonymy. Finally, the Action Construction exemplified in (20) *coerces* the meaning of $find_1$ into adopting the meaning of $find_2$. We diagram this analysis in Figure 16, representing the conceptual structure of the source and target meanings by means of semantic tree diagrams (of the sort found in Tenny & Pustejovsky 2000).

The lexicogrammatical repercussions of the RESULTANT ACHIEVEMENT FOR ACCOMPLISHMENT metonymy are further illustrated with the following sentences, which again demonstrate the differing distributional properties of $find_1$ and $find_2$:

(24) a. How to find a solution to the problem. (accomplishment)
b. ?How to find a ten-dollar bill by chance. (achievement)

(25) a. Find a solution to the problem! (accomplishment)
b. *Find a ten-dollar bill by chance! (achievement)

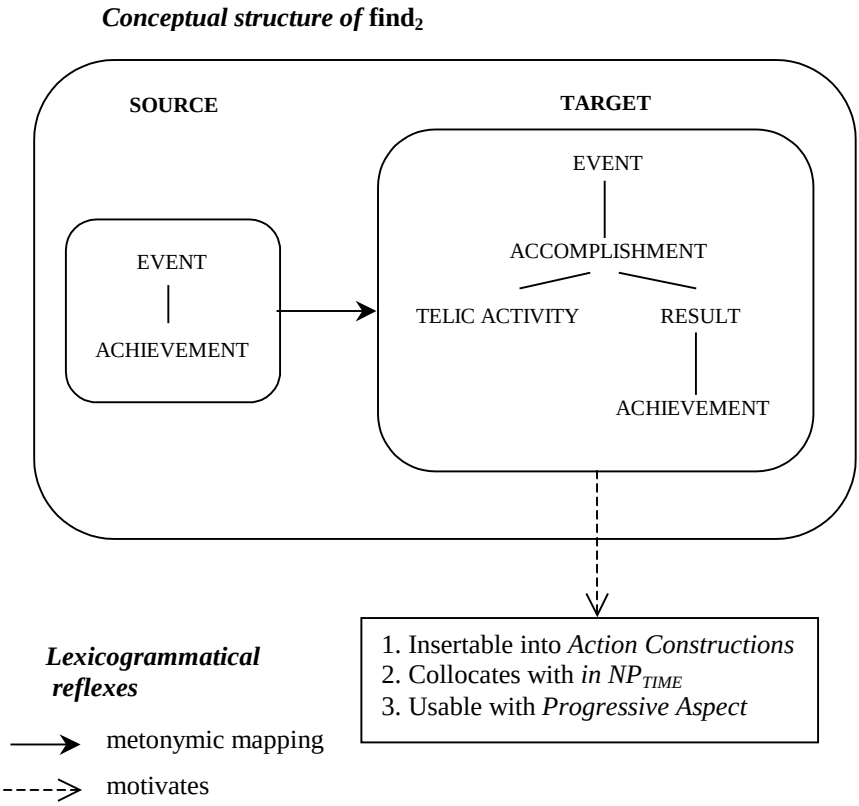

Figure 16. Metonymic coercion from RESULTANT ACHIEVEMENT to ACCOMPLISHMENT

(26) a. Jane was (in the process of) finding a solution to the problem. (accomplishment)
b. ?Mary was finding a ten-dollar bill by accident. (achievement)

Sentences (24a) and (25a) are examples of Action Constructions, which enforce an interpretation of *find* as an accomplishment. In contrast, (24b) and (25b) are not acceptable because *find* can only be understood as a punctual (accidental) achievement; the sentences denote unintended happenings and are thus barred from Action Constructions. Sentences (26a) and (26b) are especially interesting; they demonstrate the interaction of grammatical aspect, here the progressive, with lexical aspect. Example (26a) strongly suggests that Jane was *looking for* a solution and ultimately *found* it. Example (26b) is normally not considered acceptable because it does not express a durative situation and it cannot be given an iterative interpretation like e.g. the semelfactive *flash*.[36]

As a second set of examples of grammatical metonymy we briefly discuss an English construction with verbs of perception.[37] Some examples illustrating the construction at issue are given in (27)–(31):[38]

(27) You look tired. (You should go to bed.)

(28) Her voice sounded very young.

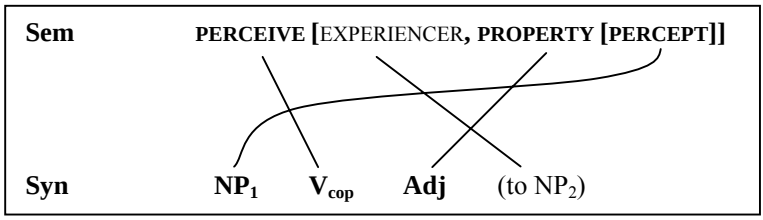

Figure 17. The syntax and semantics of the Percept Subject Construction

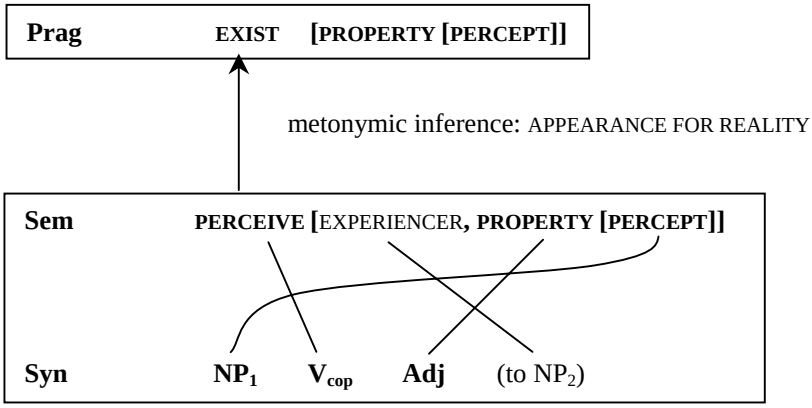

Figure 18. The syntax, semantics, and pragmatics of the Percept Subject Construction

(29) The liver tasted awful ...

