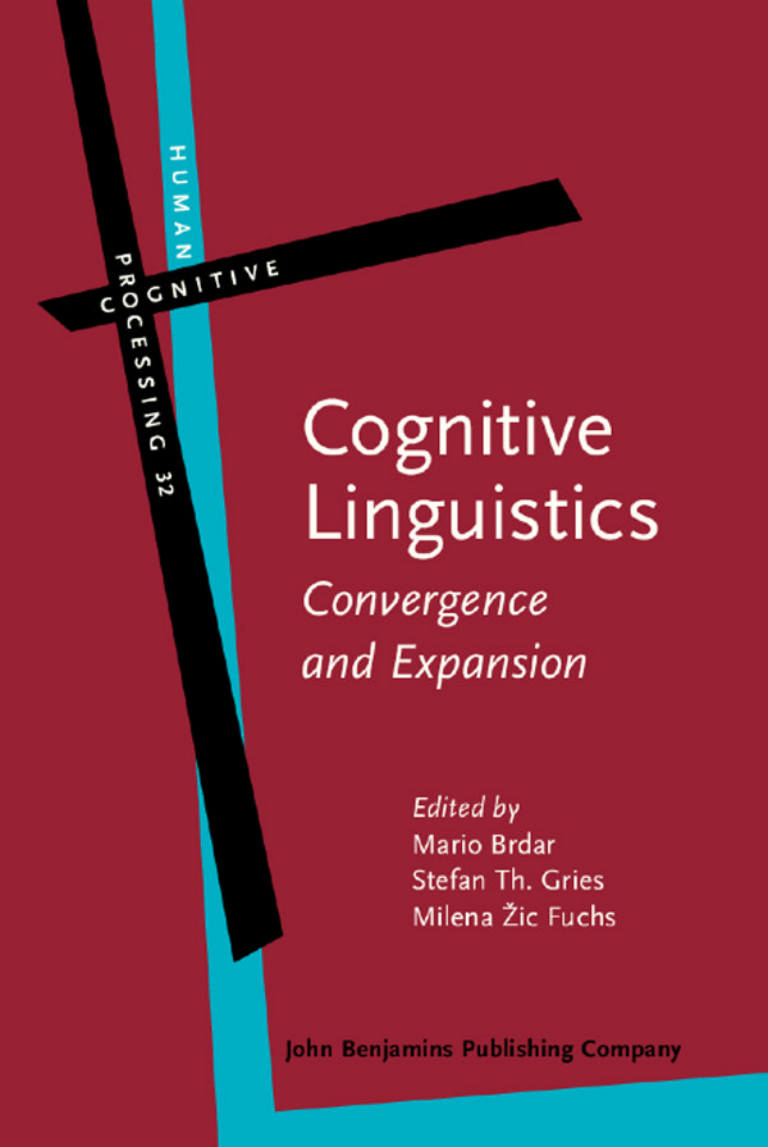




HUMAN
COGNITIVE
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Cognitive Linguistics

*Convergence
and Expansion*

Edited by
Mario Brdar
Stefan Th. Gries
Milena Žic Fuchs

John Benjamins Publishing Company

Cognitive Linguistics

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Volume 32

Cognitive Linguistics. Convergence and Expansion
Edited by Mario Brdar, Stefan Th. Gries, and Milena Žić Fuchs

Cognitive Linguistics

Convergence and Expansion

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Table of contents

Editors and contributors	VII
Introduction: Convergence and expansion in cognitive linguistics <i>Mario Brdar, Stefan Th. Gries and Milena Žic Fuchs</i>	1
PART 1. Setting the scene	
Convergence in cognitive linguistics <i>Ronald W. Langacker</i>	9
An overview of cognitive linguistics <i>Antonio Barcelona and Javier Valenzuela</i>	17
PART 2. Consolidating the paradigm	
Pattern versus process concepts of grammar and mind: A cognitive-functional perspective <i>Jan Nuyts</i>	47
Metaphor in language and thought: How do we map the field? <i>Gerard J. Steen</i>	67
Emotion and desire in independent complement clauses: A case study from German <i>Klaus-Uwe Panther and Linda L. Thornburg</i>	87
Schematic meaning of the Croatian verbal prefix <i>iz-</i> : Meaning chains and syntactic implications <i>Branimir Belaj</i>	115
The conceptual motivation of bahuvrihi compounds in English and Spanish <i>Antonio Barcelona</i>	151
On the subject of impersonals <i>Ronald W. Langacker</i>	179

PART 3. Expanding the paradigm

Do people infer the entailments of conceptual metaphors during verbal metaphor understanding?	221
<i>Raymond W. Gibbs, Jr. and Luciane C. Ferreira</i>	
Corpus data in usage-based linguistics: What's the right degree of granularity for the analysis of argument structure constructions?	237
<i>Stefan Th. Gries</i>	
Cognitive linguistics meets the corpus	257
<i>Anatol Stefanowitsch</i>	
Oops blush! Beyond metaphors of emotion	291
<i>Heli Tissari</i>	
Conceptual construal and social construction	305
<i>Peter Harder</i>	
The biblical story retold: A cognitive linguistic perspective	325
<i>Zoltán Kövecses</i>	
Name index	355
Subject index	359

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Introduction

Convergence and expansion in cognitive linguistics*

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1. Background and introduction

The present volume is a collection of contributions originally presented as keynote talks or as regular papers at the International Cognitive Linguistics Conference *Converging and Diverging Tendencies in Cognitive Linguistics*, held in Dubrovnik (Croatia), October 17–18, 2005, as well as some chapters specially commissioned for this volume. As the title of the conference indicates, the initial key notions were *converging* and *diverging* tendencies in cognitive linguistics. However, papers presented at the conference, and the subsequently commissioned ones paved the way to shifting the stress to *convergence* and *expansion*, as is reflected in the title of the volume.

This shift reflects not only how the ideas behind the conference and this volume developed, but more importantly reflects the nature of developments in cognitive linguistics itself, in the sense of stressing the converging tendencies anchored in the core of the enterprise, and the expansions that go from the core into different directions.

The question of course is what is understood by convergence and expansion, especially in contrast to convergence and divergence. The issues that the conference focused on are the issues taken up in this volume and have been issues long in the making. They in a sense reflect the nature of the cognitive linguistic enterprise through emphasizing the fact that cognitive linguistics is not a unified theory of language, but, as has been stressed time and again, a flexible and evolving theoretical framework. Whether this evolving theoretical framework can stabilize into a unified theory is an open question. Or, one could ask, whether such unification and conformation would ultimately be a necessary or even welcome development. Would such a development, resulting in uniformity, possibly hinder future “natural expansions” that move away from the core,

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that is the basic tenets of cognitive linguistics, thus preventing and blocking new insights into matters of language and cognition? Would such a development open up a possibility of true divergence in the sense of triggering off competing theories based on radically different fundamental notions?

The questions above outline the possibility of diverging tendencies and their possible implications. However, the chapters in this volume indicate that at this point in time cognitive linguistics is on the one hand firmly grounded through its basic tenets of meaning, non-modularism, and embodiment, as is elaborated in the introductory chapters by Langacker and by Barcelona and Valenzuela. On the other hand, chapters in this volume also show tendencies of expansion in terms of connecting with other disciplines and methods, or integrating other fields of inquiry. Needless to say, the chapters in this volume do not cover all possibilities of either convergence or expansion, whether already existing ones, or ones that may appear especially through the integration of cognitive linguistics with psycholinguistics and neuroscience, or further research on societal mechanisms. Thus the aim of this collection is primarily to illustrate the main lines of development in cognitive linguistics, namely, the ever-present focus on research within linguistics proper and expansions into other fields of inquiry.

The present volume aims at reflecting on these tendencies and showing the vitality, open-endedness, and the dynamic nature of the cognitive linguistic enterprise as it converges and expands. Its chapters are divided into three parts. Part 1, “Setting the scene”, contains two overview chapters by Langacker, and Barcelona and Valenzuela, which can be seen as an extension of the present introduction, as they present two alternative views on the central theme of the present volume: convergence and expansion in cognitive linguistics, first seen from a personal perspective, and then set in a more “objective”, historical perspective. These are followed in Part 2, “Consolidating the paradigm”, by chapters that come under the rubric of *convergence* by Nuyts, Steen, Panther and Thornburg, Belaj, Barcelona, and Langacker. Part 3, “Expanding the paradigm”, is comprised of chapters dealing with different directions of *expansion* by Gibbs and Ferreira, Gries, Stefanowitsch, Tissari, Harder, and Kövecses.

2. The contributions to this volume

2.1 Setting the scene

The first chapter in this collection, “Convergence in cognitive linguistics”, is based on the comments of **Ronald W. Langacker** delivered at the very end of the conference and represents his personal perspective on converging and diverging trends in cognitive linguistics. He stresses an overall tendency has been toward unification and is optimistic about that a coherent overall view is gradually emerging, and that it will provide a firm basis for investigating language, cognition, and many aspects of human endeavor. The chapter by **Antonio Barcelona** and **Javier Valenzuela**, “An overview of cognitive

linguistics”, is a detailed account of the history and development of cognitive linguistics since its inception in the late 1980s to the present day. It duly recognizes the main research currents, their theoretical and methodological premises, as well as their main results and applications.

2.2 Consolidating the paradigm

Part 2 is introduced by **Jan Nuyts**’s chapter, “Pattern versus process concepts of grammar and mind: A cognitive-functional perspective”, in which he discusses the tenuous relationship between CL and traditional functional linguistics, focusing mainly on the pattern or construction-oriented approach to grammar predominant in CL and the rules or process-oriented approach to grammar prevailing in traditional functionalism. In contrast to claims put forward by Langacker and Croft that the process concept is misguided, Nuyts argues that it is in fact indispensable in a cognitively and functionally plausible model. His analysis of the different theoretical views shows that the two models are to a large extent compatible, reflecting different perspectives of the same phenomena. Concluding that although the issue of process vs. construction concepts of grammar is an extremely complex one, Nuyts pinpoints common ground on the basis of which he expresses the hope that linguistics will be able to avoid a tripartite division of paradigms and that it will end up with a two-paradigm division.

In the chapter “Metaphor in language and thought: How do we map the field?” by **Gerard Steen**, the author puts forward the suggestion that metaphor research in cognitive linguistics can benefit from a clearer description of the field in which three dimensions of doing metaphor research can be distinguished. Namely, metaphor can be studied as part of grammar or usage, or as part of language or thought, and finally as part of sign systems or behavior. By comparing various characteristics of the three basic dimensions he comes up with eight distinct areas of research that are characterized by their own assumptions and claims pertaining to metaphorical meaning. By mapping the field of metaphor research Steen comes to the conclusion that the interrelations between phenomena in these distinct areas with their diverging degrees of evidential support require careful formulation, and what is more, he stresses the need for a more meticulous approach to the interpretation of various types of evidence found in cognitive linguistics.

Klaus-Uwe Panther and **Linda L. Thornburg** in their chapter “Emotion and desire in independent complement clauses: A case study from German” study standalone complement clauses in German from a cognitive-linguistic and pragmatic speech-act construction perspective, starting out from the observation that a subordinate-clause structure is used to communicate an independent speech act. They begin by noting a variety of characteristics that these constructions share (across languages) and then study the conceptual frames and mappings involved in two kinds of constructions. They conclude that meaning is much less compositional than is traditionally assumed, meaning is dynamically construed through cognitive operations and with world knowledge, and meaning motivates selected aspects of syntax.

In “Schematic meaning of the Croatian verbal prefix *iz-*: Meaning chains and syntactic implications” **Branimir Belaj** studies the meaning of verbs containing the Croatian prefix *iz-*. Based on data from a small corpus, he postulates a single schematic meaning – ‘transition from an intralocative to an extralocative position’ – together with different motivated links that altogether constitute a prototype category. He also discusses additional evidence for the proposed network, namely several syntactic peculiarities that are correlated with the semantic extensions.

Antonio Barcelona, in “The conceptual motivation of bahuvrihi compounds in English and Spanish”, studies a sample of the prototype category of exocentric bahuvrihi compounds. After a brief overview of their main and typical characteristics, Barcelona studies in detail to which degree such compounds are based only on the metonymy CHARACTERISTIC PROPERTY FOR CATEGORY. On the basis of a small sample of 40 bahuvrihi compounds (20 in English, 20 in Spanish), he shows that this metonymy is responsible for the exocentric nature of these compounds and that the characteristic property mapped by that metonymy is conceptualized literally, metonymically, or metaphoric-metonymically. Finally, he summarizes a few differences between English and Spanish bahuvrihi compounds, a particularly interesting one of which is the much wider structural variety of the Spanish examples.

Ronald Langacker’s chapter “On the subject of impersonals” is an analysis of impersonal *it* in which he argues that *it* is in fact a meaningful element. More specifically, although *it* is vague and non-delimited, it is used referentially to profile what he calls the relevant field, i.e. the conceptualizer’s scope of awareness for the issue at hand. Nevertheless, *it* is the pronoun that delimits the search space of possible referents the least, allowing for all kinds of different given or inferable entities, basically only excluding human and plural referents. The chapter concludes with an initial exploration of other impersonal constructions and discussions of what would be the next steps of exploration.

2.3 Expanding the paradigm

In the first chapter in Part 3, “Do people infer the entailments of conceptual metaphors during verbal metaphor and understanding?”, **Raymond W. Gibbs, Jr.** and **Luciane C. Ferreira** study entailments of conceptual metaphor. They begin by summarizing the current state-of-the-art in research on how conceptual metaphors really are and discuss a few points of critique that have been raised in the past such as the potential unfalsifiability, the choice of domains, the level of generality of mappings, and the as yet unknown role that conceptual metaphors play in online comprehension. They then report the results of an exploratory study on entailments of metaphors from four target domains in which subjects rated to which degree a first statement implied other statements that were or were not related to the first via the same metaphor. They found that subjects give higher ratings for entailments derived from the same metaphor and

caution cognitive linguists to be more careful with regard to their assumptions of metaphorical entailments.

Stefan Th. Gries's chapter "Corpus data in usage-based linguistics: What's the right degree of granularity for the analysis of argument structure constructions?" is concerned with which level of analysis, or granularity, is most appropriate in corpus-based studies. In much the same way that lexicographers can be divided into lumpers and splitters depending on how fine distinctions between senses they prefer, usage-based studies can choose more or less fine-grained levels of resolution. Gries's chapter tests to what degree distinctions between inflectional forms and lemmas, as well as between spoken and written data are merited in the analysis of the preferred verbs of argument structure constructions and their semantics. He finds that, contrary to what is often assumed, the finer-grained perspectives do not yield superior results and argues that, if finer resolutions are desired, then bottom-up exploratory methods should be used to identify the most revealing distinctions.

Anatol Stefanowitsch's chapter "Cognitive linguistics meets the corpus" illustrates ways in which corpus-based methods can be used to study phenomena from cognitive linguistics and/or construction grammar. In a first part, he looks at how corpus data can be brought to bear on the question of a particular expression's acceptability (using percentage distributions) can be used to make claims about what is acceptable, "always" the case, and what constitutes counterexamples. In addition, he exemplifies how chi-square tests for independence can reveal associations between linguistic variables. In a second part, he discusses how the collostructional method of analysis can help to identify the semantics of constructional patterns and how such approaches can provide the kind of negative evidence that many think corpora cannot provide.

The main aim of **Heli Tissari's** chapter "Oops blush! Beyond metaphors of emotion" is to relate the metonymic, embodied basis of emotion metaphors as conceived by Kövecses to the concept of affects discussed in the tradition founded by Silvan Tomkins. Tomkins' claim that the responses of the body to stimulation constitute the affect itself can be seen as a challenge to the theory of conceptual metaphor according to Tissari. By analyzing shame she provides insights as to how work on conceptual metaphors and the understanding of affect as fundamentally embodied phenomena might cross-fertilize each other and result in a deeper understanding of the phenomena at hand.

Peter Harder's chapter "Conceptual construal and social construction" can be seen primarily as a contribution to analysis of the social dimension of linguistic conceptualization. In contrast to what may be called the standard approach in cognitive linguistics, that is to understand concepts via their experiential and bodily grounding, Harder discusses the processes that are at work when emerge concepts acquire a role in the social processes. This duality is understood in terms of the distinction between conceptual construal and social construction. More precisely, Harder highlights the social processes that shape conceptualization and opts for an overall framework that

integrates processes of social construction with the conceptual domain. His claims are based on the analysis of the well known ‘cartoon crisis’ in Denmark, i.e. the series of events that erupted after a newspaper published cartoons of the prophet Muhammad.

In “The biblical story retold: A cognitive linguistic perspective”, **Zoltán Kövecses** relying on Neville’s (2001) semiotic approach to symbols found in the Bible, goes a step further in developing a cognitive linguistic analysis that provides interpretation of the meaning and significance of some of the central symbols and the basic story itself. Kövecses provides insights into how the symbolic meaning derives in large part from conceptual structures and conceptual mechanisms that are shared by a large number of speakers of English, as well as other languages belonging to the European cultural sphere. By identifying major metaphors and metonymies that play an important role in the interpretation of the Biblical symbols and the story, he formulates his basic claim that a large part of the dominant features of Christianity can be understood on the basis of the everyday conceptual system, from which follows that the understanding of these features does not require an entirely independently existing conceptual apparatus that would somehow be unique to the interpretation of the sacred.

The present volume thus clearly has a double function. Firstly, it is an attempt to provide a sense of perspective in cognitive linguistics by trying to trace its steps to where it is at present and outlining where it might be headed to. Secondly, it does so by tackling a wide range of topical issues pertaining to both the methodology and the subject matter of cognitive linguistics research.

PART 1

Setting the scene

Convergence in cognitive linguistics

Ronald W. Langacker

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In contrast to the generative tradition, the overall tendency in cognitive linguistics has been convergent rather than divergent. At the outset it was quite diverse, as it did not stem from any single theory, scholar, or object of description. The passing years have seen the recognition of common interests and the integration of various strands of research. Conceptual unifications have been achieved (e.g. the constructional approach to lexicon and grammar; metaphor and grammatical composition as instances of conceptual integration). There has been convergence with other theoretical approaches (even generativism, as it has evolved). From an initial focus on semantics and grammar cognitive linguistics has made contact with other disciplines, methodologies, and sources of evidence. A coherent overall view is emerging.

Keywords: blending, construction grammar, functionalism, generativism, metaphor

In reflecting on the issue of converging vs. diverging tendencies in cognitive linguistics, I was struck by how predominantly convergent these tendencies appear to be, at least from my own perspective. The evolution of cognitive and generative linguistics may in fact be seen as precisely opposite in this regard. In the early years of the generative era, this movement enjoyed a high degree of theoretical uniformity (the “standard theory” deriving from Chomsky 1957, 1965). Its subsequent history has famously been one of progressive divergence, starting with generative semantics and the “linguistics wars” (Harris 1993), and eventually producing the diverse array of formalist theories we are blessed with today.

By contrast, cognitive linguistics was quite diverse at the outset and can still be so characterized. It does not stem from any single theory, scholar, or object of description. Instead, its origins lie with numerous individuals and groups, each developing their own approach to specific areas of inquiry. Among these early initiatives were Chafe’s proposals for a semantically based grammar (1970, 1974), pioneering work by Talmy (2000a, 2000b) and Wierzbicka (1996) in conceptual semantics, Fillmore’s

efforts in frame semantics and Construction Grammar (1982, 1988), my own formulation of Cognitive Grammar (1987, 1991), new directions of research in metaphor (Lakoff and Johnson 1980), categorization (Lakoff 1987), and mental spaces (Fauconnier 1985), as well as functionalist investigation concerned with discourse, grammaticalization, typology, and universals (e.g. Givón 1979; Hopper and Thompson 1980; Traugott 1982; Bybee 1985; Chafe 1994).

All of these initiatives were underway well before the founding of the International cognitive linguistics Association in 1989. And while the practitioners were generally quite aware of the other developments, in origin these were largely separate, with no sense of their representing a coherent or unified movement. Even today, it is only in a broad perspective that they constitute a single enterprise (Langacker 1999a), and if we label it “cognitive linguistics”, not all the scholars mentioned would align themselves under its banner. There is nonetheless a general commonality in spirit, as well as a basic compatibility of ideas, which increasingly go beyond the shallow unity of being non-generative. The overall tendency has been convergence. The passing years have seen greater recognition of common interests and more integration of the various strands of cognitive linguistic research.

Let me offer a few examples. A recent case is a reassessment of complement clauses and subordination more generally. Instead of being a fixed aspect of syntactic structure, the main-clause/subordinate-clause distinction is viewed as a flexible matter determined by meaning and discourse function. This new conception of its nature and status is based on converging evidence from conversational analysis (Thompson 2002), acquisition data (Diessel and Tomasello 2001), discourse study (Verhagen 2005), and grammatical description (Langacker 2008).

More broadly, we can note a series of conceptual unifications involving central areas of cognitive linguistic inquiry originally treated separately. There was first the assimilation of metaphor, consisting in correspondences between a source domain and a target domain, to the more general notion of mental space configurations. As the latter gave rise to blending theory (Fauconnier and Turner 2002), metaphor was further seen as a kind of blending, in which the source and target domains function as input spaces. Concomitantly, as metonymy became a vital domain of inquiry, its intimate relationship with metaphor emerged as a continuing topic of discussion (Goossens 1990; Kövecses and Radden 1998; Panther and Radden 1999). These phenomena all find a ready place in Cognitive Grammar, which treats them as particular kinds of relations among the domains of a complex matrix. Moreover, grammatical constructions are clearly instances of blending, with component structures as inputs and the composite structure as the blend. Fauconnier and Turner push the integration even further by viewing blending as part of a comprehensive account of conceptual integration. In the same vein, I have recently suggested a unified treatment – also subsuming categorization – of dynamic, directional relationships between conceptual structures (2009).

At the theoretical level, we might consider the relation between Cognitive Grammar and Construction Grammar, which were initiated at about the same time and have developed more or less independently over the years. There has been divergence in Construction Grammar, some in the direction of formalist theories. But despite some non-trivial differences (Langacker 2005), Cognitive Grammar and Construction Grammar share the basic orientation of being non-derivational, taking constructions as the primary objects of description, and seeing lexicon and grammar as a continuum of symbolic structures (form-meaning pairings) organized in networks (inheritance hierarchies). Goldberg (1995) took a step toward convergence by importing some notions of Cognitive Grammar (profiling, trajectory/landmark) into her version of Construction Grammar. Moreover, both frameworks seek a unified account of patterns at all levels of generality, embracing both regular and idiosyncratic expressions; they conform in this respect to the broader outlook known as the “usage-based” perspective (Barlow and Kemmer 2000). And in a further instance of convergence, Radical Construction Grammar (Croft 2001) represents the integration of constructional approaches with typological investigation.

If the overall tendency within the cognitive movement has been toward integration and unification, there has also been a certain amount of convergence with other theoretical approaches. The similarity that cognitive linguistics bears to various non-generative linguistic traditions has contributed to its steady growth in Europe, Asia, and elsewhere. There is even some convergence with generativism, which has gradually moved in the direction of cognitive linguistics by abandoning foundational notions. Now, for example, at least some versions of generative theory are non-derivational, employ schemas (or templates) rather than constructive rules, operate by constraint satisfaction (notably Optimality Theory), and recognize that meaning is somehow relevant to grammar.

In addition to convergence, cognitive linguistics has undergone steady expansion, bringing it into contact with other disciplines, methodologies, and sources of evidence. Basic cognitive linguistic notions have received a great deal of empirical support from the study of language acquisition (Tomasello 1992, 2003; Mandler 1991, 2004, 2005). Their relevance for language pedagogy is widely recognized (Pütz, Niemeier, and Dirven 2001a, 2001b; Achard and Niemeier 2004) and should increasingly be tested in practice. Corpus study and other quantitative methods have become an integral part of cognitive linguistic investigation (Geeraerts, Grondelaers, and Bakema 1994; Gries and Stefanowitsch 2004). A large and growing amount of psychological experimentation has been brought to bear on cognitive linguistic proposals concerning category structure, metaphor, image schemas, and other topics (Sandra and Rice 1995; Gibbs 1990, 2005a, 2005b; Matlock 2004; Matlock, Ramscar, and Boroditsky 2005). Closely related is the rapidly expanding research involving computer modeling, neurological studies, and mental simulation (Regier 1996; Barsalou 1999; Lakoff and Dodge 2005; Rohrer 2005; Bergen 2005).

Initially focused on semantics and grammar, cognitive linguistics has steadily expanded to other areas, resulting in engagement and progressive integration with broader ranges of concerns. Domains of linguistic study that have come within its scope include phonology (Nathan 1986; Mompeán-González 2004; Tuggy 2004), morphology (Rubba 1993; Nessel 2005), diachrony (Sweetser 1990; Heine 1993; Langacker 1999b; Croft 2000), sociolinguistics (Kemmer and Israel 1994; Geeraerts 2005), cultural linguistics (Wierzbicka 1992; Palmer 1996; Kövecses 2004), as well as typology and universals (Croft 1990, 2001; Talmy 1991; Wierzbicka 1998; Kövecses 2005). A major interest, of course, has been the application of cognitive linguistic notions to problems of discourse, text analysis, poetics, and translation (Lakoff and Turner 1989; Tabakowska 1993; Cutrer 1994; Sanders and Redeker 1996; Langacker 2001; Stockwell 2002; Verhagen 2005). Going farther afield, we can cite important works elucidating the metaphorical foundations of political doctrine, philosophy, and mathematics (Lakoff 1996; Lakoff and Johnson 1999; Lakoff and Núñez 2000). Kövecses (this volume) has suggested that cognitive linguistics provides the basis for a general science of meaning-making (the cognitive semiotics of culture). More broadly still, Fauconnier and Turner (2002) propose that the capacity for blending (conceptual integration) was critical for the emergence of higher-level cognition and human culture.

Obviously, these brief remarks greatly oversimplify an immensely complex reality. The citation of references has necessarily been quite selective and in no small measure arbitrary. Though I have emphasized convergence, one can well imagine an alternative description that focused on continued diversity if not divergence. I do however feel that the overall tendency has been toward unification, that a coherent overall view is gradually emerging, and that it will provide a firm basis for investigating language, cognition, and many aspects of human endeavor.

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An overview of cognitive linguistics

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This chapter provides a survey of cognitive linguistics (CL). It presents the historical and intellectual context leading to its emergence as a reaction against generativism and extreme modularism. The chapter describes the main theoretical and methodological tenets of CL (non-modularism, non-objectivist, blueprint view of linguistic meaning, emphasis on prototype categorization, the inseparability of experience-based encyclopedic knowledge from linguistic knowledge, embodiment, emphasis on constructions as form-meaning pairings), its main research areas (construction grammars, lexico-semantic networks, and conceptual metaphor and metonymy and blending), its impressive results and applications in these areas, and its main problems and possible future development (greater integration with current research on cognition, giving weight to actual use and to the social and cultural dimension of language, among others).

Keywords: generativism, historical context of CL, theoretical and methodological tenets of CL, results and applications of CL

1. Historical context of CL

Cognitive linguistics is a rather recent linguistic theory.¹ Though it is always difficult to locate exactly the date of birth of any theory, an important date in the inception of this theory is 1987. In this year, three of its foundational books were published: Lakoff's *Women, Fire and Dangerous Things*, Langacker's *Foundations of Cognitive Grammar* and Mark Johnson's *The Body in the Mind*. Some other dates that could give us some cues on the temporal course of this theory are 1989 (creation of the International Cognitive Linguistics Association (ICLA)) and 1990 (first journal dedicated to the dissemination of its ideas, *Cognitive Linguistics* (Mouton de Gruyter) and First International Cognitive Linguistics Conference). A further sign of the youth of this theory is

1. It is not, strictly speaking, one single theory, but rather a group of theories that share a number of basic theoretical principles; however for the sake of easy reference, we will refer to it as a theory.

the existence, even nowadays, of barely four or five introductions to cognitive linguistics (cf. the bibliography section), the first one dating from 1996 (less than nine years ago; the first introductions in Spanish date from 1994 and 1999, respectively).² All of this indicates that cognitive linguistics is a rather recent theory, which has been developing steadily for the last fifteen years or so. In this period of time, the number of publications has grown exponentially, and currently it is literally impossible to keep track all the works published within the framework.

Cognitive linguistics first started as a reaction against generative approaches to language. Chomskyan-generative tradition had built a view of language that made very strong commitments about the primacy of syntax, disregarding the role of semantics and pragmatics in linguistic theorizing. This was considered highly inappropriate for many authors, who, like Langacker, thought that:

Meaning is what language is all about; the analyst who ignores it to concentrate solely on matters of form severely impoverishes the natural and necessary subject matter of the discipline and ultimately distorts the character of the phenomena described. (Langacker 1987: 12)

Other aspects of the generative agenda were also extremely controversial, namely, the assumption of innate structures for grammar and language, especially in the form of a “universal grammar”, and the assumption that linguistic knowledge is isolated from the rest of cognitive faculties, which resulted in the claim of the autonomy of syntax and the modularity of language, that is, the existence of a specialized brain module dedicated to processing language in an encapsulated manner.

All these aspects were therefore addressed head on since the very beginning by cognitive linguists, who made a conscious effort to distance themselves from the above assumptions, which were then considered part of “mainstream” linguistics, and whose status was questioned by very few people at the time when cognitive linguistics started.

A recent, insightful overview of cognitive linguistics that emphasizes its contrasts with formalist approaches is Panther and Thornburg (2009).

2. Basic theoretical and methodological principles of CL

2.1 Basic theoretical principles

Cognitive linguistics has two fundamental tenets.

2. Cifuentes Honrubia, José Luis (1994) *Gramática cognitiva. Fundamentos críticos*, Madrid: Eudema and Cuenca, M. Josep and Joseph Hilferty (1999) *Introducción a la lingüística cognitiva*, Barcelona: Ariel.

2.1.1.1 *Non-modularism*

The first one affects the very status of language as a human ability. Cognitive linguists do not regard the ability to learn and use one's mother tongue as due to a unique faculty, a special innate mental module, distinct from other general cognitive abilities. The modularity hypothesis is still strongly advocated by generativist theorists (see e.g. Chomsky 1986: 18; Fodor 1983) and by other more or less faithful followers of Chomsky, including Jackendoff (see e.g. Jackendoff 1996: 96). Research in anthropological linguistics (Berlin and Kay 1969; Kay 1975; Kay and McDaniel 1978), in cognitive psychology (e.g. Heider 1971, 1972; Heider and Oliver 1972; Rosch 1973, 1977, 1978; Rosch and Mervis 1975; Rosch 1983), in cultural anthropology (e.g. Berlin, Breedlove and Raven 1974; Kempton 1981; Holland and Quinn 1987), evolutionary biology (e.g. Deacon 1997) and, to a lesser extent, in neurology and neurophysiology (Damasio 1994; Edelman 1992), rather seems to support a very different view.³

This view is that general cognitive abilities, like our kinesthetic abilities, our visual or sensorimotor skills, and above all, our typically human categorization strategies, especially our tendency to construct categories on the basis of prototypical basic-level subcategories or exemplars (Neisser 1987; Rosch 1983; Tsohatzidis 1990) jointly account, together with cultural, contextual and functional parameters, for the main design features of languages and for our ability to learn and use them. The so-called "language faculty" is, thus, claimed to be a product, or rather a specialization, of general cognitive abilities.

A keyword in cognitive linguistics is *embodiment* (Johnson 1987; Lakoff 1987, 1993a; Lakoff and Johnson 1980, 1999). Mental and linguistic categories cannot be abstract, disembodied or human-independent. Quite the opposite: we construct and understand our categories on the basis of *experience*, under the constraints imposed by our bodies. Human conceptual categories, the meanings of words and sentences, of linguistic structures at any level, are not just a combination of a set of universal abstract features, of uninterpreted symbols. A very large number of these meanings and structures are more or less directly motivated by experience, in many cases, by bodily experience. We would want to hypothesize, in fact, that the conventional meaning of most morphemes, words, and syntactic structures was partly motivated and not wholly arbitrary. At least they were in their genesis as symbolic structures at some stage in the development of a given language or of its parent languages. For example, Heine (1993) proposes three basic bodily-spatial semantic schemas as the motivation for grammatical categories (see also Goldberg 1995). According to Lakoff (1990, 1993a), most (if not all) basic abstract concepts, such as causation or time, or quantity (which underlie the meanings and the form of many linguistic structures) originate (via metaphor) in our bodily experience of spatial relations. This is, of course, a radical version of the embodiment claim. But most cognitive linguists agree that our bodily experience plays a major motivating role in the semantic and syntactic structures of languages.

3. Eleanor Heider began publishing under the name Eleanor Rosch after 1973.

Therefore, to cognitive linguistics, concepts, including linguistic concepts, are ultimately *grounded in experience* (bodily/physical experience, or social/cultural experience). This is thus apparently in conflict with an axiom in twentieth century linguistics: that of the arbitrariness of the linguistic sign.⁴ This insistence on embodiment and motivation explains the important role accorded to linguistic iconicity by cognitive linguists (Haiman 1985).

This view of language as a product of general cognitive abilities is in fact a result of the observance of a yet more basic principle in cognitive linguistics, namely, “the cognitive commitment” (Lakoff 1990): linguistic theory and methodology must be consistent with what is empirically known about cognition, the brain, and language. Since empirical evidence (especially psychological and linguistic, but also neurological, evidence) strongly favors the nonmodularist hypothesis, most cognitive linguists adopt this hypothesis; but they would take a modularist position if the bulk of evidence supported it.

2.1.2 “Non-objectivist”, “blueprint” view of linguistic meaning

The second fundamental tenet is concerned with the theory of linguistic meaning. Cognitive linguists claim that meanings do not ‘exist’ independently from the people that create and use them, as Reddy brilliantly showed long ago in a now classic essay (Reddy 1993 (1979)). Therefore they reject what both Lakoff (1987) and Johnson (1987) have termed ‘objectivism’ in linguistics and philosophy, since there is no objective reality that is independent from human cognition. And linguistic forms, as Fillmore, Lakoff, or Langacker say (see Ungerer and Schmid 1996: 208–209) are just clues, “blueprints” that activate the conceptual structures that we have formed in our minds, but have no *inherent* meanings in themselves. Meanings ‘reside’ in our minds and our brains (they can be characterized as neural routines). Linguistic forms just activate them.⁵

Though meanings are not really inherent in linguistic forms, they are conventionally *paired*, more or less directly, to them. As Lakoff (1987: 583) puts it: “The primary function of language is to convey meaning. A grammar should therefore show as directly as possible how parameters of form are linked to parameters of meaning”.

This association is very often more or less directly motivated, as we said above. Therefore, the cognitive linguist tends to regard every distinction in form, no matter how small, as in principle being linked to a corresponding distinction in meaning

4. Of course this is not to say that *total* motivation is the rule in linguistic forms or meanings. In many cases, in fact, the motivation is no longer apparent to the native speaker. Just think of the word *sad*: there appears to be no apparent motivation for its present meaning. But historical research may discover this motivation: in this case, the emotional meaning is a metaphorical extension from an earlier bodily meaning (‘sated, full’), on the basis of a basic metaphor that regards the person as a container for emotions (Barcelona 1986; Kövecses 1990).

5. Of course, the activation of meaning structures by linguistic cues is not so direct; complex interactions with contextual information (including the mental states and goals of participants) have to be taken into account. The gap between linguistic specifications and the mental meanings constructed from them is probably the hardest problem for any theory of language use.

(in a very broad sense of ‘meaning’). To put it differently, a cognitive linguist is in principle inclined to be suspicious of claims of synonymy, or of paraphrase relations, which in our view can never be absolute (Taylor 1995: 55–57), and to try and discover the *symbolic value* of each linguistic form.

2.2 Methodological principles

The above two main theoretical standpoints have a number of important consequences for linguistic methodology.

2.2.1 *Methodological consequences of non-modularism*

The perception of our linguistic skills as a product of general cognitive abilities has brought about, on the methodological plane, the rejection of the requirement that all analytical linguistic categories must impose necessary and sufficient conditions for membership in the category. Such a requirement entails, for instance, that there has to be one abstract, general definition (or a structural description) of passive clauses, which every seemingly passive clause conforms to. But such a definition is actually impossible to arrive at: no matter how sophisticated, it would always exclude some likely candidates.⁶ Another consequence of this traditional requirement would be the need for positing core abstract meaning complexes shared by all the senses of polysemous lexical items. The two different senses of *eye* in *She has blue eyes* and in *The eye of the needle* would thus be considered as related to one common, abstract semantic core (see Lakoff and Johnson 1980: ch. 18). This semantic core might be claimed to be ‘circular shape’ + ‘receded’. But, though arguably present in the two previous examples involving *eye*, this core cannot be discovered in the sense of *eye* manifested in *He has a good eye for beauty*, where the sense extension is due to metaphor or metonymy (see Sweetser 1986).

A cognitive linguistic methodology would take a very different path. One of the basic general cognitive abilities reflected in the structure and use of languages is prototype categorization: human categories are normally characterized by having one typical member of a category (the prototype), to which other members are related in a motivated way, these less central members departing from the prototype in varying degrees and along various dimensions (see all the references above to the work by Rosch and others). A cognitive methodology would then identify the prototypical use of *eye* as that referring to a body-part, and would treat the other uses of this lexeme as

6. Which syntactic or semantic properties do sentences like ‘*Cash has been replaced by credit*’, ‘*Cash has been replaced with credit*’, ‘*The computer was smashed by Mike*’ and ‘*I am very surprised to see you*’ have in common? Every experienced grammarian knows their syntactic properties (including their potentiality for active counterparts) are very different, not to mention their semantic ones. Saying that all passives are characterized by containing a *be* + *past participle* group will not do, because the fourth sentence can (more accurately) be described as containing *be* and an *adjective phrase* (notice the presence of *very*, which is a typical modifier of adjectives and adverbs).

motivated non-prototypical senses, related in a systematic way to the prototypical sense. In *The eye of the needle* and in *He has a good eye for beauty* the link is metaphorical. The study of polysemy and of the sense networks in polysemous lexical items thus becomes central in a cognitive approach (cf. Section 3.2). Of course this interest in sense networks or meaning chains is not incompatible with acknowledging the role of abstraction in the mental construction of prototypical senses (see Langacker's (1987: 373ff) speculation on the possible construction of a prototype sense for *tree*.) Similarly, a cognitive grammarian would recognize a central type of passive construction and a series (a network) of less central passive constructions motivated by the prototype. An important point then is that there are seldom any necessary and sufficient conditions in human conceptual categories, including linguistic categories.

A second consequence of this first principle is that no strict distinction can be made between encyclopedic, experienced-based knowledge and linguistic meaning. This means that our large, complex conceptual structures are invoked in language use and comprehension, and that conventional meanings (i.e. strictly 'semantic' meanings) arise on the basis of experience and general knowledge. Hence the commonplace claim in cognitive linguistics that meaning is ultimately pragmatic, and very often holistic, gestalt-like. Such a claim is obviously at variance with the traditions in semantics underlying such constructs as Carnap's meaning postulates or Katz's semantic markers and distinguishers. And if experience-based knowledge permeates linguistic meaning at every level, these levels are themselves open-ended, there being no strict separation between them, especially between symbolic levels, i.e. between lexicon and grammar, or between levels in the organization of meaning, i.e. semantics and pragmatics (or even between synchrony and diachrony).

This continuum between language and experience explains the fact that the study of conceptual structures or cognitive models as reflected in language has been an important area of research in cognitive linguistics from its very beginning. Two complementary tendencies are Fillmore's frames (Fillmore 1975, 1976, 1982, 1985; Fillmore and Atkins 1992), and Lakoff's theory of idealized cognitive models (Lakoff 1982, 1987: 51–57). Cognitive models very often reflect cultural models (see below).

A third consequence of this first principle is the enormous importance given by cognitive linguistics to imagination, a basic human cognitive ability, normally despised in "scientific" theories of language, hence to such basic imaginative mental mechanisms as conceptual metaphor and metonymy (see Section 3.3).

2.2.2 *Methodological consequences of the non-objectivist and blueprint view of linguistic meaning*

The emphasis upon the non-objectivism and the "blueprint" conception of linguistic meaning, and upon the symbolic character of language results in the methodological relevance given to detailed descriptions rather than to Post rules (mathematical formulae developed by Emil Post) or to other formal systems whose generative or predictive power has then to be constrained by artificial 'filters'. In generative approaches, it

is these abstract, formal structures and rules that are supposed to be closer to psychological reality than the morphosyntactic configurations (constructions) which are claimed to be their output, and which are regarded in these approaches as mere epiphenomena. By contrast, in cognitive linguistics the detailed analysis of grammatical constructions as conventional pairings of form and meaning (including pragmatic meaning) becomes of prime interest (Fillmore 1988; Fillmore Kay and O'Connor 1988; Goldberg 1995, 2006; Lakoff 1987: 462–586; Langacker 1987, 1991). The same spirit is applied to the study of the lexicon, as we have seen, and to the study of phonology (Taylor 1995: 222–239).

3. Main directions and current research tendencies in CL

3.1 Construction Grammars

Like CL itself, Construction Grammar can be conceived as a general approach, as a way of conceiving language and of how grammatical description should proceed rather than as a particular theory. Construction Grammar can be said to be the theory of grammatical representation in cognitive linguistics. There are several variants or instantiations of this general approach. Some of them are (i) Fillmore and Kay's Construction Grammar (e.g. Kay and Fillmore 1999); (ii) Goldberg's Construction Grammar (e.g. Goldberg 1995, 2006), (iii) Langacker's Cognitive Grammar (Langacker 1987); (iv) Croft's Radical Construction Grammar (e.g. Croft 2001) and (v) Embodied Construction Grammar (e.g. Bergen and Chang 2005). Due to space constraints, we cannot review all of them and specify their differences here (the interested reader is referred to Chapter 10 of Croft and Cruse 2004 and chapter 20 of Evans and Green 2006). Instead, let us focus on some of the common characteristics that all these theories share.

In Construction Grammar, the basic unit of language is a "construction". Rather than a schematic syntactic rule, a construction is a rich conglomerate of heterogeneous information. In a construction, different parameters of form (e.g. syntactic order, morphological information, even phonological or intonational constraints) become paired with different parameters of meaning, including not only semantic content but also pragmatic functions, etc. In this respect, constructions are "symbolic units" in the Saussurean sense, linking a form (or signifier) with a meaning (or signified). This also implies that construction grammars run directly against the autonomy of syntax, since different types of sources of information can co-occur within a given construction. In opposition to other approaches, in this conception of grammar, phonology (for example) can influence grammaticality. One example of this case is supplied by the so-called "incredulity sentences" (also called "MAD-magazine sentences"), such as *Tony wear a tie?* In these sentences, a given intonational pattern, namely the ascending interrogative curve, interacts with morphosyntactic features to convey the semantico-pragmatic meaning of incredulity on the part of the speaker. Note that

without the associated intonation, such sentences would be ungrammatical, since there is no agreement between subject and verb (*Tony wear a tie*, instead of canonical *Tony wears a tie*). Incidentally, such sentences also exist in Spanish, with very similar characteristics (e.g. *¿Antonio ponerse corbata?*).

In Construction Grammar, lexicon and syntax form a continuum, or to express it differently, they are different points in the schematic-specific hierarchy. Thus, Construction Grammar invokes the same mechanisms to explain lexically specified constructions, such as idioms (e.g. *kick the bucket*), formulaic expressions (e.g. *how do you do, good to see you, you can say that again!*) or collocations (e.g. *rancid butter, throw a party*) as well as maximally abstract configurations, like the SUBJ + VERB PHRASE CONSTRUCTION, which could be applied to an open-ended number of expressions with highly different degrees of internal complexity (e.g. a simple sentence like *she sleeps* or a more complex one like *the fact that you are reading this makes me so happy that I feel like dancing*). In between these two extremes, we find many mid-level constructions that can include at the same time open variables and lexically defined constants. Many of the efforts of construction grammarians have been addressed towards these intermediate constructions, precisely to demonstrate the existence of this syntax-lexicon continuum. Some examples could be the WHAT'S X DOING Y? construction (which licenses expressions such as *What's your brother doing in my living-room?* or *What's this fly doing in my soup?*), THE X-ER, THE Y-ER (e.g. *the more, the merrier, the fuller, the better*, etc.) or in Spanish QUÉ N MÁS ADJ (licensing expressions such as *qué playa más bonita, qué plato más lleno, qué moto más ruidosa*, etc.). The assumption is that language contains structures at all levels of the specific-abstract hierarchy, and that restricting linguistic explanations to these two extremes would necessarily leave a great deal of linguistic facts uncovered. All these different constructions are organized in taxonomic networks, with the result that construction grammarians conceive the grammar of a language as a "structured inventory of symbolic units".

Construction Grammar adopts a "weak-compositionality" approach, that is, the meaning of the whole can be related to the meanings of its parts, but allowing for the meaning of *the construction itself* to make its contribution. For example, if we consider the previously mentioned WHAT'S X DOING Y construction, we see that sentences licensed by this construction cannot be interpreted in a fully compositional manner, since we are not really asking what someone/something is doing. Just consider a sentence such as *What's that scratch doing in my table?*: there is no action going on. Instead, what the construction does is activate a conventionalized conversational implicature by which the unexpected nature of the state of affairs is conveyed. Such a meaning must be ascribed to the construction itself, rather than to the elements which comprise it. Adele Goldberg (e.g. Goldberg 1995, 2006) has also claimed that the caused-motion meaning of some expressions arises from the syntactic configuration of certain elements (that is, from the construction itself), rather than from the meaning of the words instantiating the construction (i.e. compositionally). For example, the configuration Subj-V-Obj-Path will force a caused-motion reading of the verb inserted

therein; this is what happens in cases such as *she sneezed the napkin off the table* or *they laughed the poor guy out of the room*.⁷

Finally, all Construction Grammars are also *usage-based*. What this means is that grammatical patterns are not innate in any way, but rather “emerge” out of usage, by the conventionalization (also known as “entrenchment”) of the most frequent patterns of use. Michael Tomasello has successfully shown how the language acquisition problem can be solved by assuming that children use a usage-based constructional approach (Tomasello 2003).

3.2 Lexico-semantic networks: Polysemy

One of the *fortes* of CL has been the study of linguistic polysemy. Polysemy, or the fact that a given linguistic object can activate more than one meaning, is one of the most pervasive phenomena in language, emerging at almost every single level, including morphology, syntax and intonation. This problem is especially relevant at the level of the lexicon; for example, out of the 60,000 entries in Webster’s Seventh Dictionary, 21,488, almost 40%, have two or more senses. The most commonly used words tend to be polysemous; for example, the verb *run* has 29 senses in this dictionary and is subdivided into nearly 125 sub-senses. It is notoriously difficult to pinpoint what the nuances in meaning are when the same word appears in different contexts and how the different meanings are related among themselves (or to decide whether they *are* related).

Drawing on its insights from categorization theory (especially, prototype theory, see the references to Rosch in 2.1.1 above), CL has been able to provide principled explanations to the most rampant and previously unanalyzed forms in the lexicon, namely, grammatical words (e.g. prepositions, conjunctions, etc.). Probably the paradigmatic example is the analysis of prepositional polysemy. We offer a very quick overview in this section, which should not be taken to mean that this approach cannot or has not been extended to other linguistic categories.

The most cited example in prepositional analysis comes from Claudia Brugman’s pioneering analysis of the preposition *over* (Brugman 1981).⁸ Since then, there have been myriad studies of many different prepositions in many different languages.⁹

7. Not all cognitive linguists would agree with such a view. Langacker, for example, denies the construction any real contribution to their meaning (see, e.g. 1999: 1). In his view, the meaning of a construction is an autonomous, pre-existing semantic structure and the construction simply links it to a phonological structure by virtue of a number of compositional and other principles: “[...] language necessarily comprises *semantic structures*, *phonological structures*, and *symbolic links* between the two. The central claim of CG [cognitive grammar] is that nothing else is needed”.

8. Another often quoted pioneering work is Susan Lindner’s analysis of English verb-particles “up” and “out” (Lindner 1981).

9. Far too many to cite here; for a small token, cf. Zelinsky-Wibbelt (1993) or Cuyckens and Zawada (2001).

However, the English preposition *over* has been taken as a “testing-ground” for the theory and has accordingly been studied successively by Brugman (1981), Brugman and Lakoff (1988), Dewell (1994), Kreitzer (1997) and more recently Tyler and Evans (2003) among others.

In her initial study of the preposition *over* Brugman (1981) found this preposition to be a highly polysemous word, as shown in the examples in (1):

- (1) a. *The lamp hangs over the table*
- b. *The bird flew over the hill*
- c. *The boy walked over the hill*
- d. *The boy lives over the hill*
- e. *The wall fell over*
- f. *Chenao fell over a cliff*
- g. *Sam turned the page over*
- h. *She spread the tablecloth over the table*
- i. *There were magazines all over the table*
- j. *The play is over*
- k. *Do it over, but don't overdo it*
- l. *Look over my corrections, and don't overlook any of them*
- m. *You made over a hundred errors*

In each of these cases, we could say that the scene that ‘over’ denotes is different; in many of these cases ‘over’ codes different types of motion, but sometimes what is denoted is a static scene (cf. Figure 1). In some other cases, we find that ‘over’ activates senses that are non-spatial (cf. the examples (k), (l) and (m) in (1)).

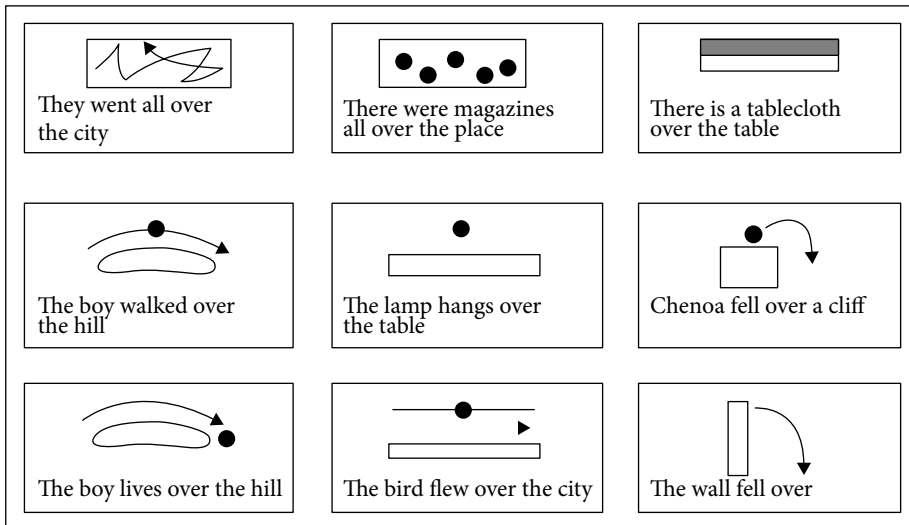


Figure 1. Different spatial scenes activated by the different sense of ‘over’

Looking carefully at these examples, Brugman was able to construct a principled network of senses, with several different but related central senses or *prototypes* (forming what is known as a ‘radial’ category), and the rest of the senses being derived from them by different types of links, including metaphoric links. In this way, she was able to show that instead of a list of arbitrary, unrelated meanings, the different prepositional senses were in fact connected to each other in a motivated manner.