(30) The stew smelled delicious.

(31) Her hands felt rough.

The syntactic and semantic properties of this construction can be characterized as follows:

(32) i. The subject (figure, trajector) is a PERCEPT (perceived entity), i.e. the object, person, scene, etc. of perception.
ii. The EXPERIENCER (or PERCEIVER) is backgrounded, i.e. optionally expressed as a prepositional phrase of the form *to NP*.
iii. The PROPERTY of the PERCEPT is expressed by a predicative adjective.
iv. The (copular) verb of PERCEPTION has a passive experiential meaning, which is roughly paraphrasable as 'is perceived as'.

The syntactic and semantic characteristics of the construction (henceforth: *Percept Subject Construction*) are diagrammed in Figure 17, in which the foregrounded elements are in bold and the lines link conceptual elements to corresponding syntactic constituents.

An interesting additional feature of the Percept Subject Construction is the *pragmatic* implication it conveys that the property denoted by the predicative adjective *exists*. This slight meaning shift from perception to reality often goes unnoticed, but there is clearly

a difference between merely perceiving a property and assuming its reality. For example, when a person *looks* tired, it is quite natural to infer that the person in question *is* tired. The pragmatic implication that the sense impression corresponds to something "real" is especially strong with visual impressions, as expressed by the verb *look*. The association between "appearance" and "reality" is perhaps less tight in the case of the olfactory and the gustatory sense impressions, but it is still possible to infer from e.g. (28) that the liver *is* awful. In Figure 18 the metonymic inference that leads from perception to the assumption that the properties of the world *are* like they are perceived is named APPEARANCE FOR REALITY.

The next step in the analysis of examples like (27)–(31) is to determine whether the metonymic inference from appearance to reality has any grammatical reflexes. The answer is "yes", although these grammatical effects are not manifest in the same clause in which the metonymic inference operates, but show up in the subsequent clause. To see this consider (33)–(35):

(33) The police officer *looked puzzled* and so *was* I for that matter because I considered our food preparation to be trouble enough. [Google search, March 3, 2005]

(34) The American girl *looked puzzled*, and so *was* Minwoo and Cristel. [Google search, March 3, 2005]

(35) Hwanhee *looked puzzled* and so *was* everyone else. [Google search, March 3, 2005]

In the above examples the morphosyntactic reflex of the metonymy 'looked puzzled' for 'was puzzled' manifests itself in the anaphoric continuation *and so was NP*, which resumes the verb phrase in the preceding clause. We contend that the first clauses in (33)–(35) already convey the metonymic implications that the respective referent of NP_1 – viz. *the*

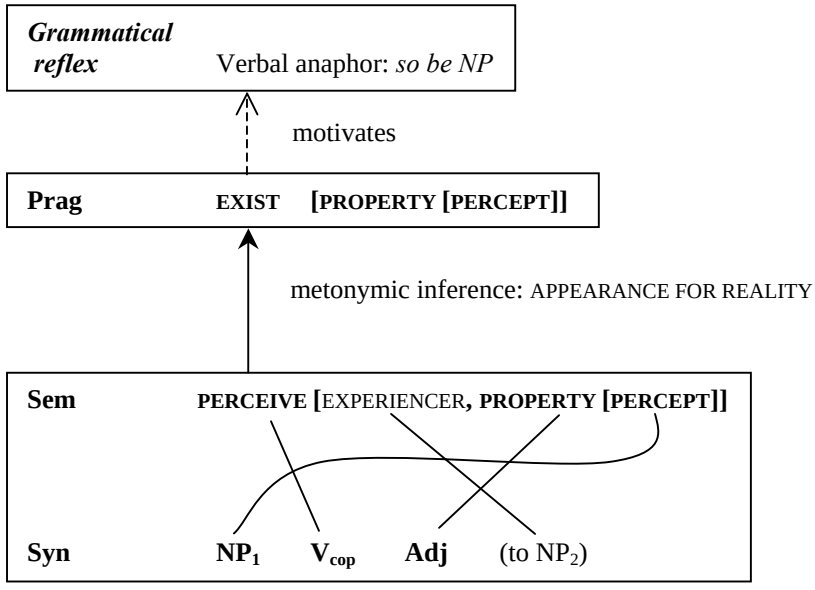

Figure 19. Grammatical reflections of the metonymic inference APPEARANCE FOR REALITY

police officer in (33), *the American girl* in (34), and *Hwanhee* in (35) – *was* puzzled, and the verb phrase anaphor *and so was X* agrees with this metonymic target. In other words, in these examples *look* (APPEARANCE) is anaphorically resumed by *was* (REALITY), and the discourse develops on the basis of this target meaning.

Utterance (36) provides an example of an inference from the domain of sound to the ontological domain of reality:

(36) You *sound angry* about your friend's response. *Is* that so? You won't believe what she said and did to me. I'll never be her friend again! [Google search, October 8, 2007]

The speaker here draws a more tentative metonymic inference than in sentences (33)–(35) from the source meaning 'sounding angry' to the target sense 'being angry'. The overt indicator that supports this interpretation is the subsequent question *Is that so?*, by means of which the speaker seeks confirmation that his/her inference is correct.

Figure 19 summarizes the properties of the Subject Percept Construction we have identified: (i) the syntax and the "literal" meaning of the construction, (ii) the default metonymic inference from APPEARANCE to REALITY, and (iii) the grammatical reflex of the metonymic target meaning, which manifests itself as a subsequent verb phrase anaphor.

As a final point, we add one more observation about the conceptual metonymy APPEARANCE FOR REALITY. As mentioned above, there is a tight connection in the mind of speakers between what they perceive and what they automatically believe to be the case in the real world. One might therefore be tempted to consider the metonymic relation to be based on an entailment relation, i.e. a conceptually necessary connection between two concepts. However, the relation between source meaning and target meaning is defeasible, and is, in fact, sometimes overtly canceled by language users. To see this, consider the following utterance found on the Internet:

(37) I *look* damn angry, but I'*m* really not. [Google search, March 15, 2005]

The speaker explicitly denies the validity of the default inference that s/he *is* angry and, despite the tight connection between appearance and reality, (36) is not at all felt to be a contradictory statement.

7. The contributions to this volume

The contributions to the present volume cover a variety of linguistic phenomena that exhibit interactions between metonymy and metaphor and lexicogrammatical structure. We have organized the contributions into five parts, largely on the basis of the kinds of lexicogrammatical phenomena investigated by the authors. Languages and language varieties analyzed in some depth include: Aghul (East Caucasian), Brazilian Portuguese, Croatian, English, Singaporean and Malaysian English, French, German, Hungarian, Russian, Spanish, Tagalog, and Udi (East Caucasian). In the subsequent sections, we provide brief summaries of the content of the contributions.

7.1 Part 1: Word class meaning and word formation

The three contributions in Part 1 are dedicated to grammatically relevant metaphoric and metonymic operations on the word level. Wiltrud Mihatsch considers the empirical evidence for postulating a metaphorically based THING schema for nouns. Margarida Basilio discusses the metonymically motivated sense extensions of agent suffixes in Brazilian Portuguese, and Gary Palmer, Russell S. Rader, and Art D. Clarito provide an in-depth analysis of the Tagalog prefix *ka-*, which functions as a "metonymic operator".

In her chapter "Nouns are THINGS: Evidence for a grammatical metaphor?" **Wiltrud Mihatsch** takes up the age-old question whether parts of speech, here nouns, have a conceptual basis. Her point of departure is Ronald Langacker's postulate that nouns exhibit a THING schema that is metaphorically derived from the concept PHYSICAL OBJECT. Mihatsch discusses morphological, typological, semantic, and psycholinguistic properties that distinguish nouns from other parts of speech, as well as paths of lexical change that provide evidence for the THING schema. She also shows that nouns derived morphologically from other parts of speech are not semantically equivalent to their bases, but acquire lexicogrammatical and conceptual properties of nouns as a result of the nominalization process. This observation is in line with the hypothesis (10i) outlined in Section 4.2. that the source meaning of (grammatical) metaphors has an impact on the grammatical (distributional) properties of their targets. Thus, for example, in a verb-based nominal, the THING schema metaphorizes a PROCESS as a PHYSICAL OBJECT-like entity. Finally, Mihatsch analyzes overt manifestations of the noun schema, i.e. the use of lexemes such as *thing* as placeholders. Although the grammaticalization paths of these placeholder nouns do not reveal any metaphorical extensions from the concept PHYSICAL OBJECT, the synchronic properties of these nouns point to a metaphorical noun schema THING.

Margarida Basilio, in her chapter "The role of metonymy in word formation: Brazilian Portuguese agent noun constructions", investigates the workings of conceptual metonymy in the creation of polysemy. Basilio's aim is to show that metonymy is fundamental to the functioning of the lexicon as a dynamic storage system of symbolic forms. The author demonstrates that agent nouns in Portuguese are interpreted on the basis of metonymic models.[39] Agent nouns in this language include formations in *-dor* (e.g. *governador* 'governor'), *-nte* (e.g. *estudante* 'student'), *-eiro* (*porteiro* 'doorman'), and *-ista* (e.g. *neurologista* 'neurologist'). These suffixes are polysemous, i.e., they form families of metonymically related meanings. The term 'agent noun' of course does not cover the full range of meanings of these nouns, but it is motivated to the extent that e.g. the use of *-dor* for INSTRUMENT nouns (as in e.g. *refrigerador* 'refrigerator') is metonymically derivable from the source meaning AGENT (see Panther & Thornburg 2001, 2002 on *-er* nouns in English). The derived INSTRUMENT sense is conceptually *prominent*, but the source meaning AGENT is still a (backgrounded) part of the foregrounded instrumental reading; thus the distributional properties of such metonymically derived *-dor* nouns would be expected to follow from their metonymically derived meaning (Hypothesis (10ii) in Section 4.2).

The closing paper of this part is **Gary Palmer**, **Russell S. Rader**, and **Art D. Clarito's** contribution "The metonymic basis of a 'semantic partial': Tagalog lexical constructions with *ka-*". The authors' analysis of constructional polysemy manifested by Tagalog *ka-*

and its variants finds that *ka-* is a metonymic operator. It evokes and marks what the authors term a 'semantic partial', which they define as "the conventionalized profiling of an element that is selected or abstracted from the conceptual base evoked by a linguistic root or stem". Subsumed by the PARTIAL schema are the categories of INDIVIDUATION and ABSTRACT QUALITY. When the analysis of *ka-* as a semantic partial is applied to complex constructions, it reveals motivations missed by other approaches. Their findings are compared to Panther and Thornburg's (2001, 2002) analysis of metonymy in the English nominalizer *-er*.

7.2 Part 2: Case and aspect

The papers of this section are dedicated to two kinds of core grammatical phenomena – case and aspect. Wolfgang Schulze offers a new approach to the analysis of case in East Caucasian languages, arguing that it has a metaphorical basis. Klaus-Uwe Panther and Linda L. Thornburg analyze conceptual conflicts between grammatical aspect and lexical aspect in French, their resolution through coercion (semantic shift), and their translation equivalents in English.