3.3 Metaphor, metonymy, and blending

As stated in Section 2.2.1, one of the methodological consequences of the account of language as a product of general cognitive abilities is the importance given to imagination, a basic human cognitive ability. We humans ‘make sense’ of our less directly apprehensible experiences (for instance, of our experience of time, of emotions, or of human interaction), on the basis of more directly apprehensible and more easily describable experiences, which are usually bodily experiences. Thus we often project, for instance, part of our bodily experience of three-dimensional space onto our experience of time and talk about the future being “ahead”. Or we map it onto our experience of happiness and talk about being in “high” spirits, or onto our experience of power and talk about having control “over” somebody (Lakoff and Johnson 1980:15–17). In so doing, we use our imagination. In many cases the more direct experiences mapped are themselves understood metaphorically or metonymically on the basis of *image-schemas* (Johnson 1987), which are preconceptual structures that we acquire as a result of our earliest bodily experiences (basic conceptual complexes like ‘container’, ‘path’, ‘centre/periphery’, ‘up/down’). Metaphor and metonymy determine a large part of lexical and grammatical meaning and form (Lakoff 1987: 462–585, 1993b; Goldberg 1995; Sweetser 1990: 49–149; Panther, Thornburg, and Barcelona 2009 is a recent collection of papers with cutting-edge research on the wide-ranging role of metaphor and metonymy in many areas of grammar in very different languages). There are two basic imaginative cognitive mechanisms: *metaphor* and *metonymy*. They are not just rhetorical devices, not just a matter of words. They are *mental projections* or *mappings* of one domain of experience onto a different domain of experience, and they are normally carried out unconsciously and effortlessly.

Metaphor can be defined as the cognitive mechanism whereby one experiential domain is partially ‘mapped’, i.e. projected, onto a different experiential domain, so that the second domain is partially understood in terms of the first one. The domain that is mapped is called the *source* or *donor domain*, and the domain onto which the source is mapped is called the *target* or *recipient* domain. Both domains have to belong to different superordinate domains. This is basically the cognitive concept of metaphor propounded by George Lakoff, Mark Johnson and Mark Turner and by other cognitive linguists that have been investigating the field for the past twenty-five years.

In the well-known metaphor LOVE IS A JOURNEY (cf. Lakoff and Johnson 1980; Lakoff 1987), the domain of journeys, itself a subdomain in the domain of movement,

is mapped, that is, superimposed, onto the domain of love, itself a subdomain of the domain of emotions:

- (2) a. *Look how far we've come*
- b. *Our relationship is off the track*
- c. *We're spinning our wheels*

This mapping transfers a large number of aspects (attributes, entities and propositions) from the experiential domain of journeys to the experiential domain of emotions, and specifically to the domain of love (Lakoff 1993: 206–209). Among them we can single out the following correspondences or submappings: (i) the lovers correspond to the travelers, (ii) the love relationship corresponds to the vehicle in the journey, (iii) the lovers' common goals correspond to their common destinations on the journey, and (iv) difficulties in the relationship correspond to impediments to travel

These are *ontological submappings* or *ontological correspondences*: that is, the source domain entities (people, objects, etc), actions or states are mapped onto their counterparts in the target domain. There are also *knowledge* (or *epistemic*) *submappings/correspondences*. For example, the journey situation in which the vehicle gets stuck and the travelers try to set it in motion again, either by fixing it or getting it past the impediments that prevent its progress, corresponds to the love situation in which the love relationship becomes unsatisfactory and the lovers try to make it satisfactory again either by improving it or by solving the difficulty that prevented it from functioning properly. An important aspect of metaphor is that its elaboration is typically open-ended (Lakoff and Turner 1989: 106–110; Barcelona 1997), and can be creatively exploited in text and conversation.

Other properties of metaphor highlighted by the cognitive theory of metaphor and metonymy (CTMM), which cannot be presented here for lack of space, are the following:

- The *unidirectionality* attributed to metaphorical mappings (Lakoff and Turner 1989: 132; see also Jäkel 1999), which represents an important difference between the CTMM and other modern theories of metaphor, like Black's interaction theory (Black 1962).
- The *Invariance Principle*, whose main thrust is that the mapping cannot violate the basic image-schematic structure of the target domain (Lakoff and Turner 1989: 82–83; Lakoff 1990, 1993; Turner 1990).

Metonymy has not received so far as much attention in cognitive linguistics, although it is probably even more basic than metaphor in language and cognition (Barcelona 2000b, 2002b; Taylor 1995). Metonymy is a cognitive mechanism whereby one experiential domain is partially understood in terms of another experiential domain included in the same common experiential domain. In metonymy the target domain is "highlighted", i.e. mentally activated or accessed (see Kövecses and Radden 1998), often with a limited discourse purpose (Lakoff 1987: 78–80). If we study one of Lakoff and

Johnson's (1980) examples, namely, *Washington is insensitive to the needs of the people*, we find, within the common conceptual/experiential domain associated to this city of the United States, among others, the subdomain of the political institutions located in it. Via metonymy, this latter subdomain is activated and additionally referred to from the overall domain of the city itself as a location, which is backgrounded in the normal interpretation of this sentence.¹⁰

From what has been said so far, it should be clear that both metaphor and metonymy are mental mechanisms, not to be confused with their expression, linguistic or otherwise. Metaphors and metonymies are often not verbalized, but can be expressed through gestures (McNeill 1992) or other non-verbal communicative systems (see e.g. Taub 2001, and Wilcox 2004 for their role in American Sign Language, or Soriano 2005 for their role in images), or not be communicated at all and simply motivate our behavior (Lakoff and Johnson 1980: 156–159).

A recent tendency in cognitive linguistics which subsumes metaphor and metonymy as special cases of more general mental mapping mechanisms is the theory of “blending” or conceptual integration (Turner and Fauconnier 1995, 2000; Fauconnier 1997; Coulson and Oakley 2000), which is an extension of Gilles Fauconnier's earlier work on mental spaces (Fauconnier 1994). This new approach seems to explain more precisely the functioning of metaphor and metonymy in discourse. It basically claims that in conceptual mapping, as it proceeds in discourse, the source and the target domains (or “input spaces”, as they are called) are mapped onto a “blended space” or “blend”, where source and target are partially mixed, and which is normally only a provisional, *ad hoc* domain. There is also a fourth “generic space”, which contains skeletal structure taken to apply to both source and target. The theory of blending, or the “many-space model”, as it is also called, is designed to account, not only for metaphor and metonymy, but also for irony, counterfactuals, and certain grammatical phenomena.

4. Main results and applications of CL

4.1 In Construction Grammars

Construction Grammar is by now a rather well established grammatical theory, and it has produced quite a number of works that describe many languages. Some examples include Icelandic (Barðdal 1999), Basque (Bellver and Michaelis 1999), Dutch (Booij 2002), German (Boas 2000), French (Deulofeu 2001; Lambrecht 2002), Czech (Fried 2004), Spanish (Hilferty and Valenzuela 2001), Finnish (Kolehmainen and

10. This is what Langacker (e.g. Langacker 1999) calls an “active zone metonymy”, as WASHINGTON is a reference point for U.S. POLITICAL INSTITUTIONS as active zone targets.

Larjavaara 2004), Russian and Swedish (Leinonen and Östman 1983), Latin (Michaelis 1994), Vietnamese (Michaelis 1994) or Japanese (Ohara 1994), among others.¹¹

Another proof of the maturity of the theory is the existence of an International Conference on Construction Grammar (which has been held seven times so far the publishing house John Benjamins has also launched a new book series dedicated to the dissemination of constructional approaches to language. So far, ten volumes have already been published.

Another very recent development has been the creation of a new peer-reviewed electronic journal (with open access) centered on Construction Grammar. Its editors (Alex Bergs and Anette Rosenbach) set out to offer

... a forum for linguistic research concerned with the structure, use, function, and development of 'constructions' in language and linguistics. The journal aims at a balanced integration of both notional, informal approaches to constructions in general and more formal treatments, as for example, within the framework of construction grammar.¹²

4.2 In polysemous lexical networks

As stated before, the prepositional network approach has provided a powerful tool for analysts, and there have been in the last few years a wealth of studies that have covered most English prepositions, as well as studied prepositions from many different languages (cf. note 9). However, it is worth repeating that not only prepositions have been studied; a wider list of references including other types of polysemous lexical items could be Cuyckens and Zawada (2001), Cuyckens, Dirven and Taylor (2003), Evans (2004), Fillmore and Atkins (1992, 2000), Geeraerts (1993, 1994), Herskovits (1986), Lakoff (1987), Lakoff and Norvig (1987), Nerlich, Todd, Herman and Clarke (2003), Tuggy (1993, 1999), Tyler and Evans (2003) and Vandeloise (1991, 1994). One of the advantages of this plethora of analyses is that all these descriptions have been made using the same (or a very similar) theoretical tools, and as a result, many of the descriptions can be compared or contrasted.

This fact is linked with what could probably constitute one of most important applications of this area of research: the application to the field of Applied Linguistics. Quoting Pütz, Niemeier and Dirven's 2001 book, *Applied Cognitive Linguistics*, "as a usage-based language theory, CL is predestined to have an impact on applied research in such areas as language in society, ideology, language acquisition and language pedagogy". So, for instance, the number of authors pointing at the usefulness of cognitive

11. For a fuller list, consult the bibliography section found at <http://www.constructiongrammar.org/>. This website is dedicated to the dissemination of Construction Grammar results, and offers not only a bibliography section but also a definition of the theory, a list of researchers working within the paradigm, events related to the theory and some other related links.

12. The website is <http://www.constructions-online.de/>.

linguistics in language pedagogy has been expanding at a great speed. Phrasal verbs, for example, have traditionally been one of the tough spots in the learning/teaching of English. Cognitive linguistics offers the tools to systematize and facilitate the teaching of this “tough spot”. As an example, in the aforementioned book we find articles such as “English phrasal verbs: theory and didactic application” (René Dirven), “Teaching English phrasal verbs: a cognitive approach” (A. Kurtyka) or “A usage-based approach to modeling and teaching the phrasal lexicon” (Kurt Queller). Another important work is Brygida Rudzka-Ostyn’s 2003 book, which is fully devoted to the teaching English phrasal verbs by applying the insights of CL. The result seems to have been rather satisfactory, since in the review of this book in the *Linguist List*, we read that: “This book successfully combines the findings of cognitive and applied linguistics and implements them into ESL/EFL teaching material”.

4.3 Metaphor, metonymy, and blending

The CTMM has caused an enormous upsurge of interest in the study of metaphor, not only within cognitive linguistics (manifested in hundreds of publications and in specialized international conferences, like the Researching and Applying Metaphor conference series or the conferences organized by Euresco, the European Union agency for high-level scientific conferences), and the past two decades have witnessed a steady effort aimed at describing the metaphorical systems in many languages, especially English.¹³

The main theoretical result of the CTMM, which will probably remain as a permanent element of semantic theory and of cognitive science in general, is the realization that metaphor and metonymy are not just a matter of language use, but also, and fundamentally, a matter of thought, of conceptualization, and that they can account for a multiplicity of phenomena, linguistic and otherwise. Another finding is the realization that creative, conscious, unconventional metaphors are usually extensions or elaborations of automatic, unconscious, conventional metaphors. As for blending, though it may be still too early to assess its theoretical results, it seems to constitute a genuine general theory accounting for the human mapping ability.

As for the applications of the CTMM and of blending theory (BT) to the study of language, there has been a fast-growing body of research pointing out the fundamental role of metaphor, metonymy and blending in linguistic meaning and structure (morphology, syntax, semantics, pragmatics, even phonology) at all levels (lexicon, grammar, discourse) and showing how the same conceptual process (metaphor,

13. As examples of the growing interest in metaphor by anglicists we may quote Kövecses (2002), Turner (1987, 1991, 1996), Lakoff and Turner (1989), collections of essays like Hiraga and Radwńska-Williams (1995), Barcelona (2000), or Dirven and Pörings (2002).

metonymy, blending or a combination of them) often motivates a multiplicity of different linguistic phenomena.¹⁴

But both the CTMM and BT have been applied to other disciplines, among them psychology, philosophy, cultural models, especially those of the emotions, artificial intelligence, second language learning research, the study of literature and other art forms, the study of politics, ethics, law, mathematics, religion, and many others.¹⁵

5. Remaining problems and future research

5.1 General cognitive linguistics theory

The problems that any single theory has to solve are open-ended; in this sense, one could even wonder whether a *complete* theory of language would be possible. This means that CL, like any other possible theory of language, still has a long way before it can be said to approach that “hypothetical completeness”. In this short section, we will review some of the possibilities for this long list of “to do’s”.

One of the issues that has been brought up in connection with CL is its status as a real ‘*cognitive*’ theory. Cognitive linguistics tries to describe language in connection to the rest of cognition. As was mentioned above (see 2.1.1), this has been explicitly articulated in Lakoff’s “cognitive commitment” (Lakoff 1990): the need to provide an account of language that is consistent with what other disciplines of cognitive science (e.g. neuroscience, cognitive psychology, developmental psychology, psycholinguistics, etc) have revealed about cognition and the brain. However, a number of authors

14. In addition to the publications cited in the previous footnote, the following are only a sample of the many publications including examples or surveys of this research: Barcelona (1997b), Barcelona (2002b), Barcelona (2005), Cifuentes (1998), Cuyckens, Berg, Dirven & Panther (2003), Fauconnier and Turner (2002), Langacker (1995, 2009), Panther and Radden (1999), Panther and Thornburg (2003), Panther, Thornburg, and Barcelona (2009), Ruiz de Mendoza and Otal (2002), Soares et al (2004), Talmy (2000), or White, Herrera and Alonso (2003). The references cited in Sections 4.1. and 4.2 are also relevant, since CL research in construction grammar and in polysemy networks regularly invokes metaphorical and metonymic mappings or blending processes to explain and describe the facts under study.

15. See, among many others, Gibbs (1994) for psychology; Lakoff and Johnson (1999) for philosophy; Barcelona (1986), Kövecses (1986, 1988, 1990, 2000, 2005), Palmer (1996), Shore (1996), Soriano (2005), and certain papers in Gibbs and Steen (1999) and Taylor and Mc Laury (1995), for the study of cultural models; Barnden (1991–1994), Brooks and Stein (1993), Martin (1989), or Fass (1997), for artificial intelligence; Correa (1989), Cameron and Lowe (1999) and several papers in Pütz *et al* (2001), for second language learning research; Hiraga and Radwanska-Williams (1995), Lakoff and Turner (1989), Turner (1987, 1991, 1996) for literary studies; Lakoff (1992, 1996), Charteris-Black (2005) for the study of politics; Johnson (1993) for ethics; Winter (1989) for law; Lakoff and Núñez (1997), for mathematics; and Boeve et al. (1999) for the study of religion and religious discourse.

have questioned whether this commitment is actually being met. For example, in his paper “Does cognitive linguistics live up to its name?” Peteers (2001) casts some doubts on this question, and prompts researchers in the field to try and follow Lakoff’s commitment with increased efforts. It must be mentioned, however, that there *is* a growing awareness of this need among workers in the field, and that CL is really turning towards other cognitive sciences, and especially psycholinguistics and neuroscience. The number of studies devoted to providing an empirical basis to the insights of CL is growing exponentially. In this sense, the series of workshops titled “*Empirical Methods in Cognitive Linguistics*”, held five times so far since the initial one in 2003, could be taken as a proof of this tendency. This event has crystallized in a popular textbook in which a broad range of empirical methods for cognitive linguistics are explained (Gonzalez-Marquez et al. 2007). Another result of this move is the increase in the types of methodologies followed by cognitive linguistic researchers, which now routinely include corpus analysis, and quite often different types of psycholinguistic experimentation (computational modeling is still scarce, though by no means nonexistent; see Valenzuela 2010 for a review).

Another point of debate in the field concerns the weight that has been put on the ‘individual’ aspects of language processing. Some voices have been heard that warn against an excessive emphasis in the responsibility that the cognitive predispositions and constraints in the mind of the ‘speaker’ have in creating meaning. To some authors, many of the cognitive phenomena that we are trying to explain (and most particularly, language), also have an important *social* component. In this sense, there have been attempts to reconcile the ‘cognitive’ or ‘individual-based’ approach of CL with other traditions that focus more explicitly on social aspects, such as the Vygotskian tradition. This should not be taken to mean that CL has at any point disregarded the importance of social aspects; nothing further from the truth. CL depicts itself as an ‘usage-based’ theory, that is, a theory in which language is seen as arising from usage in a given community. There are basic notions in CL such as ‘conventionalization’ or ‘entrenchment’ (used both in metaphors and in constructions, for example) that are crucially based on the existence of societal mechanisms. However, it must be conceded, that, quite probably due to initial methodological reasons, the greater emphasis has been put on the individual side. Some authors (e.g. Geeraerts, Sinha or Zlatev¹⁶) have been suggesting that it is time now to turn our attention to a more detailed analysis of these social mechanisms that are so important in the emergence and use of language. A paradigmatic example could be the psycholinguist Michael Tomasello, who, as shown in his book (Tomasello 2003) on language acquisition, opts for quite detailed explanations in which both sides of cognition are successfully reconciled.

16. For example, Zlatev’s opinion “there is a neglect of the social character of language” and “the cognitive attempt to ground meaning in bodily schemata (...) is matched by an underestimating of linguistic systematicity within “language use” (Zlatev 1997: 48).

5.2 In Construction Grammar

One of the cornerstones of generative grammar has been the study of syntactic structures. For many decades, Chomskyan linguistics has supplied very detailed analyses of different syntactic structures, involving highly formalized models of the various grammatical phenomena. Such analyses have been criticized from the cognitive linguistic camp precisely due to their over-emphasis on formalization. Formalization is one of the issues on which formal and functional approaches most bitterly disagree. It is true that an excessive (or premature) emphasis on formalization can obscure more than clarify linguistic descriptions, but almost every scholar acknowledges that formalization can be a powerful tool for the explicit, precise, accurate and unambiguous expression of generalizations, a feature that many cognitive scientists have found lacking in construction grammars and feel it would be desirable to incorporate. Within the cognitive linguistic field there are different opinions on this complex issue, and we find two different tendencies: on the one hand, those that tend to concentrate on the content of their analyses, leaving formalization details for a more advanced stage of the theory (e.g. Goldberg's Construction Grammar), and those that have already started to worry about this type of problems. For example, Fillmore and Kay's Construction Grammar uses a descriptive apparatus that links their theory to *unification-based* approaches (see e.g. Kay and Fillmore (1999); cf. Shieber 1986) and makes it compatible with generative theories such as Head-driven Phrase Structure Grammar (HPSG) (Pollard and Sag 1994). Another recent addition to this quest for formalization is the Embodied Construction Grammar approach, which, though quite far from generative fields, is striving towards a formalism that is "precise enough to support a computational implementation" (Bergen and Chang 2005:2). An even more recent newcomer has arrived from the field of Robotics: Luc Steels is working in the "Fluid Construction Grammar" formalism, a computational formalism that takes Construction Grammar as the foundation on which artificial agents (e.g. robots) can learn in a self-organized way language systems which are grounded in the real world through sensorimotor embodiment (Steels 2005).

5.3 In the study of lexical networks and polysemy

Lexico-semantic networks have proved quite efficient methodological tools for the analysis of highly polysemous linguistic items. However, at the light of some of these analyses, especially of prepositions, some authors have worried such analyses can be "too powerful", so to speak, since this methodology allows for the relatively easy extraction of very detailed and subtly differentiated senses. In this sense, Sandra and Rice (1995) warn that some of these analyses could in fact be "artifacts" of the explanatory devices, more than real differences established in the minds of speakers. Their study has had an influence in subsequent research, and the more recent studies take this potential risk into account (e.g. Tyler and Evans 2003); it is to expect that

future investigations will include this issue and distinguish the purely linguistic analyses from the models which are proposed as having psycholinguistic existence in the minds of speakers (cf. also the exchange between Croft 1998, Sandra 1998; Gibbs and Matlock 1999, and Tuggy 1999, in the journal *Cognitive Linguistics* on the limits of linguistic analyses).

5.4 Metaphor, metonymy, and blending

The CTMM has highlighted the fundamental conceptual nature of metaphor and metonymy, the fact that metaphor is a complex unidirectional mapping, and several other important properties. However, there still remain a sizable number of issues in the CTMM that require clarification. Many of them have to do with the distinction between metaphor and metonymy; sometimes it is not easy to say with certainty whether an observed mapping is to be regarded as metaphorical or metonymic.¹⁷ To some of these scholars, both phenomena are neatly distinguishable, whereas to others, they are simply the two ends of a continuum of mapping processes. Closely linked to the problems of distinction are those presented by the frequent interaction between metaphor and metonymy. The patterns of interaction, especially when manifested linguistically, should be identified and described more systematically.¹⁸ A hypothesis linked to one of these interaction patterns, namely, the possible metonymic motivation of *every* metaphor, is particularly important for its theoretical consequences.¹⁹ Other problems affect specifically the nature of metonymy: is it an essentially different conceptual shift from the one called “modulation” by Cruse? Is there a continuum from purely literal uses of linguistic expressions to clearly metonymic ones?²⁰ Yet another type of problem is how to account for the effect of general discourse-pragmatic principles on the exploitation of a metaphor or a metonymy in a text (Which submappings are foregrounded? Which ones are backgrounded? How are they elaborated or extended? etc.). All of these groups of problems are, in fact, closely related. Something else that the CTMM still has to do is compile a systematic typology of the major metaphors and

17. This issue has been the object of intense discussion. See e.g. Lakoff and Turner (1989: 100ff), Barcelona (1997a, 2002a, 2003), Goossens et al (1995).

18. Some interesting attempts in this direction can be found in Barcelona (2000a), Dirven and Pörings (2002), and Goossens et al. (1995) among many others.

19. In this respect, see Barcelona (2000b), Radden (2000, 2002), Goossens (1990), and Goossens et al. (1995).

20. On this point, see Barcelona (2002a, 2003).

metonymies in English and other languages with a specification of their systematic connections with each other and their hierarchical relationships.²¹

As regards BT, its claim that the blended space includes new conceptual structure not derivable from the input spaces has met with some important criticism (see Ruiz de Mendoza and Díez de Velasco 2002).

Finally, both the CTMM and BT also require some more experimental support to assess their neurological and psychological correctness.²²

Despite these problem areas, we think that the CTMM is, compared with other approaches to metaphor and metonymy developed in linguistics, rhetoric or philosophy, the theory that best accounts for these conceptual mechanisms from a cognitive science perspective. And BT is the first really comprehensive and systematic account of the general human mapping ability.

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21. See Lakoff's Master Metaphor List at <http://cogsci.berkeley.edu/lakoff/> for English metaphors, quite incomplete. See also the Hamburg Metaphor Database (on French and German metaphors) at <http://www.metaphorik.de/03/eiltsloenneker.htm>. As for metonymy, the best (yet limited) typology can be found in Kövecses and Radden (1998), Fass (1997) and Norrick (1981). All of these lists and typologies either assume or are compatible with the CTMM.

22. There has been a great deal of important experimental research in psychology supporting the CTMM (see, among many others, Boroditsky 2000, Gibbs 1994, Valenzuela & Soriano (2007), Soriano & Valenzuela (2009), and the experiments by Julio Santiago and his co-workers at the University of Granada; see Santiago et al. 2007), but much more still has to be done, and the same can be said with respect to BT.

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PART 2

Consolidating the paradigm

Pattern versus process concepts of grammar and mind

A cognitive-functional perspective*

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This chapter focuses on one element dividing cognitive linguistics and more traditional functional linguistic approaches to grammar, viz. the contrast between the construction oriented approach predominating in the former and the rule or process oriented approach prevailing in the latter. It offers a ‘conceptual analysis’ of the issue, arguing (i) that a process concept of grammar is not misguided (pace suggestions to the contrary by some cognitive linguists) but needs to integrate certain insights from the constructional approach, and (ii) that in some version the two model types are largely compatible, reflecting different perspectives on the same phenomena.

Keywords: Construction Grammar, functional linguistics, rule/process based grammar

1. Introduction

This chapter reflects on the somewhat tenuous relationship between cognitive linguistics (henceforth CL) and more traditional functional linguistics. Both strands share very many principles and practices (Nuyts 2007), but there are also a few dividing issues between them. This chapter predominantly focuses on one of these, viz. the contrast between the pattern or construction oriented approach to grammar predominating in CL and the rule or process oriented approach to grammar prevailing in traditional functionalism. Some cognitive linguists (among them Langacker and Croft) have raised the suggestion that this contrast is fundamental, and that a process concept

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is misguided. Taking the cognitive-functional process model perspective sketched in Nuyts (2001) as its vantage point, the present chapter offers a ‘conceptual analysis’ of the issue. It argues that a process approach is not misguided at all, and is, on the contrary, indispensable in a cognitively and functionally plausible model – although it definitely needs to integrate certain insights from the constructional approach. It moreover argues that – depending on how the constructional approach is defined precisely, and provided the process approach adopts certain constructional principles – the two model types are actually to a large extent compatible, reflecting different perspectives on the same phenomena.

This chapter is organized as follows. Section 2 offers a historical sketch of the relations between CL and classical functionalism. Section 3 briefly addresses one matter that – at least until recently – separates (or has separated) the two strands, viz. the explicit concern with language as a cognitive system. This discussion – which mainly affects traditional functionalist approaches – offers the context to introduce a few very basic principles concerning the conception of a grammar emerging from the combination of a cognitive and a communicative perspective on language (the cognitive functional perspective). These principles – and especially the principle of ‘dynamism’ – are essential also for the pattern vs. process issue featuring centrally in the remainder of the chapter (Sections 4 through 9). Section 10 offers some conclusions.

2. Linguistics in change: A brief recent history

Linguistics is currently undergoing a substantial change, and the outcome is undecided yet. The trigger for this change was the appearance of a powerful new player in the field: the approach (or set of approaches) that has come to be called Cognitive Linguistics (CL).