The first paper in this section is **Wolfgang Schulze's** "A new model of metaphorization: Case semantics in East Caucasian". This contribution takes the case systems of two East Caucasian languages (Aghul and Udi) as a point of departure for elaborating a model of metaphorization that is embedded in the framework of Cognitive Typology. Based on the assumption that metaphorization represents a procedural continuum including both metonymic and metaphorical output types, Schulze argues that this continuum can be modeled in terms of a 'Mirror Hypothesis'. According to this hypothesis, metaphorization represents an entrenched cognitive routine that is characterized by fractal-like processes of inflation in language production as well as by deflation processes in comprehension. The Mirror Hypothesis itself makes strong reference to Neurocognitive Linguistics without, however, abandoning the camp of Analytical Cognitive Linguistics.

In their chapter "Aspect and metonymy in the French *passé simple*", **Klaus-Uwe Panther** and **Linda L. Thornburg** discuss a case of semantic conflict resolution between two linguistic units. One possibility of resolving such a conflict is to *shift* or *coerce* the conceptual content of one unit so that it becomes conceptually compatible with the other unit. Panther and Thornburg argue that the availability and activation of high-level metonymies facilitate the resolution of semantic conflicts. The focus of their chapter is on cases in which the grammatical aspect marking of a verb (here: the *passé simple*, a perfective aspect in French) conflicts with the aspectual meaning (*aktionsart*) of the verb itself. The conflicting grammatical-aspectual and lexical-aspectual meanings can be avoided either (i) by selecting the "right verb", or (ii) by shifting the meaning of the verb metonymically so as to accord with its grammatical-aspectual meaning. Relying on various parallel French-English corpora, Panther and Thornburg explore how these two languages differ as to which of the two coding strategies they tend to use with regard to the construction of aspectual meaning. The results of such an investigation shed light on conceptual metonymy as a typologically relevant parameter.

7.3 Part 3: Proper names and noun phrases

The chapters of Part 3 are mostly concerned with the metonymic interpretation of proper names and noun phrases. Günter Radden develops an account of generic reference in English in terms of metonymy and conceptual blending theory. Mario Brdar and Rita Brdar-Szabó consider metonymic uses of place names in four languages. Mario Brdar argues in his contribution that there are metonymies "we live without" and, like the preceding chapter, focuses on cross-linguistic differences in the exploitation of metonymies.

Günter Radden's contribution "Generic reference in English: A metonymic and conceptual blending analysis" argues that generic reference in English is conceptually motivated by way of the metonymies INSTANCE FOR TYPE, TYPE FOR SUBTYPE, and the conceptual blending of instance and type. These conceptual processes motivate the particular uses of four types of generic reference in English. Radden's contribution supports Hypothesis (10ii) proposed in Section 4.2 and exemplified in Section 6 above that metonymic *target* meanings have an impact on the distribution of lexicogrammatical elements. As has often been observed, the choice of tenses and aspects in generic statements is limited. Thus, in a sentence such as *The tiger had been hunting by night*, the noun phrase *the tiger* is a definite description that refers to a specific tiger; the sentence cannot receive a TYPE interpretation, a restriction that follows straightforwardly from the fact that the progressive past perfect blocks *the tiger* from being interpreted generically.

Mario Brdar and **Rita Brdar-Szabó's** contribution "The (non-)metonymic use of place names in English, German, Hungarian, and Croatian" investigates the function of metonymy from a cross-linguistic and typological perspective. The authors begin with the observation that much recent research seems to indicate that referential metonymies are relatively unconstrained. However, in their corpus-based study on metonymically used place names, in particular the CAPITAL FOR GOVERNMENT metonymy in the language of the media, Brdar and Brdar-Szabó find that, while this type of metonymy is ubiquitous in English and German, it seems much less frequently used in Hungarian and Croatian. The constraints appear to be due to cognitive, discourse-pragmatic, and cultural factors. A detailed analysis reveals that some of the contrasts can be attributed to the fact that English and German metonymically-used locative NPs that function as subjects often find their counterparts in Hungarian and Croatian in prepositional phrases, or in attributively used adjectives. Brdar and Brdar-Szabó claim that such phrases, which maintain topic-continuity, are also full-blown referential metonymies. Their paper points to the importance of considering not only how metonymy influences grammar, but also how a language's typological properties may influence the syntactic form and function of a metonymic vehicle.

In his contribution "Metonymies we live without", **Mario Brdar** starts from the assumption that one of the central properties of metonymy is the contingence of the relationship between the metonymic source and its target. One of the less obvious corollaries of this claim is that metonymy can in general be dispensed with in language: the intended or targeted meaning can always be expressed by some alternative means and not necessarily by means of a metonymic source. In one case study Brdar discusses metonymic extensions from nouns denoting countable entities to a mass/substance sense. A second case study on

the metonymic interpretation of manner-of-speaking predicate adjectives concerns itself with clausal grammar, paving the way to the papers in Part 4 of this volume. Brdar's chapter focuses on metonymy avoiding and metonymy marking strategies, which, according to him, are used to different degrees in languages such as English, German, Hungarian, Croatian, and Spanish in order to restrict the proliferation of metonymy-induced polysemy. Brdar attempts to correlate these strategies with the grammatical features of these languages, showing that the relation between metonymy and grammar is bidirectional.

7.4 Part 4: Predicate and clause constructions

The chapters in Part 4 are concerned with the impact of metonymy and metaphor on predicate and clause structure. Rosario Caballero postulates a fundamental bias in humans to view static arrangements as dynamic configurations, a tendency that finds metaphorical expression in the way architecture is described in specialized magazines. Debra Ziegeler and Sarah Lee investigate a causative construction found in Singaporean and Malaysian English whose properties are motivated by metonymy. Rita Brdar-Szabó takes a typological stance, analyzing stand-alone conditionals with a conventional directive function in four languages.