Before the change, linguistic life was fairly ‘simple’. From the sixties to the mid eighties (more or less), the field was basically divided in two major paradigms (cf. Nuyts 1994). On the one hand there was the formalist paradigm, until today dominated by Chomskyan Generative Grammar,¹ with its roots in (equally formalist) Bloomfieldian structuralism in North America. On the other hand there was the fairly heterogeneous functionalist paradigm, represented by numerous small-to-mid-sized models and traditions, most of which originated in (predominantly functionalist) European structuralism, and none of which could/can be considered dominant (e.g. Systemic Grammar, Dikikian Functional Grammar, Role and Reference Grammar, the Givón approach, the Greenbergian typological school, among many others). By the late seventies, the formalist generative school was dominating the agenda in linguistics, and had driven the functionalist paradigm ‘in the defense’, even in Europe.

1. This is not to deny the importance of other (more or less) formalist approaches such as HPSG, Relational Grammar, or Lexical Functional Grammar.

The appearance on the linguistic scene of CL, in the eighties, has shaken the dice and has complicated the field considerably. The new strand, (predominantly) emerging from the Generative Semantics movement, is essentially a reaction to formalist tendencies in language research (the generative tradition, but also formal semantics), and it has by now become a major competitor of the latter (thus accomplishing what functionalist schools in the years before had not managed to do). But it has apparently also become a challenge to 'traditional' functionalist linguistics. In fact, quite a few scholars originally working in one of the functionalist approaches have 'converted' to the new CL approach (often retaining some of their original 'habits', though, e.g. in terms of methodology – this is for instance how corpus research has gradually acquired a place in CL), and CL appears much more successful in the new generations of linguists than the traditional functionalist approaches, even in Europe actually. And otherwise there remains a cool distance between many traditional functionalists and much of the new CL movement – although the feelings appear different on both sides: the coolness mainly comes from the side of the traditional functionalists, whereas many cognitive linguists rather show an interested (or polite?) non-concern [sic] towards traditional functionalism.

That CL should be a competitor to traditional functionalism might come as a surprise. For, to the extent that CL constitutes a radical move towards a 'meaning first' approach, it is also essentially functionalist in orientation (see Nuyts 2007; cf. also the notion of a 'usage based' approach which is rapidly gaining prominence in CL – although the CL use of this notion may be slightly misleading to traditional functionalists, see Section 5). So at first sight, rather than being a competitor, it would appear to join and strengthen the functionalist camp. The explanation for the distance and competition between CL and traditional functional linguistics, then, possibly resides in a combination of factors, both circumstantial and substantive ones.

One possible circumstantial element is historical and 'social' in nature. CL has evolved independently of the existing functionalist approaches, certainly the European ones, but also the American ones, and especially in its earlier years it failed to refer to, let alone to try to relate to those much older functionalist traditions. Probably not for any principled reasons though: CL was just doing its own thing, mainly focusing on what it was reacting to, viz. formalist linguistics in America. By now this situation has changed somewhat, but not drastically. To many traditional functionalists it may have appeared that CL was reinventing the wheel on which they had been moving for decades already, without paying tribute to the original inventors. Not a good situation to make friends.

But there are also a few more substantive – and rational – causes for the distance, and these will concern us in the remainder of this chapter. One is – or was, originally – the strong cognitive claim in CL. Although CL has emerged as a reaction to generative and other formalist approaches, it has maintained the strong mentalistic or cognitive claims of Chomskyan generativism. In fact, to a large extent it appears to involve an attempt to live up to the consequences of calling linguistics a cognitive science, including a radical break with the isolation of linguistics from related disciplines, and an opening up towards other cognitive and neurosciences. This cognitive stance is quite remote

from the basic agnosticism in matters cognition that, at least until recently, characterized many or most classical functionalist approaches (some important exceptions, especially in American functionalism, notwithstanding – cf. Givón 1979, 2005; Chafe 1994; Wierzbicka 1980, 1996). Admittedly, the wake of CL has triggered a change in the rhetoric in many functionalist approaches – cognition is now more and more acknowledged as an important goal of linguistic research, there too. To what extent their actual practice really lives up to this claim is a matter of dispute. I return to this in Section 3.

Another element, certainly not less important, and the one which will be at the center of this chapter's focus (from Section 4 onwards), concerns the question what a (cognitive) model of language is supposed to look like, in its basic outline. Theories in CL – especially (though not exclusively) the 'grammatical' ones, i.e. the domain in which most functionalist theories are active as well – show a definite tendency towards a 'pattern oriented' approach to grammatical description, whereas most functionalist theories strongly tend towards a 'process oriented' approach. The result is the contrast between the 'construction' type of grammars predominating in CL, and the 'rule' or 'processing' type of grammars typical of traditional functionalism, models that, at least on paper, look quite different. The functionalist 'coolness' towards CL is no doubt, at least quietly (i.e. proclaimed in the lobbies), to a considerable extent inspired by a reluctance to accept the constructionist way of thinking about grammar. And the explicit thematization of this issue and the explicit rejection of the process concept of a grammar by some CL scholars (see Section 6) demonstrate that this difference is also in part responsible for the CL non-concern with functionalist theories.

It looks, then, as if linguistics is threatening to get divided in three paradigms instead of two. This raises the question whether this evolution is necessary or warranted. Specifically, one may wonder what the looming divide between CL and traditional functionalism is really about, and whether it is irresolvable. To answer these questions, let's take a closer look at the two (substantial) issues of dispute mentioned above – issues which are not unrelated though, in the sense that one's position in the 'pattern vs. process' issue is (obviously) co-determined by one's view of cognition.

3. Functional linguistics and cognition

Let's first have a brief look at our first 'obstacle' between CL and traditional functionalism, one which at first sight might seem not to require too much attention anymore since, as mentioned, also traditional functionalists are more and more accepting the CL perspective in this regards: the status of language as a cognitive object. It looks like functionalists have long considered there to be a conflict between dealing with language as a device for human communication and language as a cognitive system – no doubt as a consequence of a thoroughly mistaken view of cognition as only dealing with things to do with the 'individual' (Chomskyan cognitivism is probably a major cause for this erroneous concept of cognition). But, as is widely recognized by now,

there obviously is no such conflict. On the contrary, communication and cognition are two sides of the same linguistic coin, and one is indispensable for understanding the other in a scientific account of language.

The fact that also traditional functionalists are more and more acknowledging the cognitive status of language does not mean this issue does not deserve any attention anymore, though. For, acknowledging it and drawing the consequences from it are two different things. As argued in Nuyts (2001, 2004, 2005), a consistent combination of a communicative and a cognitive perspective leads to two guiding principles for developing a theory of language, which are, however, not always clearly satisfied in the common practice of traditional functionalism. These two basic principles – both seemingly fairly trivial and common sense – are (a) ‘depth’, and (b) ‘dynamism’ (cf. also Nuyts 2001: 5–21). In essence, both have to do with the status of meaning in relation to linguistic form in a theory.

- a. ‘Depth’ refers to the fact that if language is a means to communicate, and if communication is (at least) a matter of transferring ‘meanings’ (in a very broad sense) between minds, then the cognitive systems and processes involved in language use are unavoidably closely interrelated with the cognitive systems and processes concerned with ‘meaning’, or with ‘making sense of the world’, i.e. (at least) the systems of conceptualization and thought. As a consequence, language research cannot afford to concentrate on linguistic form only – i.e. the linguistic systems and processes in cognition – but is forced to also actively deal (at least, among others) with the way the mind handles ‘meaning’, i.e. with the conceptual systems and processes, and with how the linguistic systems and processes relate with these. In view of the ‘black box’ nature of the mind and its methodological consequences, this is the only way to assure that one ends up with a balanced theory of all ‘components’ involved in communicative behavior. The classical tendency in many traditional functionalist approaches to grammar to focus on the organization of language at the levels of lexical and syntactic structure alone is obviously at odds with this requirement. As argued in Nuyts (2001, 2005), the consequence is that these theories end up featuring constructs and notions in linguistic structure which do not actually belong there, but which clearly belong within the range of the conceptual systems.
- b. ‘Dynamism’ refers to the fact that communicative activity, hence language use, is a dynamic phenomenon, in many respects. Communication is a complex problem solving activity involving several different (and often conflicting) concerns (Nuyts 1993). Moreover, each communicative situation is different (some differ only minimally, others quite substantially), and the communicator has to adapt each time again to the new and changing circumstances. Hence, the linguistic system, as a device used to perform the communicative acts, is unavoidably a highly context-sensitive, flexible and adaptive usage system. But using the system as such is not self-obvious either: communicating is often ‘hard labor’, not only in terms of

interpreting the situation correctly and deciding how to act adequately, but also in terms of getting the 'shape' of the linguistic acts right in view of what/how one wants to communicate (and this can go wrong, in fact it often does go wrong, to varying degrees, in the sense that in spite of an adequate assessment of the situation and of what to do, we do not manage to 'translate' the communication plan adequately into linguistic acts).² In other words, coding conceptual meanings into linguistic forms (and vice versa) is not a self-obvious process, but is something that must be worked out dynamically, time and again. Basically, functionalist theories do render this by conceiving of language as a system of levels of organization, such as the lexical and the syntactic, which are related by means of rule systems or 'linking procedures' or interfaces which map these levels onto each other in a 'non-automatic' way, the actual mapping depending on contextual and discursive principles, among others (i.e. a 'process model'). Still, traditional functionalist grammar models often do not fully live up to the principle of dynamism in the sense that they still render the linguistic system as a fairly rigid mechanical device (i.e. no flexibility in the processing), and (strongly related to the flexibility issue) the construction of a linguistic expression by the grammar as a rather encapsulated process (i.e. no interaction with other cognitive systems handling general world knowledge and contextual information; this is obviously related to the lack of a 'depth' perspective, cf. (a)).

4. Cognitive linguistics and the issue of dynamism

The view of cognition sketched in the previous section also potentially raises questions with regards to CL, however. The criterion of 'depth' is of course fully realized in CL: the concern with conceptualization and its relation to linguistic form is absolutely and unconditionally at the core of its concerns. But does CL also meet the criterion of 'dynamism'? Here the answer is not self-evident. And here the other obstacle between CL and traditional functionalism mentioned in Section 1 enters the picture: the 'pattern vs. process' approach to grammar. In fact, it is not immediately obvious whether the constructionist concept of grammar predominating in CL meets the demands of dynamism as formulated in Section 3 above. At face value (and formulating things in terms of a simplistic straw man position), the view of grammar as a network of stored 'symbolic units' containing fixed form-meaning pairings, in which speaking is (in strong versions) no more than a matter of selecting a complete ready-made construction from

2. Fortunately, the hearer is a highly adaptive and context-sensitive system, too, and therefore often manages to interpret even non-adequate linguistic acts, even if only probabilistically.

the store, or of a simple unificational integration (of some type)³ of a number of stored 'partial' constructions, is not obviously in tune with the concept of speaking as a laborious (and often failing) process of mapping (often complex) meanings onto forms in a strongly context dependent and flexible way. A crucial question is, of course, what unification in a constructional model will involve – the fact that the bulk of attention in these theories is devoted to describing the constructional form-meaning pairs as such, and hardly to how the unification processes work and what the mechanisms involved in them look like, does not make an assessment of the issue easier.

So let's analyze this worry in some more detail. First of all, one may object that the CL literature does feature notions of (or implying) 'dynamicity' – and sometimes these are even combined with an explicit rejection of a process concept of a grammar. Let's have a closer look at some of these notions and arguments.

5. 'Non-relevant' notions of 'dynamicity' in CL

First of all, CL uses notions that do suggest or demonstrate a commitment to elements of 'dynamicity' in language – but not of the type implied in Section 3 above.

Thus, cognitive linguists fairly systematically commit themselves to developing a 'usage based' model of language (see e.g. Langacker 1988, 2000; Croft 2001; Goldberg 1995, 2006). This not only signals their basic functionalist attitude – on a common sense interpretation it would also seem to suggest a full concern with the dynamics of actual communicative behavior ('what happens in language use, cognitively'). But the notion is not used in a common sense way here: grammars are considered usage-based "if they record facts about the actual use of linguistic expressions such as frequencies and individual patterns that are fully compositional alongside more traditional linguistic generalizations" (Goldberg 2006: 64). In other words, a usage-based grammar is based on the assumption that not only non-compositional patterns (e.g. single morphemes) or irregularly composed patterns (e.g. idioms), but also frequently occurring fully regular and compositional patterns, which can in principle be derived from general rules, are stored as such by the language user. (Cf. also Langacker's 1987: 28ff discussion of what he calls the 'rule/list fallacy'.) This is a perfectly plausible view (see Section 7). But nevertheless, so formulated, the issue of a 'usage based' approach obviously does not tap the issue of dynamism as formulated in the previous section, it is entirely 'neutral' in these terms (and the term is actually quite misleading in this respect).

3. Although unification in the 'formal' Unification Grammar sense might be used to accomplish the combination of constructions, and is explicitly used e.g. in Fillmore's Construction Grammar (cf. e.g. Fillmore 1988), it is more or less rejected by Goldberg (2006: 215ff) as a plausible model for 'processing' in construction grammars. For the sake of simplicity, I will use the notion of 'unification' here as a pre-theoretical term to refer to the process of integrating constructions in a constructionist approach to grammar, whatever the actual format of the mechanisms involved.

Langacker (e.g. 2000, 2001) in particular has gone a long way to stress the fact that at least Cognitive Grammar, as one strand within CL, actively deals with dynamicity in language and grammar as such. But what does he mean by this? Essentially, he uses this notion to refer to the fact that the conceptualizations inherent in or expressed by linguistic utterances are dynamic: conceptualization “resides in mental processing, so every conception requires some span of processing time – however brief – for its occurrence” (Langacker 2001: 8; emphases omitted). And this dynamicity of conceptualization manifests itself in linguistic structure. For example, differences in the ‘mental scanning’ of an object or a scene (even a static one: e.g., does one scan an arm starting at the finger tips or starting from the shoulder) are reflected in differences in linguistic structure (e.g. variation in word order, in the choice of grammatical roles for word groups, etc.). But clearly, although this matter is absolutely relevant for one’s understanding of linguistic structure, this is a dimension of dynamicity quite different from the one at stake in Section 3 above. Specifically, it is a matter of the semantics of linguistic structures, and of how that semantics influences the actual shape of the structures, but it says nothing about the question of the ‘real time’ dynamics of producing a linguistic structure itself, for use in an actual communicative situation (e.g. so as to render the dynamicity of conceptual structures in a way appropriate to the local conditions).

6. Arguments against a process concept of grammar

Regarding the nature of grammar itself, then, as already mentioned, a few cognitive linguists have even explicitly argued against a process concept of grammar, thus suggesting that it is incompatible with their constructionist view of grammar. They often do so, however, in correlation with views which appear perfectly in line with a processual, hence a dynamic, concept of grammar – which would seem paradoxical in the light of the reasoning in Section 3 above, specifically regarding the existence of a ‘natural’ link between a dynamic view and a process concept of grammar. Let’s have a closer look at the arguments formulated by the two CL scholars who have been most explicit in these terms, viz. Langacker and Croft.

Langacker (1987: 57; cf. also 1997: 237) argues that a grammar is “a constantly evolving set of cognitive routines that are shaped, maintained, and modified by language use. A speaker’s ‘knowledge’ of his/her language is therefore procedural rather than declarative”. A position perfectly in tune with the concept of dynamicity sketched in Section 3. But he explicitly rejects a process view of grammar on the basis of the argument that “a grammar is not a ‘generative’ description, providing a formal enumeration of all and only the well-formed sentences of a language. Nor do I employ the process metaphor and speak of the grammar as a device that carries out a series of operations and gives well-formed sentences as its output” (Langacker 1987: 63). “Putting together novel expressions is something that speakers do, not grammars” (65). This can hardly count as an argument against a process concept of grammar as

such, however. What Langacker actually argues against is a generative grammar type rule system – and this is fully justified (cf. Nuyts 1992, 2001: 17). But a process model obviously does not need to be ‘generative’ (in the technical sense) at all, nor need it have the linguistic properties indicated in the quote (functionalist grammars e.g. don’t; or just have a look at what language psychologists’ models look like, cf. e.g. Levelt 1989). In fact, a process model compatible with the principles sketched in Section 3 will definitely not be anything of that kind.

By the way, note Langacker’s use of the notion of a ‘process metaphor’ – suggesting that there are not actually any processes going on in language use. In the cognitive functional perspective sketched in Section 3, the process notion is not a metaphor at all, of course.

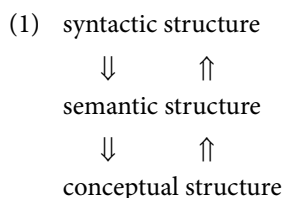
Langacker is actually aware of the conflict between a commitment to a procedural concept of language and the rejection of a process concept of a grammar. But he (1997: 239–240; emphases omitted) reconciles the two at a meta-theoretical level:

[... Cognitive Grammar] posits nothing comparable to a basic component of classic symbolic processing, namely the step-by-step execution of a program by a central processing unit. Moreover, it does not assume that linguistic structures and patterns are stored as such – there is no supposition that by looking at the right part of the brain either a neuroscientist or a homunculus could actually see them. They are rather to be found in processing activity and are thus emergent rather than fundamental. [...] Linguistic rules and structures are thus procedural in nature – they reside in what a speaker does, not in a list of instructions to be consulted and followed, nor in ‘representations’ (s)he is able to examine. [... The term mental representations ...] merely indicates the occurrence of neurological adjustments [...] that influence subsequent processing and facilitate the emergence of patterns of activity constitutive of particular kinds of mental experience. [...] As linguists, we have neither the ability nor any particular reason to concern ourselves with the specific synaptic adjustments that are ultimately responsible for language processing. The object of investigation must instead be entities that emerge in processing and represent higher (perhaps considerably higher) levels of cognitive organization. We can examine such entities either from the standpoint of the processing activity per se, or else phenomenologically, i.e. in terms of the experience it constitutes (as well as its behavioral correlates and consequences). The former – comprising the study of neural connections, patterns of activation, etc. – is the province of neuroscientists. Linguistic and psychological research deals primarily with the latter.

Yet, as argued in Nuyts (2001: 18), even if one accepts the basic philosophy behind the notions of the ‘phenomenological’ and the ‘biological’ in this quote, one may profoundly disagree with the view regarding the position of ‘processing’ as formulated here. As linguists, we may choose to disregard neurological processes (although some – also within CL – would strongly disagree). But the observations about dynamism in Section 3 above are about behavior, and not about the brain, and so they are squarely

within the range of what Langacker calls ‘phenomenology’, hence of what a linguistic theory must account for. So it is hard to see how one can do without some version of a processing system that ‘executes’ some kind of program, as specified in the grammar (but, obviously, a version which meets the criteria of flexibility and contextual adaptivity as specified in Section 3).

Croft (e.g. 2001: 126ff, 364ff), too, underscores the dynamic character of language. He renders this in terms of the scheme in (1) (Croft, 2001: 128), meant to show the variable relations between syntactic, semantic and conceptual structure, which in Croft’s view are manifest especially in a diachronic and evolutionary perspective, but also in a ‘synchronic’ perspective, in terms of the actual linguistic behavior of language users.



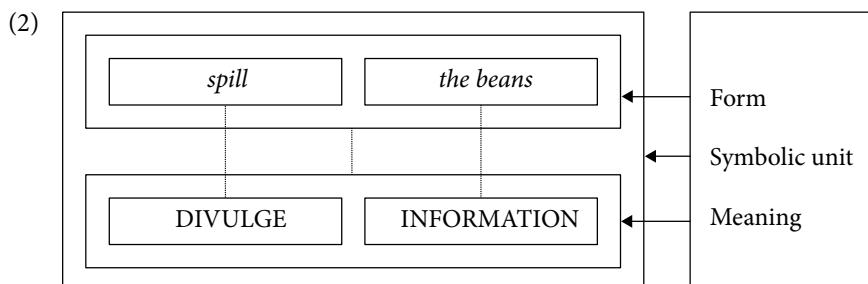
At the same time, however, he (2001: 14ff) radically rejects what he calls a ‘componential’ concept of a grammar (our ‘process model’), i.e. a model which, in principle, precisely looks like the scheme in (1), with meaning and syntactic structure represented in separate parts of the grammar and related by linking rules (whether semantic and conceptual structure should be distinguished is not relevant for now, but see Section 9 below). It is hard to see how these opposing attitudes towards the scheme in (1) – as a general concept of language vs. as a concept of grammar – can be reconciled.

Again, Croft uses Generative Grammar as the prime example of a componential model – but, to repeat, a process model need not be of that kind, and one obeying the principles in Section 3 definitely will not be. In Generative Grammar components or ‘modules’ are highly autonomous and encapsulated, each organized according to its own specific principles and operating independently from other modules. But in a cognitive functional view, a ‘component’ is rather an ‘expert system’ which deals with some aspect of language but which closely interacts with other expert systems, and such systems may share organizational and operational principles and structures, i.e., there is no assumption of modularity of the kind inherent in Generative Grammar at all – and so the label ‘componential model’ is not really adequate anyway (hence I will only use the term ‘process model’ below).

Croft’s major objection against a process model, however, is based on the existence of idiomatic and fixed structures in languages, which has of course been *the* source of inspiration for construction grammars. The issue of idioms constitutes the only substantial argument I am aware of in the CL literature against a process model. So let’s consider this issue in more detail.

Croft (2001: 14ff) claims that process models are simply unable to handle the phenomenon of idioms. Idioms are structures more complex than single words which

nevertheless have precisely the same properties as the latter, in terms of being structurally fixed (entirely or partially) and semantically ‘idiosyncratic’ (their meaning cannot be derived in any simple way from the components of the structure), i.e. of being non-compositional – and in Croft’s (and no doubt many construction grammarians’) view this means they can only be rendered in a constructional format, i.e. as a symbolic unit consisting of a fixed pairing of a form and a meaning, of the kind schematically rendered (for the idiom *to spill the beans*) in (2) (adapted from Croft and Cruse 2004: 252).



Moreover, idioms are not exceptional, but are abundant in languages – and if so many things in language require the constructional kind of format, then, so Croft argues, it is only logical to render everything in grammar in such a format. And so “[t]he constructional tail has come to wag the syntactic dog: everything from words to the most general syntactic and semantic rules can be represented as constructions” (Croft 2001: 17). And that is of course precisely what construction grammars do.

This argument is actually complex. It contains (at least) three assumptions which are not necessarily mutually dependent, and which we therefore need to consider separately: (i) the need to account for idiomatic patterns more complex than single words (Section 7), (ii) the possibility/need to formulate rules as constructions (Section 8), and (iii) the need to code the form and meaning of structures together as a fixed pair (Section 9).

7. Constructions are not incompatible with a process model

It is beyond dispute that classical (functionalist) grammar models have severely underestimated – in fact, have by and large neglected – the existence of sizable numbers of structures more complex than a single morpheme (up till the level of complete sentences) which are not compositional but must be considered basic in the grammar and must be learned as such by anyone acquiring the language. How frequent such items really are remains to be seen: I am not aware of any systematic attempts to count their share in the average linguistic output of speakers of any language. Nevertheless, they are no doubt more than numerous enough to warrant a concept of grammar in which they are not marginal or exceptional things, but an integral and natural part of the system.

This observation inevitably blows up the traditional concept of a lexicon applied in most functionalist models,⁴ as an inventory of (only) predicates and terms (i.e. essentially, of verbal, nominal and adjectival and adverbial lexemes). This traditional lexicon must be replaced by a much larger and much more diverse inventory (or memory system) of stored '(partial) end products' of the language, which must moreover take a very central position in a grammar – let's call this inventory the 'freezer', as the container of all 'frozen' structures of the language.⁵ This freezer may then actually cover more than just the 'full lexemes' plus the more elaborate but non-decomposable structures (idioms of different types and sizes) of a language. Also fully compositional yet highly frequent, hence highly 'entrenched' (in Langacker's 2000: 32 terminology) expressions, such as standard greetings, default expressions used in familiar and recurrent contexts, etc., may be stored in it as complete 'end products'.⁶ For it is highly credible to assume that language users simply memorize such expressions as complete patterns, ready for use whenever they need them. (In fact, precisely such structures are prime candidates to evolve into idiomatic, 'frozen' forms.) Moreover, the freezer can also harbor grammatical morphemes (affixes, or 'function words' such as auxiliaries, prepositions, etc.), which classical grammars usually do not include in the lexicon, but which must nevertheless also be stored somewhere, so why not along with all other stored structures in the language, and in a similar format?⁷

Now, introducing this concept of a freezer as a replacement for the traditional lexicon has beyond any doubt serious implications and will require substantial changes as compared to what most functionalist grammars look like. But no matter how thorough and substantial this may be, it is not an unsurpassable problem for process models per se, hence none of the foregoing can be used as evidence against such a kind of model. In fact, the need for a freezer does not affect – let alone invalidate – the essential assumption of a process model that one (also) needs a processing system linking

4. But it does not figure in Systemic Grammar, for example, which has never made a distinction between lexicon and grammar – cf. Halliday (1994).

5. One might also call it a 'constructicon', as is done in some constructionist approaches, but in order to avoid confusion with the latter, I will not use this term.

6. One cannot but agree with Langacker (1987: 28ff) that one should not be trapped by the 'rule/list-fallacy' – inherent in much of 'traditional' thinking about linguistic productivity, also in functionalist linguistics – involving the assumption that anything that is fully compositional in language must necessarily exclusively be handled in a grammar in terms of storage of the non-compositional component parts plus the rule(s) for combining them.

7. Doing so offers a natural way to account for grammaticalization phenomena, whereby forms in a language move gradually from full lexemes to grammatical markers. In classical models which structurally separate these two types of forms, it is hard to account for this process. But in a framework integrating all of these in the same store of fixed items in the language, these processes can simply be characterized as gradual changes in the phonological shape and the grammatical properties (the 'lexical frame' specifying the syntactic usage conditions of the item) of the form as coded in the store (see Nuyts 2001: 289–290).

semantic and structural representations. For there does remain a very sizable number of fully compositional linguistic expressions which are not highly frequent, hence which are no doubt not stored as a whole but are constructed 'on line' in communication by using simpler stored items and following the organizational principles of the language – and that is precisely what the processing system is intended for.