In her chapter "FORM IS MOTION: Dynamic predicates in English architectural discourse", **Rosario Caballero** investigates the high frequency of terms such as *crouch*, *meander*, *clamber*, or *melt* to characterize built forms in their sites. This frequent construal of inherently static spatial arrangements as events involving motion is consistent with what Cognitive Linguists have suggested is the human cognitive bias towards dynamism. Caballero's chapter illustrates the ways architectural texts differ from general discourse in the use of motion predications, paying attention to the types of trajectors, landmarks, and verbs employed in the description of architectural artifacts. As well, she undertakes to reveal the figurative motivation underlying the use of motion predications in these descriptions. Specifically, it is proposed that dynamic relational predications are motivated by visually informed metaphors subsumed under the formula FORM IS MOTION, in which particular layouts or appearances (i.e. the targets in the mapping) are seen as reminiscent of the kind of movement encapsulated in motion verbs – i.e. the metaphorical sources. Furthermore, the paper explores a more innovative and complex way of describing spatial arrangements. In this particular kind of motion predicate the cross-domain mapping goes the other way round: that is, it is the shape of well-known functional objects together with the directional sense of the accompanying particle that is mapped onto and specifies the kind of movement suggested by built space. This metaphor might be formalized as SHAPE (MOTION) IS FORM, and is illustrated by expressions portraying buildings as *fanning out* or stairs as *scissoring down through space*. Both metaphors underlie the figurative and graphic construal of the relationship between buildings and sites responding to architects' visual concerns and it is proposed that these metaphors may themselves be metonymically motivated.

In their chapter "A metonymic analysis of Singaporean and Malaysian English causative constructions" **Debra Ziegeler** and **Sarah Lee** investigate a causative construction in Singaporean and Malaysian English. A common feature of these varieties of English – found to a lesser extent in British and U.S. English – is the 'conventionalized scenario'

(Goldberg 1995), i.e. a causative construction in which an intermediate causee is neither expressed nor necessarily recoverable from context and common ground. The authors' study provides empirical data on the use of conventionalized scenarios in Singaporean and Malaysian English and explains their link with resultative constructions in terms of a reversal of the RESULT FOR ACTION metonymy (Panther & Thornburg 2000), i.e. an ACTIONFOR RESULT grammatical metonymy. In this metonymy, the passive action implied in the resultative participle becomes reactivated in a simple transitive construction and the causer now stands for both the causer and causee together. Language contact features in the dialects may also influence the extent of its usage.

A study that analyzes the role of metonymy in a speech act construction from a cross-linguistic perspective is **Rita Brdar-Szabó's** chapter "Metonymy in indirect directives: Stand-alone conditionals in English, German, Hungarian, and Croatian". Brdar-Szabó's paper is concerned with cross-linguistic variation in the exploitation of illocutionary metonymy in conventional indirect speech acts, specifically with indirect directives in English, German, Hungarian, and Croatian. The focus is on one special construction type – stand-alone conditionals used as indirect directives as e.g. English *If you could come to order now*. This construction type is productively exploited in English and German, but apparently not used in Hungarian and Croatian. In a search for an explanation for this distribution, metonymy is pointed out as a central motivating factor. It is argued here that metonymy as motivation can be approached from at least three perspectives: (i) correlation with the productivity of other metonymic models in general, (ii) differences in the availability of various functional types of metonymies, and (iii) the complexity of metonymic layering.

7.5 Part 5: Metonymic and metaphoric motivations of grammatical meaning

The first chapter in the last section relates metonymic and metaphoric processes to their experiential correlates while the second contribution explores metonymy as an inferential device in meaning creation. Sandra Peña Cervel and Francisco Ruiz de Mendoza Ibáñez argue that two image-schema transformations are metonymically and metaphorically grounded, reversing (at least partially) George Lakoff's (1987) assumption that image schemas are the input for many metaphoric processes. Antonio Barcelona investigates how metonymic reasoning shapes the meaning and form of a variety of constructions, including morphemes, lexical items, and syntactic constructions.

M. Sandra Peña Cervel and **Francisco J. Ruiz de Mendoza Ibáñez's** chapter "The metonymic and metaphoric grounding of two image-schema transformations" provides evidence for the claim that at least some image-schema transformations have a metaphoric and metonymic basis. Lakoff (1987, 1989) proposes image-schema transformations as cognitive mechanisms in the creation of radial structure in conceptual categories. Image-schema transformations are natural relationships between image schemas, grounded in experience. There is, for example, a natural relationship between the path of a moving object and the static position of the object when it stops (path-end-of-path transformation). In Peña Cervel and Ruiz de Mendoza's view, underlying image-schema transformations there is high-level (i.e. abstract) metaphoric and metonymic activity. In order to substanti-

ate this point, the authors examine the cognitive grounding in metaphor and metonymy of two image-schema transformations: path-end-of-path and multiplex-mass. The former is explained in connection to the high-level metonymy ACTION FOR RESULT, while in the latter the authors distinguish two subcases. In one subcase there is metaphorical activity whereby groups of entities are perceived as substances. This subcase often exploits the high-level metonymy PROCESS FOR ACTION as a natural consequence of the fact that substances are characteristically seen as exhibiting non-intentional behavior. In the second subcase there is a necessary combination of metaphor and metonymy, where the heterogeneous parts of an individual entity (or any group of entities of the same kind) are seen as a single unified object (without parts) that is further perspectivized through a metonymy in terms of its constituting material. All these phenomena are seen as natural manifestations of what Langacker (this volume: 49) refers to as "profile/active-zone discrepancy". Finally, Peña Cervel and Ruiz de Mendoza discuss the syntactic and morphological consequences of the high-level metonymies proposed in their application to image-schema transformations.

In the final chapter "Motivation of construction meaning and form: The roles of metonymy and inference" **Antonio Barcelona** resumes the topic of the ubiquity of metonymy in lexicogrammar expounded by Langacker in this volume. Barcelona argues for a metonymic motivation of "prototypical" and "non-prototypical" meanings of a number of constructions, among them some morphological constructions (derivation, conversion, compounding), the quantifier *a lot*, instances of polysemous extension, and a clausal construction (the epistemic conditional). The paper also discusses several cases of metonymy-motivated non-prototypical lexical meaning that often involve a change in grammatical behavior (e.g. the emergence of the intransitive "slimming" sense of the verb *reduce*). Barcelona demonstrates that metonymy can also motivate constructional form (a number of instances are discussed in the chapter). If the set of forms of a construction is regarded as a small cognitive category where canonical forms have prototype status, then it should be subject to (some of) the same cognitive operations (among them metaphor and metonymy) as other categories. Finally, the author argues that metonymy is fundamentally inferential and that its motivational and referential roles follow from its inferential nature.

8. Figuration in grammar: Prospects for future research

We have argued in this introductory chapter that the widespread view in modern linguistics, which considers lexicogrammar and figurative conceptualization as completely unrelated areas of study, is misguided. The present volume can be regarded as an invitation to skeptical readers to reconsider this kind of "modular" thinking and to envisage the possibility that figuration has an impact on lexicogrammar. For the lexical portion on the lexicogrammatical continuum, this claim is almost a platitude – at least in Cognitive Linguistics. However, as far as grammatical structure is concerned, the "figuration-motivates-grammar" hypothesis is less firmly established, although a number of studies provides evidence that this is indeed the case (see Section 6). We believe that the contributions to this volume present not only robust evidence for metaphorical and metonymic motivation in the lexical portion of the lexicogrammatical continuum, but also perhaps

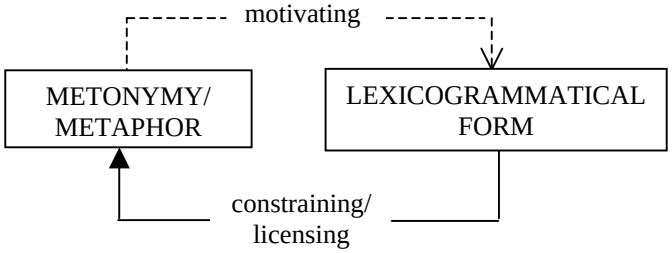

Figure 20. Mutual dependency of metonymy/metaphor and lexicogrammar

even more importantly in the current research context, make a case for the metonymic and metaphoric motivation of elements traditionally seen as "grammatical", rather than "lexical". We have suggested that the metonymic target meaning and metaphoric source meaning have potential impact on grammatical structure.[40] This is most probably an oversimplification, but it may serve as a useful heuristic guiding future research in grammatical metonymy and grammatical metaphor.

In this introductory chapter we have discussed mainly how figurative thought motivates lexical and grammatical properties, but there are good reasons to believe that the influence can go in the opposite direction (see Brdar 2007). For example, with regard to metaphor, in Section 5 we presented data that suggest a bidirectional interaction of grammatical gender and conceptual (natural) gender in German. There is a culturally grounded conceptualization of the arts as females, but this metaphorical personification is *licensed*, i.e. "encouraged", by the grammatically feminine gender of the noun *Kunst* 'art'. Grammatical *constraints* on metonymy have been postulated e.g. by Brdar and Brdar-Szabó (2003). Whereas in English the RESULT FOR ACTION metonymy is exploitable, i.e. *licensed*, in what we have called 'action constructions' (Panther & Thornburg 2000), e.g. *Know thyself*, where a stative verb is coerced into an actional meaning 'do something to the effect so that you know yourself', in German the RESULT FOR ACTION metonymy is much more *constrained* in comparable action constructions. Thus, *Know thyself* must be rendered in German with a dynamic mental verb in the expression *Erkenne dich selbst*, literally 'Recognize yourself'. It is thus possible that figuration and lexicogrammar are mutually dependent and accommodate each other (see Brdar 2007: 205). This presumed interaction between figuration, i.e. metonymy and metaphor, and grammar is diagrammed in Figure 20.

The findings collected in this volume thus lead to a conception of the relation between grammar and figuration that is at odds with much of formalist linguistics, especially generative grammar, and they open up new avenues of research, which scholars have begun to explore only recently. To conclude this chapter, we name two such areas that, to our mind, are especially promising and will, it is hoped, increasingly attract the attention of cognitive and functional linguists. The first area of research concerns the crucial role of conceptual metaphor, conceptual metonymy, and figuration in general, in the evolution of grammatical (functional) words and bound morphemes. The importance of metaphor and metonymy in grammaticalization has been recognized for some time (see e.g. Traugott and Dasher 2002 for a good overview), but there are still many open questions

regarding the motivational links between conceptual metonymy/metaphor and grammatical structure, in particular, the problem of directionality of the motivational processes. The second research area constitutes largely uncharted territory, despite some important work conducted by various scholars (see Note 7). It concerns cross-linguistic variation in the exploitation of metaphor and metonymy, and the grammatical factors that license, constrain, or block the exploitation of high-level metonymies and metaphors. Such work takes a fresh perspective on the field of linguistic typology and promises to yield new and important insights into the structuring of language and languages.

Notes

* We would like to thank two anonymous referees for many constructive questions, comments, and suggestions, which we hope we have put to good use towards improving this chapter. Of course we ourselves are liable for any remaining infelicities and errors.