Of course, construction grammars allow for this principle, too, through the notion of unification. As already mentioned, unification is not really worked out yet in many or most of them. But maybe, as soon as this will happen, construction grammarians will automatically come to the insight that compositional activity is and remains a very substantial and a non-evident part of utterance production (and interpretation). And so the question is whether in the end there would be any substantial difference in this regards between a constructionist and a processual model.

8. Rules as constructions

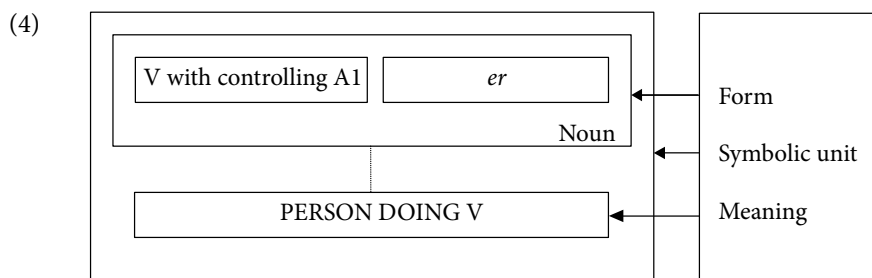
The second element in Croft's argument – and a crucial step towards a constructional network concept of a grammar – concerns the possibility, and in his view, the need, to generalize the constructional notation for idiomatic 'surface patterns' to also include abstract principles behind productive surface patterns, which are rendered as 'rules' in process models. Consider, e.g. the principle behind agentive nouns derived from verbs, i.e. forms such as *writer*, *runner*, *driver*, etc. In a functionalist process approach, this would typically be handled by means of a productive rule looking, in one way or another, roughly, like (3), including a specification of an input pattern, and of operations to be performed on this pattern. In a construction grammar there will be no rule like this. Instead, there will be a schematic construction of the kind in (4).

(3) *Agent noun formation rule:*

(Triggered when speaker needs a lexeme for referring to a person who has the property of (habitually) doing XYZ)

Input: form XYZ with properties: Verb with controlling first argument

Operation: add morpheme *-er*: XYZ + *er*
change lexical status: Verb > Noun



However, the question is, again, whether this issue marks a real and substantial difference between the two approaches.

First of all, note that traditional functionalist process models have always used a constructional notation for certain types or aspects of 'rules', too. They have always made frequent use of 'templates' of different kinds, which are assumed to be stored as such somewhere in the grammar. Think of the argument frames of predicative elements (in most models stored along with the predicate in the lexicon), of the kind in (5), which specify the latter's usage properties.⁸ Or think of the word ordering templates or templates for special syntactic patterns such as clefts (not stored in the lexicon but elsewhere in a storage system in the grammar), of the kind in (6) (i.e. the template for the English declarative clause in Dik's 1997 model), which (co)determine the ultimate organization and/or word order of any utterance produced by the system.

(5) *give* (A1)_{Agent} (A2)_{Goal} (A3)_{Recipient}

(6) Prefield S X Vf X Vi O X

But of course, in process models many central principles are indeed formulated in 'procedural' rather than constructional terms (even if in traditional functionalist models these procedures are usually not spelled out in an actual formalism), and they are perfectly amenable to such a formulation. Think of the introduction of optional modifiers in clause structure (adverbials, or grammatical TAM operators); or think of the assignment of functional labels such as information structural ones (e.g. topic, focus) or syntactic ones (e.g. subject, object); or think of the process of the actual positioning of constituents in slots in word order templates of the kind in (6), in view of factors such as function labels and discursive conditions. No doubt, all of this can be formulated in constructional terms as well, although for many phenomena it has not been done yet in many or most of the constructional models, and although it remains to be seen whether the result would be 'parsimonious' and plausible. Word order, for example, has definitely not been a major concern in constructional approaches, yet especially the situation in flexible word order languages would seem an excellent testing ground for the possibilities and limits of the approach.

But assuming that construction grammars can do this in a plausible way as well, then the constructional and the process models are again 'notational variants' in this regard: the difference between them would, at least in principle, only be a matter of how they note down linguistic principles of the kind in (3)/(4). And the choice between the notations is a matter of what is considered to be most important: notational form (in the constructionist approach) versus operational function (in the process approach). In fact, Croft's argument for treating rules as constructions is essentially based

8. In a recent offspring of Dikkian Functional Grammar, Functional Discourse Grammar, argument patterns are even represented independently of individual predicates (as generalizations over comparable patterns in the latter), exactly like this is done in Goldberg's (1995, 2006) version of Construction Grammar.

on the principle of notational consistency: if one type of element in language (all frozen forms) must be represented as constructions, why not simply represent all the structures in the language (including the rules) in that same way? But one can also look at the issue from a different angle: Ready made idioms and abstract principles for composing novel structures in a language are simply very different things in terms of what they do in a grammar. But if different types of elements in language have different functions, why represent and handle them in the same way? Or, in other words: why care about the consistency of the notational system; what matters is the functionality. Ultimately, when construction grammars will work out the unification process, the functional role of different 'types' of constructions will come into play, too. In process models, this functional role is taken as the starting point.

9. Meaning and structure

The third assumption is Croft's argument, that the form and the meaning of idioms (and any other constructions) should be coded together as a fixed pair, is, at least at face value, the most fundamental one in the discussion between process and construction approaches.

First of all, it is important to qualify Croft's (2001) occasional suggestion that the notion of a 'symbolic unit' is typical of construction grammar approaches (including Cognitive Grammar). This is only true if referring to the way a grammar notationally represents linguistic elements in the system. But it is obviously not true in a more fundamental sense: utterances and their parts are not getting less symbolic by assuming that they are not coded in grammar as symbolic units, but as functionally motivated, systematic mappings between meanings coded in one area of a model/the mind and forms coded in another area of the model/mind. That linguistic expressions – as output of the linguistic system – are symbolic units with a unique mapping between a meaning and a form is obviously an absolute core concept in any functionalist approach.

The constructional approach appears to be based on the assumption that idioms have a fixed idiosyncratic meaning, and – applying the principle of consistency again, cf. Section 8 – on a generalization from them to any other structures postulated in the grammar. But can this basic assumption be maintained?

That idioms typically have an idiosyncratic (i.e. non-compositional) meaning is incontestable, but that does not automatically imply that they also have a 'fixed' meaning. In fact, they probably do not. Idioms are not different in this regards from single lexical morphemes. Since the advent of prototype theory and the burial of semantic feature analyses of lexical meaning (a development which is to a large extent due to CL – cf. e.g. Lakoff 1987), it is quite obvious that the meaning of a word – and, no doubt, of any structurally frozen content item, whatever its size – cannot be characterized in terms of very precise and fixed or black and white criteria. Its meaning on any usage

occasion can vary considerably, conforming to varying degrees to the 'prototype' (which in itself is probably hardly ever very specific and subject to variation), the variation (including metaphorical and metonymical uses) being due to contextual factors, i.e. to the speaker's solution to the problems posed by the actual communicative context (e.g. the lack of another good term to name some phenomenon or happening in the world, to give just one very straightforward example). In other words, any usage of a 'content item', be it a word or an idiom – just like the construction of a novel utterance, for that matter – involves an attempt by a speaker to match a certain conceptual configuration as appropriately or adequately as possible onto a certain linguistic form in view of the specific contextual conditions. The difference between the selection of a frozen form – a single word or an idiom – and the construction of a novel utterance in these terms is only one of degree, viz. of the degree of complexity of the linking from the conceptual configuration to the linguistic expression.

What this means, then, is that, if anything is to be taken as the basic situation to which to apply the principle of consistency, then it is the non-fixed nature of form-meaning pairings. This is, in fact, precisely the core point of the principle of dynamicity as formulated in Section 3. 'Non-fixed' obviously does not mean 'non-systematic' (cf. above), but it does mean that linguistic symbolization does not involve two but three critical poles, viz. form, meaning, and context.

In a process model, one can account for the conventionalized 'idiosyncratic' form-meaning relation in frozen structures, of any size, from a single word to a complete idiomatic expression, but also for the prototype effects in using them, by assuming a default direct link between these frozen structures in the grammar and the conceptualizations which constitute their prototypical meaning. This default link can then be overridden by factors inherent in the situation 'surrounding' any individual usage event. In case of a novel structure, there is of course not such a default link between the structure as a whole and some conceptual configuration – only the frozen parts of the structure, say, the individual words in them, have a default link with a conceptualization.⁹ How a constructional concept of grammar with fixed form-meaning pairs can accommodate all of this, is much less clear, however.

One might object that this discussion conflates two issues, viz. that of the relation between 'utterer's meaning' and linguistic form, and that of the relation between 'word and sentence meaning' and linguistic form (to use labels dating back to Gricean times – cf. e.g. Grice 1968 – and still in use today in some strands of linguistics – cf. e.g. Carston 2002). What I have been arguing would then concern the relation between utterer's meaning and linguistic form, and that relationship may be considered variable. But this would not say anything about the relation between 'word and sentence meaning' and linguistic form, which might still be fixed. This, however, presumes – in

9. This is not to say that current functionalist process models actually handle these facts this way: this was precisely the point of the criticism formulated in Section 3 above regarding how functionalist models handle the facts about dynamism.

terms more common in current cognitive and functional linguistics – (at least) a distinction between linguistic meaning and conceptual meaning.¹⁰ Yet, while some cognitive linguists may accept such a distinction (witness Croft's scheme in (1) in Section 3; and see also Evans, 2006), very many (if not most) others definitely do not: along with Langacker (1987: *passim*), they will want to equate (any kind of linguistic) meaning with conceptualization.

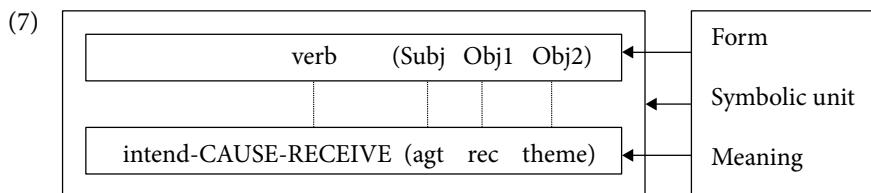
If one does accept the distinction,¹¹ and if by 'linguistic' meaning one refers to issues such as, for instance, how a language 'molds' conceptual structure in terms of predicate-argument patterns, then it is of course true that idiomatic expressions are usually entirely fixed in these terms, and a process model must and will handle them as such, too. Hence, in that perspective there would, again, be no difference between the two types of models as far as this particular issue is concerned. But for the relations between the conceptual meaning and the linguistic meaning/form pair even in idiomatic structures, the above argument for a variable link, hence a processual link, remains fully intact, of course. And in 'fully productive' utterances, this obviously also applies to the relations between the linguistic semantic and surface syntactic patterns, given the fact that, e.g., in most languages a single predicate-argument pattern can be realized through many different word order patterns or even patterns of grammatical functions, the alternatives being determined by contextual conditions.

But again, after all, matters are probably not really handled differently in at least certain versions of construction grammar, including Goldberg's (1995, 2006). Presumably, a novel structure would there, too, be constructed by unifying in some way, among many other things, an argument pattern construction with a word order pattern construction rendering the surface structure of the sentence being produced (of which there would have to be very many in order to account for all the possible alternatives in 'free word order languages' – see Section 8). In making the match between these two constructions, then, the unification system will have to make a choice between the alternative word order patterns, and this choice will have to be informed by contextual factors (e.g. information structure). This will no doubt be done by invoking many more other constructions. But it is hard to see how the details of this unification process will ultimately not boil down to the same kind of intricate linking process between a linguistic semantic and a surface syntactic representation that is assumed in functionalist process grammars.

10. It may also require a distinction between literal and non-literal meaning, which need not necessarily coincide with that between linguistic and conceptual meaning. It is beyond the limits of the present chapter to go into this scientific quagmire, however.

11. There are very good reasons to actually do so – cf. e.g. Slobin's (1996) arguments for a notion of 'thinking for speaking' in between language and thought, or see Levinson (1997), or (from a completely different angle) Jackendoff (2002: 281ff). But space prevents me from elaborating on this here.

In fact, one may wonder what it means to say that an argument pattern construction is a fixed form-meaning pair. (7) gives an example of such an argument pattern construction, viz. that for one common type of ditransitive construction (adapted, simplified, from Goldberg 2006: 20).



A construction such as this basically consists of a pairing of a schematic linguistic semantic structure, viz. the argument pattern, and a schematic syntactic function structure, which is otherwise still very far removed from the actual surface sentence. And so one may wonder how this should be a ‘form/meaning’ pair in the same sense in which an idiom, e.g. as in (2) above, can be called a ‘form/(linguistic) meaning’ pair. In other words, is the type of meaning represented in (7) the same kind of meaning as that represented in (2)? And is the ‘form’ the same thing in the two? The answer in both cases is no doubt ‘no’.¹² But if so, the question is whether it makes much sense to define a construction as a symbolic unit consisting of a form/meaning pair.

In any case, in a (functionalist) common sense view, communicating means transmitting information through a contextually adapted linguistic form. It is hard to see what, in real time, this could involve other than (for the productive mode – something comparable applies for the perceptual mode, of course) converting a conceptual structure, which serves as the input to the process, into a linguistic surface form (possibly via intermediary stages such as a linguistic semantic structure) in a way which is sensitive to the relevant contextual factors. In other words, it is hard to see how one can avoid to assume that in language processing conceptual meaning and linguistic form are applicable at different moments in time, and that the time lag in between (probably no more than a matter of milliseconds) is taken up by decision processes to determine which ‘pairing’ of a meaning and a form has to be realized in the light of the communicative circumstances. In yet other words, it is hard to see how a model could not have the overall shape of Croft’s scheme given in (1) above (Section 6). This is precisely what a cognitive functional process model attempts to grasp. And it is something that a constructionist model will have to accomplish as well, pace Croft’s considerations.

12. Comparable criticism on the ‘form’ part of constructions of the type postulated in, e.g., Goldberg’s and Croft’s construction grammars can be found in Langacker (2005) and Verhagen (2009). The background against which that criticism has been formulated, and the message associated with it, are completely different from the present, however.

10. Conclusion

The issue of the process vs. construction concepts of a grammar is clearly an extremely complex one, involving very many aspects and dimensions which need to be considered separately, and which make a simplistic black and white evaluation of the matter impossible. The fact that individual process models and individual construction models differ in their treatment of these aspects and dimensions only makes the discussion more complex. In any case, except for the fact that the traditional concept of a lexicon must be revised thoroughly (in fact, must be given up), the discussion has revealed little or nothing in terms of fundamental objections against a process concept of a grammar and/or the idea that such a concept is a natural emanation of a dynamic view of language use. On the other hand, the worry that a construction approach may not fit such a dynamic view is not accurate, at least not in principle, it depending on how the approach is actually implemented. In some version of the two model types, they are probably basically compatible, and the difference between them is entirely a matter of the perspective they adopt, or the dimension of linguistic cognition which they highlight or on which they focus: the construction approach predominantly focuses on what the 'output' of cognitive operations looks like, the process approach focuses more on what a speaker(s) mental grammar does in order to produce this output.

Undoubtedly, the last word on this issue has not been spoken/written yet – but one can only hope that the two approaches manage to find a common ground and will be able to avoid a situation in which linguistics gets divided in three paradigms, rather than two.

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Metaphor in language and thought

How do we map the field?*

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This chapter suggests that metaphor research can benefit from a clearer description of the field of research. Three dimensions of doing metaphor research are distinguished: metaphor can be studied as part of grammar or usage, it can be studied as part of language or thought, and it can be studied as part of sign systems or behavior. When these three dimensions are crossed, eight distinct areas of research emerge that have their own assumptions about metaphorical meaning, which have their own implications and consequences for the aims and evaluation of research. It is suggested that these distinctions will help in clarifying the validity of claims about the role of conceptual metaphor in language.

Keywords: behavior, grammar, sign system, usage

1. Introduction

The rapid spread of cognitive linguistic research across disciplines, traditions, and paradigms has revealed the need for a map of the field which may be helpful in providing orientation to cognitive researchers of language with diverging interests. This is particularly important when the question has to be answered whether evidence for a particular claim may be said to converge with other evidence. A lively discussion on the electronic Cogling List in the summer of 2005, involving George Lakoff, Anders Hougaard, Gilles Fauconnier, Herb Colston, and others showed that the idea that there is “consensus” on conceptual metaphor is problematic. More generally, the relation between theories, methodologies, and research has become extremely complex in

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cognitive linguistics (Gonzalez-Marquez, Mittelberg, Coulson, and Spivey 2007). Metaphor provides an interesting case in point to tease some of these complexities apart.

Lakoff and Johnson (1999) have argued that there is a lot of converging evidence for the existence of conceptual metaphor, but there have been quite a few researchers who have voiced their doubts or even disagreement. It seems to me that this type of debate can only be furthered if it is clear that the phenomena under discussion are conceptualized in the same way; only then can evidence collected by different methods be presented and evaluated as converging evidence for the same claim about the same phenomenon. In order to facilitate such a comparison of conceptualizations, I will attempt to relate a number of issues pertaining to metaphor in language and thought within one coherent theoretical framework that aims to integrate the most basic assumptions of cognitive linguistic research as I see it. Such a framework may act as a map and provide orientation to our further theoretical and empirical explorations of the relations between metaphor in language and thought.

2. Converging evidence for conceptual metaphor

The widespread use of metaphorical language in our everyday lives has given rise to the idea that we do not only talk metaphorically much of the time, but that we may also think metaphorically much of the time. The foundation of this theory of metaphor has been a range of conventionalized metaphorical systems of ideas, called conceptual metaphors. Lakoff and Johnson (1999) have shown how such conceptual metaphors are basic to our language and reasoning about time, causality, the mind, the self, and morality. Time is for instance conventionally conceived of in terms of space in many languages and cultures, so that we can look *ahead* to the future, look *back* on events in the past, and so on. This even allows for jokes in film titles such as *Back to the future*. The mind, to give another example, can be seen as a machine, which can *run fast* or *slow*. The mind may be compared more specifically to a steam engine or a computer, depending on the historical stage of the technological environment of the language users. As a result, we can be a little *rusty* or *store* our ideas.

Since the publication of Lakoff and Johnson (1980), hundreds of examples of such systematic metaphorical language have been collected and analyzed in cognitive linguistics. Lakoff and Johnson argue that these patterns of metaphor in language can be seen as various types of evidence for the fact that there is an underlying pattern of conceptual structure that is metaphorical itself. They claim that there is converging evidence for conceptual metaphors in many areas of language, including polysemy generalizations, novel case generalizations, and inference generalizations. They have gone so far as to suggest that these conceptual metaphors are not just cultural patterns of thought which may be seen as conceptual abstractions from the language use of many individuals with different behavior, but that conceptual metaphors are cognitively real, and even neurally encoded in every individual's brain. Such conceptual

metaphors are consequently held to explain these various types of data, including the linguistic ones.

However, the existence of conceptual metaphors as part of the individual mind (let alone the individual brain) has been challenged by a number of researchers outside the cognitive linguistic school (e.g. Glucksberg 2001; Jackendoff 2002; Murphy 1996, 1997; Vervaeke and Kennedy 1996, 2004). They contend that the various types of linguistic evidence for conceptual metaphor marshaled by Lakoff and Johnson and other cognitive linguists can be explained alternatively and at least require additional evidence to be accepted as claims about specific properties of the mind.

The details of this debate are less important for now than the presupposition that the theoretical picture about each of the manifestations of metaphor in language and their relation to thought is clear. This is a presupposition that is not quite correct. A number of possible alternative interpretations of the cognitive linguistic view of metaphoric thought have been distinguished by Ray Gibbs (1994, 1999), and it is not always clear which of these alternatives is or are adhered to when cognitive linguists speak about the cognitive reality of conceptual metaphor. As a result, if evidence for one of these positions is used to talk about *the* cognitive validity of conceptual metaphor, this may be contested by researchers who are interested in another of these positions, which the evidence may have no bearing on. It is therefore important to get a handle on the precise nature of the various positions or even areas of research, so that it is clear what researchers are talking about when they say that conceptual metaphor is cognitively real.

The boldest psychological position, endorsed by Lakoff and Johnson (1999), is that conceptual metaphor plays an indispensable role in individual language behavior:

Hypothesis 1

Metaphoric thought might function automatically and interactively in people's on-line use and understanding of linguistic meaning (Gibbs 1999: 43).

This hypothesis in fact comes in two forms (cf. Grady 2000), the strongest of which says that conceptual metaphor is even neurally entrenched. This is the position defended by Lakoff and Johnson (1999). It is clear that this standpoint can only be supported by a sufficient amount of neurolinguistic evidence – failing that, all other evidence can only count as circumstantial, because the relevant data are simply not available.

The weaker form of hypothesis 1, by contrast, says that metaphoric thought is a matter of cognitive processing and its products whose relation to the brain is left open. It is a position that many psycholinguists and psychologists addressing the role of metaphor in thought prefer. All cognitive behavioral evidence supporting the idea that metaphoric thought takes place during on-line language processing is relevant here. From a cognitive linguistic perspective, such cognitive behavioral evidence is simply required to decide between the alternative models for metaphor that are compatible with the same linguistic data (e.g. Croft 1998).

An alternative view of the relation between metaphor in thought and in language is the possibility that metaphor may be there in individual people's thought, indeed, but that it is not indispensable for on-line processing. In other words, the conceptual system may be there in people's individual minds, but whether it is used all the time is another matter:

Hypothesis 2

Metaphoric thought might motivate individual speakers' use and understanding of why various words and expressions mean what they do, but does not play any role in people's ordinary on-line production or comprehension of everyday language. (Gibbs 1999: 43)

The evidence that is required here needs to have a bearing on the difference and relation between on-line and off-line language behavior. If it is just the first part of hypothesis 2 that needs to be examined, then it is only off-line psychological evidence that is needed for support.

An even more modest view of the role for conceptual metaphor is the view that takes it as a cultural phenomenon instead of an individual one (cf. Lakoff and Turner 1989; Palmer 1996; Shore 1996; Steen 1994):

Hypothesis 3

Metaphoric thought might motivate the linguistic meanings that have currency within linguistic communities, or may have some role in an idealized speaker/hearer's understanding of language. But metaphoric thought does not play any part in individual speaker's ability to make sense of, or process, language.

(Gibbs 1999: 42)

Cultural and/or linguistic patterns of behavior, abstracted from large groups of people, are sufficient for supporting this particular view of metaphor in thought. These cultural and linguistic data would still allow for large degrees of variation and individual differences when it comes to individual people's use of such metaphoric thought (e.g. Blasko 1999). A historical variant of hypothesis 3 may look like this:

Hypothesis 4

Metaphoric thought might play some role in changing the meanings of words and expressions over time, but does not motivate contemporary speakers' use and understanding of language. (Gibbs 1999: 42)

In general, the linguistic data about the ubiquity of metaphor could be argued to be compatible with each of these various hypotheses, as has also been pointed out about the general relation between cognitive linguistic analyses of language and thought by Heine (1997). However, the stronger a claim about the role for metaphoric thought becomes, the greater becomes the need for additional evidence from the relevant psychological area.

Further complications of this picture can also be readily imagined. One important factor is the variation that can occur within metaphor itself. Thus, a variant of the first hypothesis has been investigated by Keysar et al. (2000), who argue that its scope is to be restricted to novel metaphor only (cf. Coulson and Oakley 2005; Gentner and Bowdle 2001; Steen 1994). In other words, conceptual metaphor may be crucial for on-line processing when it comes to novel metaphorical expressions, but not to conventional metaphorical expressions. The latter might be understood directly by retrieving their conventionalized grammatical figurative meanings instead of via any on-line mappings. It seems that experimental evidence about cognitive behavior comparing the processing of novel and conventional metaphor is the only data that can ultimately decide about such a hypothesis.

The point of this discussion has been to underline the importance of the relation between converging evidence on the one hand and the theoretical position the various types of evidence are supposed to support on the other. Distinct theoretical positions have been adopted by researchers of metaphor who are in identical or neighbouring disciplines, and what counts as evidence for one position does not necessarily count as such for another. In evaluating the relation between evidence and theory, it is crucial to clarify what position about the relation between metaphor in language and thought is defended or examined by a particular researcher. To facilitate such a clarification, I should like to advocate that we consistently distinguish between a number of basic dimensions of cognitive linguistic research that sometimes get conflated in one way or another. This will also offer a motivated location of the distinct psycholinguistic interpretations of cognitive linguistic research formulated by Gibbs.

3. Grammar and usage

One dimension that has been identified as fundamental to doing cognitive linguistic research on language is the one that relates to the distinction between usage and grammar. In cognitive linguistics, and elsewhere, grammar, including the lexicon, is derived from usage, by language learners, language users, and by linguists (e.g. Langacker 1987, 1988, 2000; cf. Barlow and Kemmer 2000; Butler 2003; Bybee and Hopper 2001; Tomasello 2003). In fact, grammar, meaning lexico-grammar, is the socially conventionalized or cognitively entrenched part of usage. In particular, grammar is that area of research that contains form-meaning pairings that are relatively fixed as opposed to novel or ad-hoc or in change. One sign of this degree of conventionalization is that descriptions of these relatively fixed form-meaning pairings may be found in public socio-cultural repositories, such as dictionaries and grammars. They are also *presumably* stored in some form in the individual mind of each language user. The special status of grammar as opposed to usage, even though its boundaries may be hard to fix in the same way for all purposes, is quite secure.

Grammar comprises a good deal of metaphorical meaning. This may be found at all levels of linguistic organization, such as morphology (*brain-drain*, *frogman*), vocabulary (*defend*, *attack*, *support*), phraseology (*treading the water*, *holding your breath*), and more schematic constructions (such as the conventionalized metaphorical use of ditransitives, as in *He gave me the flue*). All of these examples are socially conventional to the extent that they can be looked up in dictionaries, for instance, or can be found in foreign language course books (e.g. Deignan 1996). They are cognitively entrenched to the extent that they cannot be bypassed when language users have to interpret expressions that are ambiguous between a metaphorical and a non-metaphorical meaning (e.g. Gildea and Glucksberg 1983). It is one of the great contributions of cognitive linguistics that figuration is part and parcel of lexico-grammar and its semantics.

Part of the difficulty with the contrast between grammar and usage, however, is that the former is derived from the latter. Thus, conventionalized metaphorical meanings of grammar are also found in usage. They have to be, since that is the only place where they can be observed in their natural habitats in the first place. This is potentially confusing for the distinction between grammar and usage for the cognitive linguistic study of metaphor. However, I will attempt to show that it is still possible and useful to keep the two categories apart as two distinct areas of cognitive linguistic research, in order to map the field of metaphor studies. As Newmeyer (2003) has oracled, "Grammar is grammar and usage is usage".

For one thing, usage does not only exhibit conventionalized lexico-grammatical manifestations of metaphor. Novel expressions of conventional conceptual metaphor are also encountered. Thus, a conventional metaphorical expression for a great quantity in English is *floods*, but when the terrible tsunami had hit a great part of Asia in 2004, it did not take long for *floods* to be replaced by *tsunami* as a more vivid expression in many instances of language use, revitalizing the conventional conceptual metaphor that may have motivated it. A Dutch newspaper report on a film festival, for instance, signaled "a tsunami of documentaries" within two weeks of the disaster itself. I remember being quite revolted by this journalistic "play" with language.

Before such novel coinages cross the threshold of sufficient conventionalization for them to be considered as part of the grammar of a language, they constitute one phenomenon which differentiates the task of finding and analyzing manifestations of metaphor in usage from metaphor in grammar. This holds for all discourse operations on conceptual metaphor distinguished by Lakoff and Turner (1989): extension, elaboration, questioning, and composition. These operations are usage phenomena par excellence. They cannot be part of a description of metaphor in grammar as a system of conventionalized form-meaning pairings, since they depend on and deviate from those conventions.

Completely novel metaphors, with reference to conventional conceptual metaphors, may be somewhat harder to find. But the opposite phenomenon, of metaphors that are on their way out of the grammar, is easier to trace. Thus, words like *fervent* and *ardent* were fully metaphorical in British English in 1974, if the *Concise Oxford*

dictionary is a good source to go by (McIntosh 1974). In that dictionary, these words had both a temperature and an emotion sense, exemplifying the underlying conceptual metaphor EMOTION IS TEMPERATURE. But this has changed in their description in present-day user dictionaries that are based on corpora, such as the *Collins Cobuild English language dictionary* (Sinclair 1987) or the *Macmillan English dictionary for advanced learners* (Rundell 2002). In these dictionaries, *fervent* and *ardent* only designate emotional attributes, the contrast with the domain of temperature having fallen out of use. From a grammatical point of view, these words have only one sense, pertaining to emotions, which does not allow for cross-domain mapping with another, more basic sense relating to temperature (Steen 2005). An individual speaker, however, may still have retained the contrast between the two senses, so that a usage description might have to differ from a grammatical description of these words.

A further difference between metaphor in grammar versus usage is its expression by simile and other rhetorical means of conveying cross-domain mappings. In grammar, there is just a handful of hackneyed metaphorical comparisons, which for instance have to do with comparisons between people and animals, as in *stubborn as a mule*. In usage, any cross-domain mapping may be expressed as some form of nonliteral comparison, giving rise to analogy, extended simile and metaphor, and so on (cf. Goatly 1997; Steen 2009; Steen and Gibbs 2004). These are manifestations of metaphor which are simply not part of the data for grammarians who aim to describe the conventionalized part of the language system, whereas they do come up in such studies as for instance Paul Chilton's book on security metaphors in western politics (Chilton 1996).

All in all there is a considerable difference between the ranges of manifestations of metaphor in grammar versus metaphor in usage, which mostly has to do with the degree of conventionalization of form-meaning pairings. But there is another aspect of the difference between the two research areas, metaphor in grammar versus metaphor in usage, which is equally important. This is the situated, specific meaning of metaphor in usage that has to be contrasted with the more general, schematic meaning of metaphor in grammar. The former is due to the individual, unique nature of any usage event, involving particular language users with their own goals and means and contexts of communication. The latter is the result of the goal to describe conventions of language use across language users and situations of language use – a matter of abstraction and generalization that is inherent in any attempt at identifying conventions. The study of grammar cannot escape this level of generalization if it wants to reconstruct conventions, whereas every study of usage has to begin with making a decision about the level of uniqueness or generality which it aims to capture about a specific (set of) usage event(s). Chilton's (1996) study of security metaphors, for instance, is a study of usage which moves back and forth between the discussion of highly individual usage events as idiosyncratic manifestations of metaphor, on the one hand, and more general patterns of metaphor, on the other.

Even conventionalized metaphorical meanings can consequently receive more specific interpretations in usage than in grammar. This is particularly clear from hermeneutic approaches to literary texts that aim to understand every detail of a text as a contribution to the communication between author and reader. But it is also evident in conversation analysis, where all language use is analyzed as a sign of the interactive goals of the interlocutors. And it can even be found in plain text analysis, as in the following example. The preposition *to* may be grammatically analyzed as displaying a spatial, temporal, and abstract sense, the latter two exhibiting a metaphorical relation with the spatial sense, which are all relatively distinct from each other. However, when *to* is used in discourse, the process that I. A. Richards (1936) baptized as the “interanimation of words” comes into play. Thus, in the headline to a newspaper article about the Middle-East peace process, “The rocky road to peace”, the preposition *to* would have an abstract metaphorical meaning if it is analyzed from the perspective of its grammatical environment, the prepositional group *to peace*. However, in this context, the spatial meaning of the preposition *to* is also pulled to the fore and is made rather specific by the preceding two words: *to* now also gets connected with the sense of spatial orientation and direction that roads typically offer. This is not an accidental exploitation of the additional possibilities in usage, for the same text, two lines further down, has the question: “What are the potholes ahead?” This sentence, too, imbibes the metaphorically used *ahead* with a similarly spatial revitalization. These are highly specific situated meanings, in which grammar acts as only one semantic factor. They contribute to the semantic prosody of a text (Cameron 2003).

These are the reasons why I advocate making a distinction between finding metaphor in grammar and metaphor in usage. Both areas are researched with different theoretical aims and assumptions about meaning and they cover at least partly different phenomena. When the same phenomena are investigated, they typically receive different treatment. If researchers adjust their methodology to these different situations, this would enable us to see whether an increasing mass of converging evidence for particular metaphorical patterns in language as grammar and usage can be obtained.

4. Language and thought

Inherent in the nature of cognitive linguistic research of language is the fact that usage as well as grammar can be analyzed as either language or thought or both (cf. Cameron 1999). This is particularly clear when it comes to the study of metaphor. Conceptual metaphors are not identical with linguistic metaphors, and linguistic metaphors are seen as so many distinct and particular realizations or expressions of conceptual metaphors. Cross-linguistic research, in particular, has demonstrated the use of this distinction between language and thought for metaphor, whether it is studied as part of conventionalized lexico-grammar or of specific situations of usage that display the whole range of varying degrees of conventionalized form-meaning pairings.

Deignan, Gabryś and Solska (1997) have proposed the following possible configurations between any two languages:

1. Same conceptual metaphor and equivalent linguistic expression
2. Same conceptual metaphor but different linguistic expression
3. Different conceptual metaphors used
4. Words and expressions with similar literal meanings but different metaphorical meanings

For their comparison between English and Polish, they offer a number of illustrations. For relation 1, they point to the fact that *RELATIONSHIPS ARE BUILDINGS* works for both languages for a verb such as *cement/cementować*, as in *cement a personal/business relationship*. For relation 2, they point to the fact that the same conceptual metaphor *IDEAS ARE FOOD* can be observed in both languages, but that a linguistic difference emerges when we look at the conventionalized expressions of the conceptual metaphor. Thus, Polish *niedojrzałe*, meaning ‘unripe’, can be used metaphorically, but English would prefer *half-baked*, not *unripe ideas*. When metaphor in language is studied, it therefore needs to be clear which of these two levels is in focus, the linguistic form of the metaphor, its conceptual structure, or both.

The distinction between grammar and usage can be immediately brought into play here. The fact that *unripe ideas* is not a conventionally possible collocation in English means that it is not part of the lexico-grammar of either of the two words to “permit” its collocation with the other. This can be shown by, for instance, a quick search of the free BNC online service: it shows that no attested uses of this collocation or its variants (*unripe idea*, *unripe thought*, *unripe thoughts*) are found in the 100 million-word corpus of the BNC. This might be taken as one operational definition of conventionalization.

However, it should also be clear that any singular use of the collocation would probably be intelligible, for instance in a joking or a playful context in advertising or in conversation or in poetry. The expression might hence in principle be possible in usage and might in fact have been used in some situations already. It might even turn into a grammatical expression if it were used sufficiently frequently, for whatever reason. It would then acquire a rather different status as a language phenomenon, though, for it would then illustrate relation 1, not 2, of the list of possibilities advanced by Deignan and her colleagues. This would present a different factual description of the relation between the two languages regarding metaphor, which is one of the reasons of exploiting the contrast between grammar and usage as I am doing here.

Kövecses (2004) has examined how linguistic and conceptual metaphors are related between English and Hungarian. He offers the following analysis for *TIME IS MONEY* (Table 1). Languages differ in their expression of metaphorical conceptual structures. In all, there is sufficient argument for keeping the linguistic forms and conceptual structures of metaphor apart, both in grammar and in usage.

Table 1. TIME IS MONEY in English and Hungarian: The relation between language and thought

	Word form	Literal meaning	Figurative meaning	Conceptual metaphor
Most frequent case	different	same	same	same
Less frequent case	different	different	same	same
Least frequent case	different	different	same	different

Research on the language of metaphor in grammar and usage will focus on the linguistic forms of metaphor. Research on metaphor as thought, in grammar and usage, will focus on the conceptual structures. When researchers aim to look at both, they need to pay attention to both linguistic form and conceptual structure. This is what is typically meant when cognitive linguists speak of metaphor in language and thought.

5. Sign and behavior

In studying the linguistic forms or conceptual structures of metaphor in grammar or usage, a further distinction can be made which is helpful to order the field. Grammar and usage, as well as language and thought, can all be approached in two ways: as sign systems and their use, or as behavioral processes and their products. The former approach involves the use of semiotics, while the latter is located in the social sciences. It is the step from research on metaphor as a sign to metaphor as individual behavior which is often problematic to psychologists and which is implicitly addressed by the various alternative hypotheses formulated by Gibbs above.

Cognitive linguistics is clearly based in a semiotic approach to the study of language. Langacker’s approach to linguistic units as more or less conventionalized form-meaning pairings is founded on the symbolicity principle in language that goes back to C. S. Peirce. Dirven and Verspoor (1998) open their textbook with a discussion of language as a sign system that has distinct lexical and grammatical categories. Constructions have since taken over as the all-encompassing category for the grammatical sign that needs to be described by cognitive linguistic grammarians regarding their syntactic, semantic, and pragmatic properties (e.g. Langacker 2005). These semiotic properties of cognitive linguistics locate it firmly within mainstream linguistics as the study of language as a formal sign system.

What is special about cognitive linguistics, however, is the often-made assumption that the grammatical descriptions of language are not just propositions about the semiotic structure of language as a sign system, but that they also have psychological validity. Cognitive linguists have adopted the position that the structure of grammar as described by cognitive linguistics is mentally represented as such in the minds of

individual language users. In other words, one important claim of cognitive linguistics is that it also provides descriptions of the cognitive products of language processing in the form of stable mental representations of lexico-grammatical constructions and their application in usage.

This is a bold claim. Although I suspect that much of this may be true, I do not share this assumption as an *a priori* tenet. Instead, I regard it as an empirical issue. In my opinion, semiotic structure does not necessarily equal psychological process and its product, cognitive representation. In particular, the question arises *how much* of the relation between sign and behavior is in fact one-to-one, and in which areas. A more detailed treatment of this question for the case of blending theory has been offered by Gibbs (2000).

The main reason for advocating this deliberately conservative position is the following. All individuals in any given language community vary in many cognitive, social, and cultural respects. It would be truly surprising if they were absolutely identical in their knowledge of grammar. This cognitive variability of grammar is an issue of individual cognitive psychology. Indeed, a considerable measure of individual variation should be the logical outcome of the usage-based approach to language acquisition and maintenance advertised in cognitive linguistics.

Grammar as behavior needs to be examined with the proper methodological tools. These tools, pertaining to finding metaphor in the stable, long-term cognitive representations of grammar, belong to the social sciences. They engage with different phenomena, mental capacities and their use, than the tools of semiotics or more particularly linguistics, which deal with signs. As a result, grammar may either be described as formal structure capturing the conventionalized part of language as a sign system; or it may be studied as the mental representation and processing which captures the entrenched part of language as a cognitive capacity of individual people. Each of these conceptualizations represent distinct areas of research that need to be investigated by their own methodologies, albeit in close relation, as is also advocated in various contributions in Barlow and Kemmer (2000) such as Biber (2000), Dickinson and Givón (2000), and Lamb (2000).

This twofold distinction between sign and behavior does not only apply to the investigation of the linguistic forms of metaphor in grammar, but also to the conceptual structures of metaphor in grammar. Conceptual structures can also be approached as a conventionalized semiotic system, as was proposed in the seventies by for instance Umberto Eco (1976), who was also inspired by Peirce. Such semiotic systems of thought are based on conceptual categories with labels and meanings, instead of the lexical or grammatical categories of grammar. When this semiotic perspective is adopted on thought, it simply means that no claims are made about the cognitive validity of the conceptual categories and systems for each individual in a particular culture. One example of such a standpoint is provided by Charteris-Black (2004), who explicitly denies that his conceptual analysis of metaphor has any psychological pretensions.

This distinction between conceptual structures as semiotic versus behavioral systems suggests that such cognitive linguistic studies of conceptual metaphor as those by Kövecses (1986, 1990, 2000) of the metaphorical structure of emotion concepts, for instance, can be read in two ways. One interpretation takes them as semiotic descriptions of the conventionalized nature of the cross-domain relations between concepts in one target domain (emotions) and a number of source domains, the descriptions of these conceptual structures having been derived from an analysis of linguistic forms. Another interpretation takes them as psychological, that is, behavioral descriptions of the nature of the knowledge and thought of individual people. Most psychologists would not accept that the semiotic descriptions are also valid as descriptions of the relevant behavioral processes and their products without further behavioral research. Whether cognitive linguists wish to defend the cognitive validity of such proposals anyway is a question that I dare not answer.

The same story applies to usage, which may also be analyzed as either semiotic structure or psychological process and product. Even though many cognitive linguists have analyzed usage on the assumption that such descriptions also capture psychological representations and related processes (e.g. Langacker 1987, 1988, 2000; Barlow and Kemmer 2000), I, again, would like to insist that these are empirical issues. They need to be addressed by looking at the role of usage in actual cognitive processing and representation. To repeat, it would be quite surprising and perhaps even contradictory if all language users displayed exactly the same cognitive processes and representations of linguistic forms and their related conceptual structures in usage while it goes without saying that they display individual differences in many other psychological respects.

I therefore propose that metaphor in usage is also investigated in two ways. First, we may describe the linguistic forms and conceptual structures in usage as semiotic structures with particular forms and meanings. But the two modalities of metaphor in usage may also be investigated as the cognitive products of mental processes in individual minds. The ambitions of pursuing one or the other type of approach are radically different, and it would be helpful if researchers were maximally clear about their position in this regard.

The distinction between the study of language and metaphor as either sign or behavior is the third dimension that I should like to propose for ordering the field of research. We have seen that it can be applied to the study of language as grammar or usage, and to the study of the linguistic forms as well as conceptual structures that may be singled out for special attention. This leads us to an integrated picture in the next section.

6. Metaphor “in language”

When cognitive linguistically inspired researchers of language investigate metaphor, they typically do so by looking at language as either grammar or usage. Moreover, they

have to make a choice in focusing on metaphor in grammar or usage as either language, analyzing linguistic form, or thought, examining conceptual structure. And finally, they have a further choice in adopting either a sign-oriented, semiotic perspective on metaphor, or a behavior-oriented, social-scientific perspective. When these choices are combined, we end up with a field of research that consists of eight distinct areas displaying their own object and approach. A schematic overview of this situation may be found in Table 2.

I have characterized each of the research areas by means of a question about metaphor identification (cf. Steen 2007), but these questions can be broadened to include all metaphor analysis. As can be seen, the questions differ substantially between the distinct approaches. For research on metaphor approached as language approached as signs, there is a difference between research on grammar and usage that may be captured by the contrast between the following two questions:

Q1: When does a conventionalized linguistic form-meaning pairing count as metaphorical?

Q2: When does any linguistic form-meaning pairing count as metaphorical?

The former type of research requires evidence about sufficient degrees of conventionalization of metaphor, which may be collected from reference works or corpora, for instance, whereas the latter type of research does not. This distinction applies to all of the following sets of questions about metaphor in grammar versus usage, too.

Table 2. Areas of research for cognitive linguistic approaches to metaphor in language

		Metaphor in grammar	Metaphor in usage
<i>Approached as language</i>	<i>Approached as sign</i>	When does a conventionalized linguistic form-meaning pairing count as metaphorical?	When does any linguistic form-meaning pairing count as metaphorical?
	<i>Approached as behavior, whether process or product</i>	When does the acquisition or storing or even loss of a conventionalized linguistic form-meaning pairing count as metaphorical?	When does the production or comprehension of any linguistic form-meaning pairing count as metaphorical?
	<i>Approached as sign</i>	When does a conventionalized conceptual structure related to a linguistic form count as metaphorical?	When does any conceptual structure related to a linguistic form count as metaphorical?
<i>Approached as thought</i>	<i>Approached as behavior, whether process or product</i>	When does the acquisition or storing or even loss of a conventionalized conceptual structure related to a linguistic form count as metaphorical?	When does the production or comprehension of any conceptual structure related to a linguistic form count as metaphorical?

The difference between the two areas of research indicated by questions 1 and 2, on the one hand, and research on metaphor in language as behavior, on the other, may then be explained as follows:

- Q3: When does the acquisition or storing or even loss of a conventionalized linguistic form-meaning pairing count as metaphorical?
- Q4: When does the production or comprehension of any linguistic form-meaning pairing count as metaphorical?

Question 3 addresses the psychological aspect of metaphor in grammar by focusing on the long-term processes of language acquisition, storage, and attrition, in order to be able to tap the cognitive phenomenon of sufficient conventionalization. Question 4 tackles the psychological aspect of metaphor in usage by focusing on the short-term processes of production and comprehension in order to tap the cognitive aspect of specific usage events. In both areas of research, attention may be devoted to the behavioral processes themselves, or to their products, that is, long-term or short-term mental representations. The data of this type of research would be speech and listening behavior, or reading and writing behavior, not stretches of discourse divorced from their users.

The areas of research in Q3 and Q4 are furthermore characterized by their focus on metaphor approached as language, not thought. That is, both areas are defined by their attention to linguistic forms without any assumptions about the identity and content of related conceptual structures. Questions 7 and 8, by contrast, do precisely that:

- Q7: When does the acquisition or storing or even loss of a conventionalized conceptual structure related to a linguistic form count as metaphorical?
- Q8: When does the production or comprehension of any conceptual structure related to a linguistic form count as metaphorical?

Researchers working in these two areas investigate the cognitive processing of either conventionalized or all mappings between conceptual domains as part of grammar or usage. This may again happen with special attention to the processes themselves, or to their products. The crucial characteristic of this type of research, again, is the concern with people and their behavior, not signs and expressions.

Questions 5 and 6 are the semiotic variants of questions 7 and 8:

- Q5: When does a conventionalized conceptual structure related to a linguistic form count as metaphorical?
- Q6: When does any conceptual structure related to a linguistic form count as metaphorical?

This type of research can proceed without looking at the behavior of people and analyzes the semantic complexities of cross-domain mappings.

7. Metaphor “in thought”

The use of these differentiations may be demonstrated by returning to Gibbs's (1999) alternative interpretations of the cognitive linguistic view of a role for conceptual metaphor in language. His first hypothesis, repeated here for the sake of convenience, runs as follows:

Hypothesis 1

Metaphoric thought might function automatically and interactively in people's on-line use and understanding of linguistic meaning (Gibbs 1999: 43).

This is a hypothesis that narrows the cognitive linguistic claim about metaphoric thought in language down to the research area designated by question 8. The relation of this claim to other behavioral aspects of metaphor in language, addressed by questions 7, 4, and 3, remains implicit.

Gibbs's second alternative reads as follows:

Hypothesis 2

Metaphoric thought might motivate individual speakers' use and understanding of why various words and expressions mean what they do, but does not play any role in people's ordinary on-line production or comprehension of everyday language. (Gibbs 1999: 43)

It seems to me that this hypothesis pertains to the more general, grammatical understanding of language, not to its short-term usage, which suggests that this hypothesis makes a positive claim about the research area characterized by question 7, and a negative one about research area 8.

Hypothesis 3 breaks away from behavior, and looks at conceptual metaphor in language as a sign system:

Hypothesis 3

Metaphoric thought might motivate the linguistic meanings that have currency within linguistic communities, or may have some role in an idealized speaker/hearer's understanding of language. But metaphoric thought does not play any part in individual speaker's ability to make sense of, or process, language.

(Gibbs 1999: 42)

I understand this hypothesis as making a positive claim about the research areas designated by questions 5 and 6, and a negative claim about research areas 7 and 8. The same probably holds for its historical variant, hypothesis 4:

Hypothesis 4

Metaphoric thought might play some role in changing the meanings of words and expressions over time, but does not motivate contemporary speakers' use and understanding of language. (Gibbs 1999: 42)

These are hypotheses about thought that is not individual cognition but semiotic structure. This type of thought might not necessarily be acceptable as “thought” to all psychologists.

It turns out, then, that the interaction between the dimensions of the field proposed here creates a grid which offers a natural home to the alternative interpretations of the conceptual metaphor hypothesis distinguished by Gibbs (1999). They all pertain to the lower half of Table 2, since they have to do with metaphor approached as thought, and within this lower half, each alternative hypothesis highlights a different area of research, which stands for a different aspect of metaphor in grammar and usage. In order to argue for the validity of one or another of each of these alternative hypotheses, evidence would have to be collected within each of these distinct fields of research, with the appropriate methods. A map such as the one provided by Table 2 might be helpful in defining the conceptual framework within which such evidence would have to be collected.

8. How do we map the field?

Another way of demonstrating the use this exercise is by looking beyond the boundaries of the discussion so far. It is a well-known cognitive linguistic tenet that metaphor is a figure of thought that can be expressed by other codes than language. Visuals are one area which have received some attention in this connection, for instance by Kennedy (1982, 1990) and Forceville (1994, 1996). Table 3 contains an application of the principles discussed above to metaphor expressed by visuals. The division of the field seems to make sense. Similar analyses can probably be advanced for the fields of metaphorical gesture and signing, as well as multimodal texts, but this would take up too much space.

For now it may be concluded that the three dimensions of research differentiated in this chapter seem to be fundamental for a division of the complex research field of metaphor in language and thought. They show that the notion of “metaphoric thought” is ambivalent between the semiotic structure of conceptual metaphor and its cognitive realization in individual behavior. They also show that there are distinct areas for metaphor research which may all be explored by collecting different types of evidence within those areas: data collection by introspection, observation, and manipulation may lead to evidence within these separate areas that converges in varying degrees. As a result, converging evidence for metaphor in one area may be more or less secure and convincing than converging evidence in another of these areas. Moreover, the interrelations between the phenomena in these distinct areas with their diverging degrees of evidential support require careful formulation – as is demonstrated by Gibbs’s various interpretations of the global cognitive-linguistic hypothesis that metaphoric language is a reflection of metaphoric thought. All in all then, there is good reason to adopt a slightly more careful approach to the interpretation of various types of evidence in cognitive linguistics than has been generally acceptable.

Table 3. Areas of research for cognitive linguistic approaches to metaphor in visuals

		Metaphor in grammar	Metaphor in usage
	<i>Approached as sign</i>	When does a conventionalized visual form-meaning pairing count as metaphorical?	When does any visual form-meaning pairing count as metaphorical?
<i>Approached as image</i>	<i>Approached as behavior, whether process or product</i>	When does the acquisition or storing or even loss of a conventionalized visual form-meaning pairing count as metaphorical?	When does the production or comprehension of any visual form-meaning pairing count as metaphorical?
	<i>Approached as sign</i>	When does a conventionalized conceptual structure related to a visual form count as metaphorical?	When does any conceptual structure related to a visual form count as metaphorical?
<i>Approached as thought</i>	<i>Approached as behavior, whether process or product</i>	When does the acquisition or storing or even loss of a conventionalized conceptual structure related to a visual form count as metaphorical?	When does the production or comprehension of any conceptual structure related to a visual form count as metaphorical?

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Emotion and desire in independent complement clauses

A case study from German

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We advocate the use of theoretical tools from both cognitive linguistics and contemporary pragmatics to analyze complement clause constructions that are syntactically dependent but independent in terms of their illocutionary force, as exemplified in English by *That it should have come to this!* Such apparent mismatches between syntactic form and illocutionary function raise important questions about how much of meaning is compositional and how much is inferential, i.e. to be derived through metaphoric, metonymic and/or pragmatic elaboration. The focus of this study is on German complement clauses headed by the complementizer *dass*, but data from other languages are also adduced, attesting to the fact that this speech act construction is not an isolated and quirky phenomenon restricted to one language.