1. More recently Chomsky seems to have abandoned the idea of a richly structured human language faculty (with interfaces to sensorimotor and conceptual abilities). In Hauser, Chomsky, and Fitch (2002: 1578) the human language faculty is characterized as "the power of recursion to create an endless and limitless system of communication".

2. It is only recently that generative linguists and typologists have turned their attention to performance and its possible impact on grammar (see e.g. Newmeyer 2000, Jackendoff 2002, Hawkins 1994, 2004).

3. It would be a useful enterprise for the field of Cognitive Linguistics in the narrow sense to pin down explicitly these differences among subparadigms, and assess them. So far this has not been done in a systematic way. A notable exception is Langacker (2005), who discusses in some detail the differences between Construction Grammar (including Radical Construction Grammar) and his own framework.

4. In what follows, we intentionally use the noun *sign* and the adjective *semiotic* instead of *symbol* and *symbolic*, respectively. The reason is that the latter terms are not used in a uniform way in contemporary linguistics. This issue is discussed further in Section 2.

5. This methodological requirement does however not apply without restrictions. First, quite typically, leading Cognitive Linguists in the narrow sense, such as George Lakoff and Ronald Langacker, use introspective data quite systematically, although the latter is, to our knowledge, the inventor of the term 'usage-based grammar'. Second, Leonard Talmy (2007) has argued in a recent talk that introspective methods in the elicitation of data have a place in Cognitive Linguistics.

6. See also the volume edited by Barlow and Kemmer (2000), which is dedicated to usage-based models.

7. A non-exhaustive list of scholars who have compared metonymies and their grammatical repercussions across languages includes Barcelona (2003, 2004), Brdar (2007), Brdar-Szabó and Brdar (2004), Hilpert (2007), Panther and Thornburg (1999, 2000), Ruiz de Mendoza and Pérez Hernández (2001), Ruiz de Mendoza Ibáñez and Mairal (2007).

8. For a discussion of the notion of linguistic motivation, see Radden and Panther (2004).

9. An anonymous reviewer has questioned why in Figure 1 we do not treat prosodic form as part of grammatical structure. We assume that both grammatical structure and prosodic form belong to the level of linguistic form. In Langacker's more radical view, phonological form, including prosodic structure, are part of the 'phonological pole', but we have taken a more conservative stance, as in e.g. construction grammar.

10. For motivation in syntax, see e.g. Haiman (1985).

11. An approach that comes closer to what the authors of the present volume are concerned with is Sullivan (2007), who analyzes the relationship between metaphor and grammar from the perspective

of Construction Grammar. In her dissertation the author discusses a number of metaphorical constructions, such as modifier-head constructions exemplified by *bright student*. This expression is based on the conceptual metaphor KNOWING IS SEEING: the attributive adjective lexicalizes the source domain (SEEING) and the head noun evokes the target domain (KNOWING). Sullivan notices an interesting constraint on which of the two grammatical functions 'modifier' and 'head noun' may assume the role of source and target, respectively. *Bright* (source domain) *student* (target domain) is fine, whereas the reverse case *intelligent* (target domain) *light* (source domain) is impossible. In the latter case the modifier cannot evoke the target domain of the metaphor KNOWING IS SEEING. Sullivan's dissertation investigates "grammar in metaphor" (these words actually occur in the title of her work). The present volume is concerned with "metaphor (and metonymy) in grammar", i.e. the way that metaphor *shapes* lexicogrammar. The two perspectives sometimes overlap, as can be seen from the above discussion.

12. For much more detailed comparisons of the architecture of various functionalist and cognitivist models than we can provide here the reader is referred to the useful overview of Gonzálvez-García and Butler (2006).

13. Notice that Chomsky is concerned not with morphology in his model and that pragmatics is outside the realm of linguistic competence altogether.

14. Chomsky (1985: 87) introduces the notion "canonical structural realization" of semantic categories selected by a syntactic head. For example, the canonical structural realization of the semantic role PATIENT is a noun phrase; the canonical structural realization of the role PROPOSITION is either a clause or a noun phrase. The term 'canonical' implies that there is a fairly robust correspondence between semantic roles and specific realizations of these semantic roles; in other words, syntactic realizations of semantic roles seem to be motivated (though not completely predictable).

15. There is in fact a model that incorporates the term *embodiment* in its name: Embodied Construction Grammar (Bergen & Chang 2005).

16. Gonzálvez-García and Butler (2006: 71) point out however that Goldberg (2006: 214–215) has abandoned the criterion of non-predictability for fully compositional high-level constructions.

17. Metonymy is not mentioned as a process relevant to the computation of construction meaning. We argue below that metonymy does in fact play a major role in the creation of grammatical meaning.

18. The relation between culture and grammar ("ethnosyntax") has received increasing attention lately in edited volumes such as Enfield (2002).

19. At this point, a brief comment is in order about the use of the term *symbol* in the sciences of language. Unfortunately, this notion is not used uniformly in linguistics, semiotics, and the philosophy of language. On the one hand, many linguists have adopted the threefold distinction between symbols, indices, and icons, which goes back to the philosopher and semiotician Charles S. Peirce (1955). Peirce uses the term *symbol* to refer to signs that exhibit an arbitrary relation between form and content, whereas indices and icons are motivated signs. On the other hand, in Langacker's Cognitive Grammar, the term *symbolic assemblies* (this volume: 54) does not appear to imply any commitment to the *nature* of the semiotic relation between the phonological and the semantic pole, i.e., it is left open whether this relation is arbitrary, partially motivated, or motivated. Finally, the adjective *symbolic* is sometimes also used in the sense of 'formal', i.e. 'meaningless' or 'uninterpreted', a usage that is downright incompatible with the sense the term is given in Peircean semiotics. An example of such usage is found in Searle (1997: 9): "A computer is by definition a device that manipulates formal symbols", where "formal" means 'uninterpreted, meaningless'.