Keywords: compositional vs. inferential meaning, metaphoric and metonymic inferencing, mismatch between form and function, pragmatic elaboration, speech act construction

1. Introduction

It is encouraging to see some converging ideas on meaning in otherwise radically opposed theoretical frameworks such as cognitive linguistics (see e.g. Croft and Cruse 2004; Evans and Green 2006 for useful introductions), certain varieties of generative grammar (Jackendoff 2002), and modern pragmatics (Levinson 2000; Huang 2006; Sperber and Wilson 1995). Of course, there are crucial theoretical differences among these schools of thoughts, regarding, for example, the structure of the human mind (modularity vs. non-modularity), the existence of a faculty of language (nativism vs. non-nativism), and the distinction between semantics and pragmatics (assumed in contemporary pragmatics, but rejected in cognitive linguistics and Jackendoff's

conceptual semantics). In the past, cognitive linguists have tended to stress the theoretical differences between their own field and the above-mentioned frameworks. This might have been the right strategy for a certain period of time when cognitive linguistics went through a process of consolidation and had to establish itself as an independent field of study. To our minds, the time has come for cognitive linguists to look for commonalities and possible convergences of ideas, rather than emphasize the incompatibilities that exist between cognitive linguistics and competing formalist and functionalist approaches to language. In various publications (e.g. Panther and Thornburg 1998, 2003, 2005) we have argued that cognitive semantics should be open to developments in contemporary pragmatics and vice versa.

In this chapter we use analytical tools from both cognitive linguistics and pragmatics to analyze some constructions that are usually relegated to the periphery of grammar. Examples are given in (1)–(4):

- (1) *If you could quiet down a little bit.*
- (2) *If this isn't my friend Bill Hammer!*
- (3) *For him to say such a thing!*
- (4) *That it should have come to this!*

Often grammarians, e.g. Huddleston and Pullum (2002: 244), categorize sentences such as (1)–(4) as ‘minor sentence types’ or even ignore them completely (e.g. in their *Student's Grammar of English* (2005)). Sentences like (1)–(4) look “incomplete” and they seem to exhibit a “mismatch” between syntactic form and communicative function. Usually, illocutionary acts such as assertives, directives, and commissives are coded as *independent* clauses, i.e., their syntactic autonomy matches the independence of their illocutionary function. In (1)–(4), however, illocutionary function is grammaticalized by means of syntactically *dependent* structures, but these formally subordinate clauses are used to communicate *independent* speech acts such as a request in (1), an expression of surprise in (2), and an exclamation of indignation, grief or distress in (3) and (4), respectively.

It is the apparent mismatch between form and pragmatic function that makes clauses like (1)–(4) interesting objects of study. They raise important questions concerning the interface between grammatical form and conceptual content/pragmatic function, and the problem of how much of sentence meaning is compositional and how much has to be derived inferentially, for example, via metaphoric, metonymic and/or pragmatic elaboration. We discuss some of these issues herein, offering an in-depth analysis of the pragmatic functions and conceptual structure of a specific type of dependent clause: finite subordinate clauses introduced by a complementizing conjunction such as English *that*. Complement clauses of this type can occur as autonomous syntactic units in a variety of languages, i.e., they are usable without an openly expressed matrix clause, and they serve pragmatic functions such as requests, admonishments, wishes, expressions of happiness, frustration, grief, etc. The questions we are interested in can be formulated as follows:

- What constitutes an adequate account of the meaning of these constructions? How much of their meaning comes about through cognitive operations such as metonymy, metaphor, and pragmatic inferences? Is their meaning compositional? Should “world knowledge” be integrated into their semantic description?
- Does the conceptual structure and pragmatic function of these constructions find repercussions in their syntactic structure?

The main focus of this study is on German complement clauses headed by the complementizer *dass* (variably spelled *daß*), but data from other languages are cited attesting to the fact that this clause type is not an isolated and quirky phenomenon restricted to one language.

1.1 Cross-linguistic examples

The type of sentence to be discussed can be illustrated with a sample from German, French, Japanese, and English listed in (5)–(14). These sentences are introduced by the complementizers German *dass*, French *que*, English *that* and Japanese *koto*, respectively (for a more comprehensive description of the grammar, semantics, and pragmatics of “insubordinate” clauses see Evans 2007).¹

German

- (5) *Dass du dich ja anständig benimmst!* (order, request)
 COMP you yourself PRT appropriately behave-IND
 ‘Behave appropriately by all means’
- (6) *Dass doch die drei Tag[e] schon um wären!* (wish)
 COMP PRT the three days already gone were-SUBJ
 ‘I wish these three days were already over’
- (7) *Dass das ausgerechnet mir passieren muss!* (expression of frustration)
 COMP that of-all-people to-me happen must
 ‘That this should happen to me (of all people)!’
- (8) *Dass ich das noch erleben darf!* (expression of happiness, joy)
 COMP I that still experience may
 ‘That I should live to witness this [joyous event]!’

French

- (9) *Que tout le monde sorte* (wish, request (Grevisse 1993: 1561))
 COMP everybody leave-SUBJ
 ‘Everybody should leave’

1. The following abbreviations for grammatical categories are used in (5)–(14): COMP = complementizer; COP = copula, GEN = genitive case marker, IND = indicative, PPX = polite prefix, PRT = modal particle; SFP = sentence-final particle, SM = subject marker, SUBJ = subjunctive, TM = topic marker.

- (10) *Qu' elle est belle!* (exclamation)

COMP she is beautiful

'How beautiful she is!'

English

- (11) *Oh, that she were alive to see this!* (wish)

- (12) *That he should turn against us, after all his professions of friendship!*

(expression of indignation)

Japanese

(Okamoto 2003: 208–209)

- (13) *Saku no naka ni hair-anai koto.* (order, request)

fence GEN inside in enter-NEG SFP

'You must not go inside the fences'

- (14) *O-niwa ga kiree da koto.* (exclamation)

PPX-garden SM pretty COP SFP

'How pretty the garden is'

1.2 Pragmatic functions

In examples (5)–(14) we observe two types of pragmatic function:

- i. *Expressives* and *exclamations*
- ii. *Directives* and *optatives*: requests, commands, wishes, hopes, etc.²

We call the above constructions *speech act constructions*.³ Our goal is to show that they exhibit rich conceptual frames with components such as 'strong desire', 'emotional involvement', 'counter-to-expectation situations', and even "metaphysical" background assumptions about 'what the world is like'. An adequate account of these constructions necessitates the integration of analytical tools from both conceptual semantics and contemporary pragmatics. In Section 2 we analyze independent complement clauses with an *expressive* function in English and German; in Section 3 we concentrate exclusively on German *dass*-clauses with a *directive* and *optative* function. Clauses of this type are relatively rare in present-day English.

2. Expressive-exclamative complement clauses

One class of unembedded complement clauses has the pragmatic function of expressing an emotional attitude towards some situation or state of affairs, which is usually

2. The term *optative* is not used here in its grammatical sense but as a cover term for speech acts expressing wishes, desires, hopes, etc.

3. See Stefanowitsch (2003) for an analysis of conventionalized indirect speech acts as speech act constructions.

presented by the speaker as given information (i.e. presupposed). The pragmatic function of these independently used complement clauses comes very close to what Searle (1976) calls expressive illocutionary acts. Such emotionally charged exclamatory utterances tend to appear in German with modal auxiliaries like *dürfen/können* 'may' and *müssen* 'must' and in English with the modal forms *should* and *could*.⁴ In Section 2.1 we briefly illustrate the use of independent complement clause constructions in English; Section 2.2 provides a more detailed analysis of analogous constructions in German.

2.1 Some English examples of expressive complement clauses

A typical example of an expressive use of an independent complement clause is the following:

- (15) *That it should have come to this!* (Huddleston and Pullum 2002: 944)

Quirk et al. (1985: 841) cite a number of additional examples containing the modal *should*, which they characterize as the *should* of surprise; typically, such sentences convey disapproval or regret, but occasionally also approval and relief:

- (16) *That he should have left without asking me!* (disapproval, regret)
 (17) *That I should live to see such ingratitude!* (indignation)
 (18) *That all your friends should be so sympathetic!* (approval, relief)

What are the common semantic and pragmatic characteristics of sentences (15)–(18)? At a minimum they express and/or imply the following:

- (19) a. The speaker presupposes that a certain event/situation is true/has happened.
 b. There is some cause (e.g. circumstances, character of a participant, fate, a natural force, a supernatural force) that brings the event about.
 c. The speaker believes that the event was unlikely to happen.
 d. The speaker undertakes an evaluation of the event as good/bad.
 e. The speaker experiences some (positive or negative) emotion, whose nature is dependent on his/her evaluation of the event.⁵

In (20) we illustrate these points with regard to example (16):

- (20) a. The speaker assumes (presupposes) that the male individual referred to by the pronoun *he* left without asking the speaker.

4. In English there is also a non-finite construction of the type *For you to VP* that conveys a strong expressive meaning, as in *Now, just one more thing on the Vietnam [War]. For you to say we were humiliated in Vietnam, look, the United States armed forces did not lose one engagement, not one.* (<http://www.foxnews.com/story/0,2933,164866,00.html>).

5. Larreya (2003: 38) also sees an epistemic (unexpectedness) and a deontic reading ('contrary to what one would hope/would have hoped for') in such sentences.

- b. There is some cause (probably rooted in the character of the participant *he*) that has brought about the event 'He left without asking'.
- c. The speaker believes that the event was unlikely to happen.
- d. The speaker evaluates the event 'He left without asking' as an unethical or inappropriate action.
- e. The speaker is distressed by the event.

A slightly different scenario is evoked in the following utterance:

- (21) *That you could ever want to marry such a man!* (disapproval)

This sentence contains the modal *could* instead of *should*; the mental state ('You want to marry such a man') seems to stem from the subject's disposition towards that mental state. This disposition is coded by *could*. The occurrence of the desire is judged by the speaker as unlikely and bad, provoking an attitude of disapproval.

The brief discussion of sentences (16)–(18) and (21) reveals the complex conceptual and pragmatic structure of expressive *that*-clauses. In the following section, we examine some equivalent German expressive *dass*-clauses in more detail. The analysis brings to light additional conceptual and pragmatic subtleties of independent complement clause constructions.

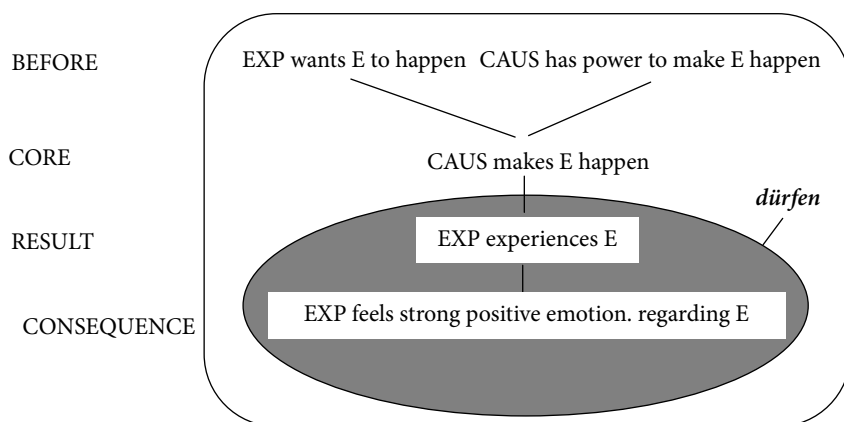
2.2 Some German examples of expressive *dass*-clauses

In this section, the objects of inquiry are expressive complement clauses in German that contain the deontic modals *dürfen* and *müssen* with the basic senses 'be allowed to, may' and 'must', respectively. As will be seen, these modals are carriers of strong emotional connotations: *dürfen* usually suggests positive emotions such as the speaker's happiness about some event, whereas *müssen* conveys negative emotions such as sadness, regret, grief, and the like. We contend that these emotional overtones are motivated by a combination of metonymically guided inferences and metaphorical mappings.

Before delving into the conceptual and pragmatic analysis of expressive *dass*-clauses, let us first consider the basic sense of the deontic modal *dürfen*, which is, as pointed out above, 'may, be allowed to'. This meaning is illustrated in sentence (22):

- (22) *Marie durfte die Sitzung vorzeitig verlassen*
 Marie was-allowed the meeting early to-leave
 'Mary was allowed to leave the meeting early'

The basic meaning of *dürfen* may be represented in a conceptual frame that can be called a 'speech act scenario' (for this notion see e.g. Panther and Thornburg 1998 and 2003), as in Figure 1.



CAUS: Supernatural power, destiny, circumstances, causing event

EXP: Experiencer

E: Event

Figure 2. Derived sense of German *dürfen*

In (23), the modal form *durfte* ‘was allowed to’ is quite obviously not used in its basic sense. At first sight, one might even surmise that there is no conceptual connection at all between the basic deontic sense and the meaning the modal has in (23). First, no “permission” is given in (23) to a PERMITTEE to do something. On the contrary, the “permittee” (*der Großvater*) does not want to *do* anything, but desires to *experience* an event whose occurrence he cannot control. Second, it is important to see that there is a contrast between (23) and (22) concerning the actuality of the permitted event: The realization of the permitted action in (22) is strongly implicated (via the POTENTIALITY FOR ACTUALITY metonymy), but not absolutely certain, since a permission to do something does not necessarily imply that the action is *actually* carried out; but utterance (23) conveys that the event in question (the wedding of the grandson) does in fact take place. It is impossible to cancel the implication of factuality in (23), whereas the factuality of the permitted event in (22) would be defeasible under certain circumstances.

A closer look at Figure 2 reveals however that, despite the semantic differences mentioned above, there exist commonalities between the senses of (22) and (23). What their meanings have in common is an imbalance of power: in (22) one participant has authority over the other; in (23) one “participant” is vastly more powerful than the other. The more powerful participants can open up possibilities or make things happen that the less powerful participants cannot control. Another striking commonality is that the less powerful participant *wants* to do something (as in (22)) or wants something to happen (as in (23)). These common conceptual features suggest that the two types of senses that (22) and (23) illustrate are related. More precisely, we claim that the sense of *dürfen* exemplified in (23) can be inferentially derived from the basic deontic sense of the modal as exemplified in (22). We call this derived meaning the *experiential sense*.

The experiential sense of *dürfen* is quite frequent in expressive complement clauses like the following:

- (24) *Dass ich den Abriss der Berliner*
 that I the dismantling of-the Berlin
Mauer noch erleben durfte!
 Wall still to-witness was-allowed
 ‘That I could live to see the dismantling of the Berlin wall (in my lifetime!’)

Utterance (24) conveys a meaning that cannot be calculated solely *compositionally*, i.e. by an interpretive procedure that starts from lexical meanings, combines them into phrasal meanings through the operation of syntactic rules, and finally calculates the overall sense of the sentence on the basis of its phrasal meanings. We claim that just as important in the construction of the meaning of (24) are metaphoric and metonymic mappings leading from the basic conceptual frame of the modal *dürfen* to the emotional “connotations” of joy and contentment conveyed by (24). The mappings concern both the PERMITTED EVENT and the *participants* in the event, i.e. the PERMITTOR and the PERMITTEE. We argue then that although the meaning of (24) is not predictable, it is metonymically and metaphorically *motivated*. As a first approximation, the meaning of (24) can be characterized as follows:

- (25) a. BACKGROUND: The speaker has witnessed the dismantling of the Berlin Wall.
 b. SPEAKER’S DESIRE FOR EVENT TO OCCUR:
 The speaker *hoped* to see the dismantling of the Berlin Wall.
 c. SPEAKER’S EXPECTATION THAT EVENT WOULD NOT OCCUR:
 The speaker *did not expect* to see the dismantling of the Berlin Wall.
 d. SPEAKER’S ATTRIBUTION OF FORCES THAT CAUSED EVENT: The speaker attributes the dismantling of the Berlin Wall to *powers* and *forces* (lucky circumstances, supernatural powers, etc.) that have the “authority” to allow events to happen.
 e. LACK OF CONTROL: Given that the speaker is the “permittee” and that the “permittor” has authority over the permittee, the speaker *does not control* the event.
 f. SPEAKER’S EVALUATION OF EVENT: The speaker evaluates the dismantling of the Berlin Wall as *good*.
 g. SPEAKER’S EMOTIONAL STATE: The event causes *joy*, *gratitude*, etc., in the speaker.

There are several interesting features in the meaning of (24). First, consider again the use of the modal verb *durfte* (the third person singular preterit of *dürfen* ‘may’). As pointed out above, this modal is a deontic verb of permission with the meaning ‘be allowed to, be permitted to’. It focuses on the result of an act of permission: utterances with *dürfen* (analogous to ones with English *may*) have a PERMITTOR argument, which

is not syntactically coded, and they have an overt PERMITTEE participant coded as the subject of the sentence. We argue that the PERMITTOR in (24) is mapped onto a CAUSER (or CAUSING FORCE); the PERMITTED EVENT is mapped onto a CAUSED EVENT; and the PERMITTEE corresponds to an EXPERIENCER of the caused event. Depending on the language user’s views on how “the world functions”, the PERMITTOR–CAUSER may for example be identified with

- a supernatural being that has the power to license or prevent the occurrence of events (“an act of God”), in this case, the downfall of the Berlin Wall;
- lucky circumstances/historical developments with the same effect.

Figure 3 offers a partial representation of the meaning of sentences of type (24).

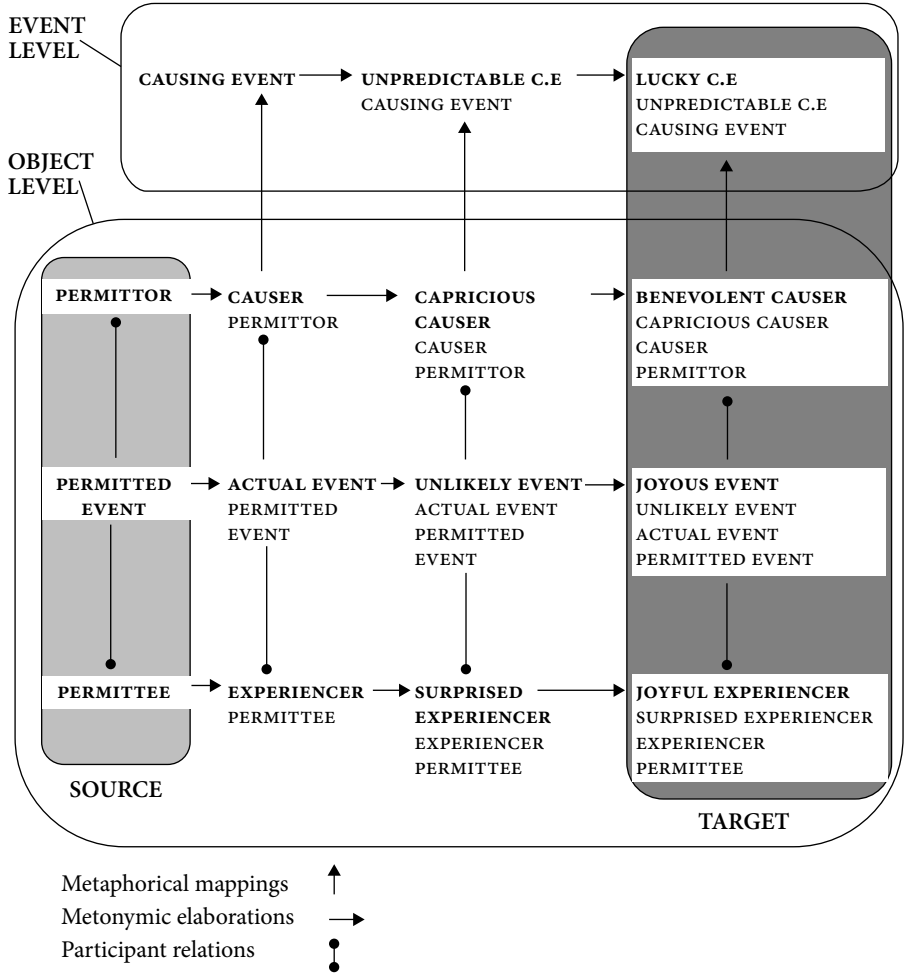


Figure 3. Expressive *dass*-clauses of the form *Dass NP VP dürf-INFL*

Figure 3 certainly does not capture all the subtleties of meaning of sentences of type (24). For example, it neglects the fact – pointed out in (25) – that the event referred to in (24) (the dismantling of the Berlin Wall) is treated as given information. Also, one important felicity condition of permissions, viz. the permittee's desire that the event occur, has not been incorporated in Figure 3 (but see Figure 2 above).

Yet some important features of the meaning of sentences of type (24) are represented in Figure 3. Notice that in the diagram a distinction is made between a ("literal") source meaning and a target meaning that results from several metonymic and metaphoric mappings. The source meaning is enclosed in a rounded box shaded in light grey, whereas the target meaning is represented in a box shaded in dark grey. A first important metonymic inference is the coerced shift from PERMITTED EVENT to ACTUAL EVENT, a special case of the high-level POTENTIALITY FOR ACTUALITY metonymy (see Panther and Thornburg 1999). This metonymic shift in the *ontological* status of the event triggers a corresponding shift in the participant roles: PERMITTOR is shifted to CAUSER, and PERMITTEE (the potential BENEFICIARY) is shifted to EXPERIENCER. The PERMITTOR does not bring about the event, but makes it possible because of his/her authority over the PERMITTEE. In contrast, the CAUSER *does* bring about the actual event.

The second metonymic shift involves an assessment of the event in *epistemic* terms: the speaker considers the event to be highly unlikely.⁷ There is a corresponding shift in the CAUSER, which we have tried to capture by the role designation CAPRICIOUS CAUSER. The events brought about by a capricious causer are not calculable, and therefore unexpected. Furthermore, the EXPERIENCER shifts to the role SURPRISED EXPERIENCER, i.e., the experiencer is baffled by what happens.

The third and final metonymic shift has as its target an emotional attitude conventionally conveyed in utterances of type (24): here the expression of contentment and joy. Again, there is a concomitant shift in the two participant arguments: the CAPRICIOUS CAUSER is evaluated as a BENEVOLENT CAUSER, and the experiencer receives the role JOYFUL EXPERIENCER. Note that the metonymic targets resulting from each metonymic operation are printed in bold. This convention is intended to symbolize the idea that metonymic targets are conceptually more prominent than metonymic sources.⁸ The metonymic sources remain active and "survive" as more or less backgrounded meaning components in the target meaning. Thus the notion of permission is still present in utterances like (24): the speaker is grateful to supernatural forces or divine powers that have "allowed" the joyous event to happen.

7. A meaning property not represented in Figure 1 is the speaker's desire or hope that the event (the dismantling of the Berlin Wall) would happen some day. This desire follows quite naturally from the speech act scenario of permissions: one of its preconditions for successful performance is that the addressee of an act of permission wants the action permitted to be carried out.

8. This idea has been elaborated in a number of publications by Panther and Thornburg. For a summary and relevant references, see Panther (2005).

We assume that there is an additional layer of meaning in sentences of type (24) that is best captured in terms of metaphorical extensions. These mappings are instances of the high-level metaphor *EVENTS ARE OBJECTS*, more specifically the submetaphor *EVENTS ARE INDIVIDUALS*. This metaphor accounts for the interpretation of *CAUSING EVENTS* as *INDIVIDUAL CAUSERS*. Thus people can use the modal *dürfen* even if they believe or even know that the *PERMITTOR/CAUSER* is a *CAUSING EVENT* rather than an individual endowed with supernatural powers. Also, non-religious language users can relate the *BENEVOLENT CAUSER* role to a depersonalized “LUCKY” *CAUSING EVENT* that “allows” the much-desired event of the dismantling of the Berlin Wall to take place. What the intended target interpretation of an utterance like (24) exactly is thus also depends on the worldview of the speaker. Sentences like (24) are of such high interest to the cognitive linguist because – despite their deceptively simplistic syntax (they are not even “complete” sentences) – they demonstrate that an adequate semantic analysis *must* take encyclopedic and cultural knowledge into account. Furthermore, such sentences reveal a feature of metaphor that has been known for a long time: Metaphors do not necessarily reveal how people think, they are relatively often merely “ways of speaking”. Thus both atheists and religious believers can use sentences like (24) sincerely.

When the modal *müssen* ‘must, have to’ is used instead of *dürfen*, very strong negative emotions of regret and distress are conveyed:

- (26) *Dass ich den Abriss der Berliner Mauer noch erleben musste!*
 that I the dismantling of-the Berlin Wall still witness had-to.
 ‘That I should live to see the dismantling of the Berlin Wall!’

Utterance (26) conveys something like the following:

- (27) a. *BACKGROUND*: The speaker has witnessed the dismantling of the Berlin Wall.
 b. *SPEAKER’S DESIRE THAT EVENT NOT OCCUR*: The speaker hoped never to see the dismantling of the Berlin Wall.
 c. *SPEAKER’S EXPECTATION THAT EVENT WOULD NOT OCCUR*: The speaker did not expect to see the dismantling of the Berlin Wall.
 d. *SPEAKER’S ATTRIBUTION OF FORCES THAT CAUSED EVENT*: The speaker attributes the dismantling of the Berlin Wall to powers and forces (bad circumstances, fate, supernatural powers) he/she has to accept.
 e. *LACK OF CONTROL*: Given that the source of the event has power/authority over the speaker, the speaker does not control the event.
 f. *SPEAKER’S EVALUATION OF EVENT*: The speaker evaluates the dismantling of the Berlin Wall as bad.
 g. *SPEAKER’S EMOTIONAL STATE*: The event causes distress, sadness, etc., in the speaker.

Sentence (26) is structurally analogous to (24), the main difference being that the event is not desired by the speaker, that it is attributed to evil powers or unlucky circumstances, and that the resultant emotion is negative.

To conclude, the conceptual content and pragmatic force of sentences of type (24) and (26) cannot be compositionally derived – at least not be derived by compositional rules alone. This does not imply however that their respective meanings are completely idiomatic (non-transparent). We hope to have provided some support for the hypothesis that the meaning and use of the expressive *dass*-clauses are, at least partially, motivated by metonymic and metaphorical mappings.