20. The relationship between *Mary* and *book* could be many things from true ownership to 'the book that Mary is currently reading', 'the book that Mary likes best', or even 'the book that Mary stole from the library'. Taylor (2005: 228–231) assumes a basic sense, but recognizes a multiplicity of relations between possessor and possessed. The vagueness of the possessor-possessed relation has been noted also by relevance theorists Sperber and Wilson (1996: 188).

21. For ease of presentation selectional restrictions and syntactic subcategorization frames are not built into Figure 2.

22. Note that Chomsky (1965) regards such higher-level selectional restrictions as syntactic, not semantic – a somewhat counterintuitive consequence of the Standard Theory.

23. We use the phrase "Chomskyan solution" here in the sense of 'solution in the spirit of generative grammar'. To our knowledge, Chomsky has never published anything on figurative language.

24. In this context, Andrew Goatly's *The Language of Metaphors* (1997) deserves special mention. He devotes three chapters to the syntax of metaphor that "develop a functionally oriented linguistic theory of metaphor which cross-fertilizes pragmatic theory with the Hallidayan analysis of register [...]" (4). Our perspective is different in that we explore the distribution of grammatical elements as reflexes of conceptual metonymy and metaphor.

25. Lakoff's (1990) *Invariance Principle*, which is supposed to hold for metaphors based on image schemata, includes a constraint that blocks a mapping if the inherent conceptual structure of the target is incompatible with mapping. Ruiz de Mendoza Ibáñez (1998) formulates a more general *Extended Invariance Principle,* which also holds for non-image-schematic high-level metaphors.

26. Our approach to metaphor and metonymy is different from Roman Jakobson's (2002: 42–43) famous conception of these tropes. Jakobson relates the metaphoric mode of thinking (based on similarity) to the paradigmatic axis of language, in contrast to the metonymic mode of thinking (based on contiguity), which he assumes to be related to the syntagmatic axis. We maintain that metaphor and metonymy manifest themselves both on the paradigmatic and on the syntagmatic axis of language. This position is defended in Panther (2006: 149–150).

27. There is a huge literature on the pragmatic functions of the Narrative Present that we ignore here. For a recent account see Bernardo i Mansilla (2006).

28. That *this morning* is a past time adverbial can be demonstrated by the fact that it can be replaced with another past time adverbial such as *yesterday morning* without resulting in ungrammaticality.

29. For the sake of simplicity, the abbreviation FEM collapses grammatical and natural (conceptual) gender here.

30. Example (16) was accessed from the Internet on February 6, 2008, at the following URL: http://www.videoforum.de.

31. The issue of metaphorization of feminine nouns as women is possibly also related to what Lakoff and Turner (1989: Ch. 4) call the *Great Chain of Being*. At the top of this chain are human beings, at the lower end are inanimate objects. Also, as well known from conceptual metaphor theory, the directionality of metaphorization is from 'less concrete' to 'more concrete'. Finally, the anthropomorphic *Me First* principle suggested by Cooper and Ross (1975) can be interpreted as a preference for conceptualizations from the perspective and *in terms of* human beings, here female humans.

32. See Sadock (1974) and Stefanowitsch (2003) for a summary of previous work and additional observations on the distribution of *please* and other elements in indirect requests.

33. From an interview with the singer published in the German news magazine *Der Spiegel*, February 11, 2008.

34. From the *Appalachian News Express*, April 23, 2007. Accessed on February 17, 2008, at: http://www.news-expressky.com/articles/2007/04/28/top_story/01hopefuls.txt].

35. Dictionaries vary in what they present as the first sense of *find*. For example, the online *Oxford American Dictionaries* gives 'discover or perceive by chance or unexpectedly' as the first sense, and 'discover (someone or something) after a deliberate search' as the second sense. Similarly, the 3rd (paperback) edition of *The American Heritage Dictionary* gives as first and second senses 'To come upon, often by accident' and 'To come upon after a search', respectively. In contrast, the 4th edition of the *Longman Dictionary of Contemporary English* lists 'get by searching' as the first sense and 'see by chance' as the second. We

do not make any claims about which of the two meanings is more frequent, but argue that, on conceptual grounds, it makes sense to derive the more complex second meaning 'come upon by searching' from the conceptually simpler meaning 'come upon'.

36. The only and rather far-fetched interpretative option would be a 'slow motion' reading of (26b).

37. See Grezka (2006) for an overview of research on perception verbs and the constructions they occur in.

38. The data are taken from the *Dictionary of Contemporary English*.

39. Cognitive analyses of word formation are relatively rare. An important recent study, Benczes (2006) – like Basilio – relies on metonymic (and primarily metaphoric) models for the interpretation of what are termed 'creative' English noun-noun compounds. The focus of Benczes' work is more on conceptual structure rather than on the interaction of meaning and form. In contrast, an earlier study of noun-verb compounds ("subject" vs. "object" incorporations) by Thornburg and Panther (2000) investigates the relation of conceptual structure to the relative productivity of these different types of compound forms, uncovering an ergative-absolutive pattern in their distribution. An even earlier study by Rice and Prideaux (1991) of object incorporations in English provides an account of not only the meanings of these compounds but also their "skewed categorial distribution", i.e. relative acceptability along a noun-verb continuum.

40. In the case of grammatical metonymy, this generalization holds for what we call *prototypical metonymies*, i.e. metonymies that conceptually foreground their target meanings. In other words, the more conceptually foregrounded or *conceptually prominent* the target meaning, the more likely the grammatical properties of the linguistic unit (word, phrase, clause) in which the metonymy operates will be shaped by this meaning (see e.g. Panther & Thornburg 2004).

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