3. *Dass*-clauses as directive speech acts

3.1 Introduction

A second important illocutionary function of independent *dass*-clauses in German is to convey directive speech acts. A typical use is (28):

- (28) *Dass Sie bitte ja das Fenster schließen, bevor Sie gehen!*
 that you please PRT the window close before you go
 ‘Please, close the window (at all costs) before you leave’

The illocutionary force of (28) is that of a strong request or admonishment, often coming close to a command. The urgency of the request is reinforced by the modal particle *ja* ‘yes’ (abbreviated as PRT in the gloss), which is quite typically used with such directive *dass*-clauses. Compare the illocutionary force of (28) with the much weaker force of (29), a subordinate clause introduced by the complementizer *ob* ‘whether’:⁹

- (29) *Ob Sie wohl bitte das Fenster schließen, bevor Sie gehen?*
 whether you PRT please the window close before you go
 ‘If you could close the window, before you leave’

Utterance (29) is less face threatening than (28) and hence constitutes a much politer request than (28). The elements in (29) that contribute to its mitigated illocutionary force are the conjunction *ob*, which is standardly used to introduce indirect *interrogative* subordinate clauses, and the modal particle *wohl*, whose force is less impositive to a German ear than *ja* (lit. ‘yes’) in (28).

To return to directive *dass*-clauses, there are various distributional constraints that characterize them, two of which are mentioned below:

- Directive *dass*-clauses cannot appear with a verb of ability such as the modal verb *können* ‘can, be able to’. This is an indication that they are not “polite” speech acts such as *Können/könnten Sie bitte das Fenster schließen, bevor Sie gehen?*

9. Etymologically, *ob* is a cognate of the English conditional conjunction *if*.

(‘Can/could you close the window before you leave?’) or *Ob Sie wohl das Fenster schließen können/könnten?* (‘If you can/could close the window’).

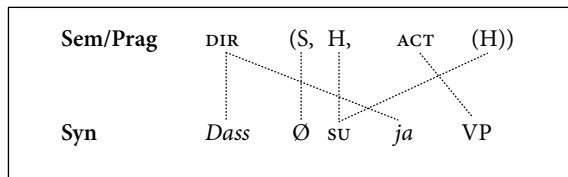
- Deontic verbs such as *müssen* ‘must, have to’ and *sollen* ‘should, be ought to’ are also excluded in directive *dass*-clauses.

The following are thus unacceptable:

- (30) **Dass Sie bitte ja das Fenster schließen*
 that you please PRT the window close
können/müssen/sollen, bevor Sie gehen!
 can/must/could before you go

We assume that the default constructional schema for directive *dass*-clauses can be represented as in Figure 4.

In Figure 4 the conceptual content and pragmatic function of directive *dass*-sentences are linked by means of dotted lines to the syntactic elements corresponding to them. The notation for the content and pragmatic function of the construction is represented as a simplified predicate-argument structure: DIR is to be understood as an illocutionary force operator (represented as a higher predicate), which has as its arguments SPEAKER, HEARER and ACTION, the last having again HEARER as its argument. As pointed out above, this construction often occurs with the modal particle *ja* (lit. ‘yes’), which we interpret as an illocutionary force indicating device that – alongside the complementizer *dass* – marks the directive force of the utterance. *Ja* urges the hearer to comply with the request and, as it were, anticipates its satisfaction, i.e. the fulfillment of the propositional content of the request. Utterance (28) represents a typical instantiation of this constructional schema. The SPEAKER remains implicit ($\emptyset$), the HEARER is typically coded overtly as the subject, whereas ACT is coded by the verb phrase. Below are some canonical examples of the construction (with complementizer emboldened) retrieved in a Google search on September 19, 2005:



Sem = Meaning

Prag = Pragmatic force

DIR = Directive

S = Speaker

H = Hearer

ACT = Action

Syn = Syntax

$\emptyset$ = Not overtly coded

SU = Subject

VP = Verb phrase

Dotted lines connect semantic/pragmatic units with their syntactic realizations

Figure 4. Constructional schema for directive *dass*-clauses

- (31) *Daß Sie nicht denken, daß das nun jahrelang so weitergeht mit der Verbürgerlichung der Phantasie [...]*¹⁰
 ‘Do not think that things will go on the same way for years to come, with creative imagination becoming more and more bourgeois [...]
 [DWDS:¹¹ Brief von Kurt Tucholsky an Hans Erich Blauch vom 18. November 1916]
- (32) *Also schön, Sie nehmen sich noch einmal die Wohnung vor, in der die Zielperson ermordet wurde und **dass** Sie mir ja jeden Quadratmillimeter durchkämmen.*
 ‘Alright, you get busy with the apartment again where the victim was killed and don’t forget to comb through every single square millimeter!’
 [www.freizeit-schreibwerkstatt.de/fortwolf3.htm]
- (33) *Aber **dass** Sie mir ja nicht bei der nächsten Fahrt einen Schraubendreher mitnehmen und an der Elektrik herumfummeln!*
 ‘But don’t bring along a screwdriver on your next trip and fiddle with the electric wiring!’
 [www.solingen-internet.de/si-hgw/obus3.htm]
- (34) *“**Dass** Sie mir ja nicht in meine Behandlung hineinpfeuschen”, schnauzte er Frau Schmittchen an.*
 ‘“And don’t you meddle/interfere with my treatment,” he scolded/shouted at Frau Schmittchen.’
 [www.rossipotti.de/ausgabe03/das_geheime_buch.html]
- (35) *‘Aber **dass** Sie mir ja meinem Kind die Zehn Gebote im Konfirmandenunterricht beibringen!’*
 ‘But do teach my child the Ten Commandments in confirmation class!’
 [www.kirchenkreis-goettingen.de/andacht/andachten_2005/2005_02.html]
- (36) ***Dass** du mir ja nicht die Zeit verträdelst!*
 ‘Don’t you dawdle away your time!’
 [www.es-ka-te.de/1111/39437.html]
- (37) *‘**Daß** du mir ja nicht noch einmal damit kommst!’*
 ‘Don’t you try that kind of thing on me again’¹²
 [www.physiologus.de/maus.htm]

10. One could argue that (31) is not a canonical instance of the construction because of the semantic status of *denken* ‘think’. The verb *denken* can be interpreted as a mental state (analogous to *glauben* ‘believe’), a mental process, or an intentional mental activity (action). More importantly, in (31) the verb is negated and the interpretation of (31) is that intentional mental effort should be spent not to think something. Thus it is plausible to assume that the *dass*-clause in (31) has an action sense.

11. The DWDS is a German language corpus of around one hundred million words.

12. The original text actually has “Don’t let me hear the name again” (Carroll 1960: 29).

Sentence (37) originates from a German translation of *Alice in Wonderland* by Lewis Carroll (1960). It is the exasperated response of the mouse during its encounter with Alice, when the latter, rather inconsiderately, praises her cat Dinah for her mouse-catching skills.¹³

To summarize, we assume that prototypically the propositional content coded by directive *dass*-clauses expresses an action performed by some agent – typically the addressee of the illocutionary act – but non-prototypically also by a third party. Consider the made-up example (38):

- (38) *Dass Sabine ja morgen früh den Mülleimer leert!*
 that Sabine PRT tomorrow early the garbage can empties
 ‘Sabine should dump the garbage tomorrow morning’

Sentence (38) could be uttered in a context in which, in addition to the action that Sabine is to carry out, there is a pragmatic implication that the addressee should *tell* or otherwise *induce* Sabine to take out the garbage in the morning; i.e., there is an implicit directive addressed to whoever happens to be the hearer of utterance (38). We will not pursue this question further here but assume that utterances (28) and (31)–(37) constitute the “canonical” form of directive *dass*-clauses.

3.2 Non-canonical directive *dass*-constructions

The term ‘canonical’ implies that there are also acceptable non-canonical utterances instantiating the construction, i.e., the *syntactic form* of such directive *dass*-clauses does not have to correspond to the one represented in Figure 4. Often the relation between the conceptual (semantic-pragmatic) and the syntactic level is much more indirect than depicted in Figure 4. As examples consider (39) and (40):

- (39) *Dass du ja pünktlich bist!*
 that you PRT on time are
 ‘Be on time (at all costs)’

A speaker could use (39) addressing a close friend who is notoriously never on time. This utterance has approximately the same force as the imperative (40):

- (40) *Sei ja pünktlich!*
 be PRT on time
 ‘Be on time (at all costs)’

As we have argued elsewhere (e.g. Panther and Thornburg 2000, 2004), imperatives like (40) are interpreted on the basis of the metonymy RESULT FOR ACTION. This also holds

13. According to the following internet source: www.physiologus.de/maus.htm: *Alice im Wonderland* (Insel-Bücherei 896).

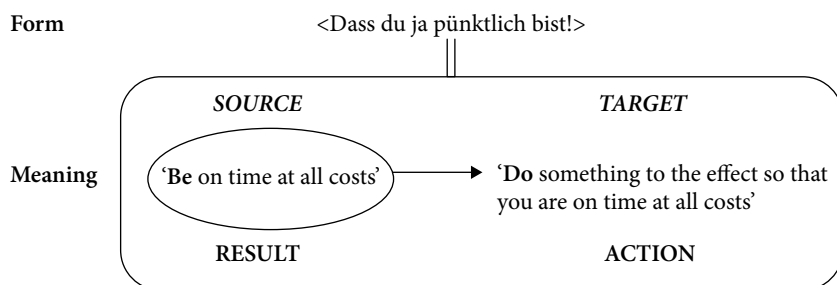


Figure 5. Metonymically induced coercion in (39)

for directive *dass*-constructions like (39). Being on time, as such, is not an action, but the intended interpretation of (39) and (40) is clearly that punctuality should be the effect of an intentional effort on the part of the addressee. Such metonymic interpretations occur quite frequently with imperatives, but we contend that they are even more typical of directive *dass*-constructions. The phenomenon is known as *coercion* (Pustejovsky 1993) or *semantic shift* (Talmy 2000: ch. 5). In the case of (39), the construction meaning imposes an actional interpretation on the stative predicate *pünktlich sein* 'to be on time'. Figure 5 diagrams the metonymically shifted meaning of (39).

The following sentence also partially relies on the RESULT FOR ACTION metonymy for its interpretation, as demonstrated in Figure 6a.

- (41) *Dass ja dein Zimmer aufgeräumt ist, wenn ich zurückkomme!*
 that PRT your room tidied-up is when I back-come
 'Your room must be tidied up when I return'

The interpretation of (41) involves however an additional inferential step. A more detailed interpretation, which focuses on the propositional content of the utterance, is given in Figure 6b.

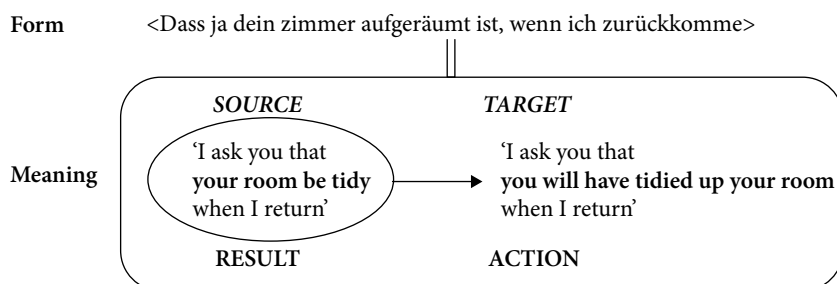


Figure 6a. Metonymically derived meaning of (41)

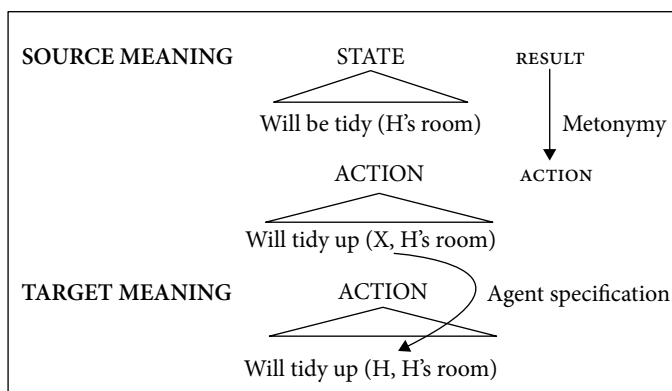


Figure 6b. Shifts in the propositional content of (41)

Figure 6b diagrams how the intended propositional content of the *dass*-clause in (41) is inferentially derived: the state ‘The hearer’s room will be tidy’ (*aufgeräumt sein*) must be mapped onto an action whose result is the state of tidiness. An additional inferential step is however needed to determine the agent (X) of this action. In the context given, it is probably the hearer (H), e.g. a child admonished by a parent, that is supposed to carry out the action of tidying up the room, but it could in principle also be some other agent not directly addressed in the speech act. Note that this last inferential step is cancelable (*Ich habe nicht gesagt, dass du das Zimmer aufräumen sollst!* ‘I didn’t say that you should tidy up the room!’).

3.3 The function of *mir* in directive *dass*-clauses

We have seen that the optional modal particle *ja* has the function of strengthening the directive force of directive *dass*-clauses. Consider now another optional element in this construction, viz. the dative form of the first person singular pronoun *mir* ‘me’:

- (42) *Dass du mir ja pünktlich bist!*
 that you me.DAT PRT on time are
 ‘Be on time (at all costs)’
- (43) *Und daß du mir ja deiner Mutter nichts anderes sagst.*
 and that you me.DAT PRT YOUR mother. DAT nothing else say
 ‘And don’t tell your mother anything else!’
 [www.randomhouse.de/book/excerpt]

What is the status of the personal pronoun *mir* in the above utterances? To answer this question, it is instructive to compare the function of *mir* in (42) and (43) with that in (44):

- (44) *Dass du mir bitte das Buch morgen zurück gibst!*
 that you me.DAT please the book tomorrow give back
 ‘Please return the book to me tomorrow’

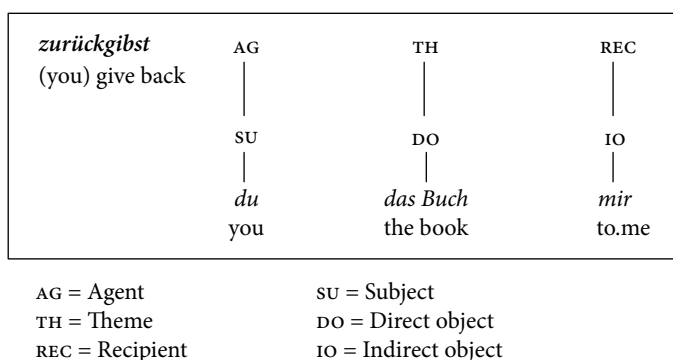


Figure 7. Argument structure of *zurückgeben* 'give back'

In (44) *mir* is an argument in the subcategorization frame of the verb *zurückgeben* 'give back' as diagrammed in Figure 7.

In contrast, the personal pronoun *mir* in (42) is not part of the argument structure of *pünktlich (sein)* '(be) punctual/on time'. The expression *pünktlich sein* in (42) has only *one* obligatory argument – the person that is in the state of being on time. As to (43), the verb *sagen* 'say' has three arguments: a "sayer", an addressee, and the content of what is said; this leaves the dative pronoun *mir* unaccounted for. How can the presence of an apparently supernumerary participant in clauses like (42) and (43) be explained? And does it make sense to call *mir* in sentences (42) and (43) an "argument" at all? The phenomenon of a "superfluous" *mir* in directive *dass* constructions is by no means an isolated phenomenon, as utterances such as (32)–(37) attest, all of which contain an instance of *mir* not licensed by the argument structure of their respective verbs.

Let us assume that there are at least two different kinds of *mir*. One is an argument of the verb (henceforth called 'verbal *mir*') and the other is an element provided by a *speech act construction* that has a directive force (henceforth: 'directive *mir*'). There are some marked differences between verbal *mir* in sentences like (44) and directive *mir* as in (42) and (43).

A first difference between the two kinds of *mir* can be gleaned from the following two dialogues:

verbal *mir*

- (45) A: *Dass du mir ja morgen das Buch zurückgibst!*
 'Return the book *to me* tomorrow at all costs'
 B: *Wem?* 'To whom?'
 A: *Mir!* 'To me!'

directive *mir*

- (46) A: *Dass du mir ja pünktlich bist!*
 'Be punctual *for me* at all costs'

B: #*Wem?* 'For whom?'

A: #*Mir!* 'For me'

The dative *mir* in (45), which is an argument of the verb, can be questioned by the dative interrogative pronoun *wem* 'to/for whom', but in (46) a question of this sort is clearly absurd.

A second difference between the two kinds of *mir* is that verbal *mir* can be contrasted with another dative argument, whereas directive *mir* cannot:

- (47) *Dass du morgen ja/ bloß nicht mir sondern ihr das Buch zurückgibst!*

'Return the book (at all costs) not to me, but to her'

- (48) **Dass du morgen ja nicht mir sondern ihr pünktlich bist!*

'Be on time at all costs not because I am saying so, but because she is saying so'

The anomaly of (48) results from the pragmatics of the *dass*-clause: the speaker's desire (that the addressee be on time), which is associated with the directive force of the *dass*-clause, cannot be allocated to a "non-speaker" (in this case, *ihr* 'her').

A third related difference between the two types of *mir* concerns their position in the sentence. Verbal *mir* is relatively free whereas directive *mir* occurs in a fixed position. Compare the variability of verbal *mir* in (49)–(51) with the positional constraints of directive *mir* in (52)–(53):

- (49) *Dass du mir es ja morgen zurückgibst!*

that you me it PRT tomorrow give back

- (50) *Dass du es ja mir morgen zurückgibst!*

that you it PRT me tomorrow give back

- (51) *Dass du es ja morgen mir zurückgibst!*

that you it PRT tomorrow me give back

'Give it back to me tomorrow at all costs'

- (52) *Dass du mir ja keinen Unsinn redest!*

that you me PRT no nonsense talk

- (53) ?*Dass du ja keinen Unsinn mir redest!*

that you PRT no nonsense me talk

'Don't you talk any nonsense!'

A fourth (very strong) argument for the claim that verbal *mir* and directive *mir* are syntactically and conceptually distinct is provided by Wegener (1989: 59). She observes that the two datives (what we call verbal *mir* and directive *mir*) can occur in the same clause. An example is (43) where the two datives, i.e. *mir* (directive) and *deiner Mutter* (verbal), co-occur.

As shown above, the properties of directive *mir* are quite distinct from those of verbal *mir*. As (46) and (48) demonstrate, directive *mir* fails tests for specific reference, such as *wh*-questions and contrastiveness, and this failure strongly suggests that

directive *mir* does not have the status of a verbal argument. The claim that directive *mir* is not an argument in the ordinary sense is corroborated when it is compared with cases in which *mir* functions as an argument provided by a grammatical construction (henceforth: 'constructional *mir*'). Consider (54) in contrast to (55):

constructional *mir*

- (54) *Dass du mir/deiner Schwester ja einen Kuchen backst!*
 that you me/your sister.DAT PRT a cake bake
 'Bake a cake for me/your sister'

directive *mir*

- (55) *Dass du mir ja deiner Schwester einen Kuchen backst!*
 that you me PRT your sister.DAT a cake bake
 'Bake your sister a cake for my sake'

In the framework of construction grammar developed by Goldberg (1995) the verb *backen* 'bake' has two arguments (or, participants, in Goldberg's terminology), viz. an agent and a patient. The third argument, the recipient (or beneficiary), i.e. *mir* or *deiner Schwester* in (54), is provided by the ditransitive construction in which the verb *backen* occurs. In contrast, in (55) *mir* is directive, i.e., it does not function as an argument licensed by the ditransitive construction.

Constructional *mir*, like verbal *mir*, can be the focus of a *wh*-question and it can be contrasted with other dative arguments, as exemplified in (56) and (57):

constructional *mir*

- (56) A: *Dass du mir/deiner Schwester ja einen Kuchen backst!* 'Bake a cake for me/for your sister'
 B: *Wem?* 'For whom?'
 A: *Mir/Deiner Schwester.* 'For me/for my sister'
- (57) A: *Dass du ja nicht mir sondern deiner Schwester einen Kuchen backst.* 'Bake a cake not for me but for your sister'
 B: *Wem?* 'For whom?'
 A: *Nicht mir, sondern deiner Schwester.* 'Not for me, but for your sister'

In contrast, as already pointed out above (see examples (46) and (48)), directive *mir* fails tests for referentiality such as *wh*-questions and contrastiveness, as demonstrated in (58) and (59):

directive *mir*

- (58) A: *Dass du mir ja deiner Schwester einen Kuchen backst.* 'Bake your sister a cake for my sake'
 B: *Wem?* 'For whom?'
 A: *Deiner Schwester.* 'For your sister'
 A: *#Mir.* 'For me'

- (59) A: *Dass du mir ja nicht deinem Bruder sondern deiner Schwester einen Kuchen backst.* ‘At all costs, don’t bake a cake for your brother, but bake one for your sister’
 B: *Wem?* ‘For whom?’
 A: *Deiner Schwester.* ‘For my sister’
 A: *#Nicht mir und deinem Bruder, sondern deiner Schwester.* ‘Not for me and your brother, but for your sister’
 A: *#Mir.* ‘For me’

In utterance (56) speaker A construes both *mir* (or alternatively *deiner Schwester*) as (referential) dative arguments, which are provided by the ditransitive construction. If interlocutor B is not sure whether she correctly understood who the intended beneficiary of the cake is, she can felicitously ask for clarification by using the dative interrogative pronouns *wem*. Analogously, in (57) both *mir* and *deiner Schwester* are understood as referential arguments provided by the ditransitive construction, and they form a contrast in this utterance.

However, in speaker A’s utterance in dialogue (58) *mir* is not an argument of the ditransitive construction but reinforces the directive force of the utterance. Hence the *wh*-question ‘For whom’ applies meaningfully only to the dative argument *deiner Schwester*. Similarly, in utterance (59) *mir* is interpreted as reinforcing the urgency of the directive illocutionary act. It is not an argument on a par with the two contrasting dative noun phrases *meinem Bruder* and *meiner Schwester* and can hence not be a felicitous answer to B’s question *wem*?

To conclude, we have to distinguish *three* kinds of *mir*: verbal *mir*, constructional *mir*, and directive *mir*. Verbal *mir* and constructional *mir* pattern syntactically and conceptually alike, i.e., they behave like genuine arguments that have specific reference and can be contrasted with other arguments – in contrast to directive *mir*, which lacks referentiality and the ability to be contrasted with genuine arguments. Furthermore, both verbal *mir* and constructional *mir* may co-occur with directive *mir* in the same clause. But what exactly is the conceptual status and pragmatic function of directive *mir*? In the following, we suggest an answer to this question in terms of speech-act theoretic concepts and metonymic inferences.

In traditional grammar, directive *mir* is usually discussed under the rubric of the so-called “ethical dative”. Syntactically, given its optionality in the clause, it is also often referred to as a “free dative”.¹⁴ Wegener (1989) claims that what we call directive *mir* is a modal particle, that is, according to her, it has shifted its grammatical class from a (pro)nominal to a modal particle. Although Wegener has convincingly demonstrated that syntactically *mir* does not behave like an ordinary argument but rather indicates

14. For a comprehensive account of the dative in present-day German, see Wegener (1985). The ethical dative in German is studied in some detail in Wegener (1989) and is briefly treated in Eisenberg (1986: 284–285).

the speaker's attitude towards the propositional content of the illocutionary act, we argue below that her strong hypothesis of grammatical conversion is not warranted.

According to Engel (1988: 238f.), the ethical dative generally expresses the speaker's concern about or emotional involvement in a state-of-affairs.¹⁵ In the examples we have discussed thus far we acknowledge that there is indeed an expression of emotional involvement, but we claim that an additional important function is to express the speaker's *strong desire* that the addressee perform a future action. The emotional involvement/concern of the speaker is an effect of the strong wish conveyed by the speaker that some action be carried out by the addressee. Yet still to be explained is how the use of the dative pronoun *mir* is motivated by the underlying propositional attitude WANT or DESIRE. The following offers a step-by-step derivation from the reference to the speaker to the speaker's emotional attitude:

- (60) a. *Mir* indexes the *speaker*, i.e. the utterer of the directive illocutionary act.
- b. The *dative* case of *mir* is motivated by its semantic role as BENEFICIARY. The speaker benefits from the fulfillment of the propositional content of the directive speech act.
- c. Qua its BENEFICIARY role, *mir* is a vehicle for metonymically accessing the speaker's attitude, namely his/her *desire* that the propositional content expressed in the construction become true. The speaker's *desire* itself is accompanied by a strong emotional involvement, specifically *concern* that the desired action might not be carried out by the agent/hearer.
- d. One can thus assume an inferential (and at least, partially metonymic) chain SPEAKER → SPEAKER AS BENEFICIARY OF PROPOSITIONAL CONTENT → SPEAKER'S DESIRE THAT PROPOSITIONAL CONTENT BE SATISFIED → SPEAKER'S CONCERN THAT PROPOSITIONAL CONTENT NOT BE SATISFIED.

Figure 8 summarizes our analysis of the function and inferential motivation of directive *mir* in *dass* constructions.

The following sentences (results of a Google search performed in September 2005) again demonstrate the ubiquity of directive *mir* in *dass* constructions:¹⁶

- (61) *Und dass du mir ja nicht dusslig quatschst, sonst gibt's was.*
'And don't talk in such a silly way or there will be trouble' [www.puk.de/spielplatz/spiele/theat2.htm]

15. Engel (1988: 238–239) points out that the ethical dative is usually used in speech acts that have the force of admonishments, reproaches, requests, etc., and the forms used are usually what he calls "Partnerpronomina" (i.e. first and second person pronouns). He also emphasizes that the use of these pronouns in statements ("Mitteilungen") is rare.

16. The examples have been edited for spelling and bold print has been added.

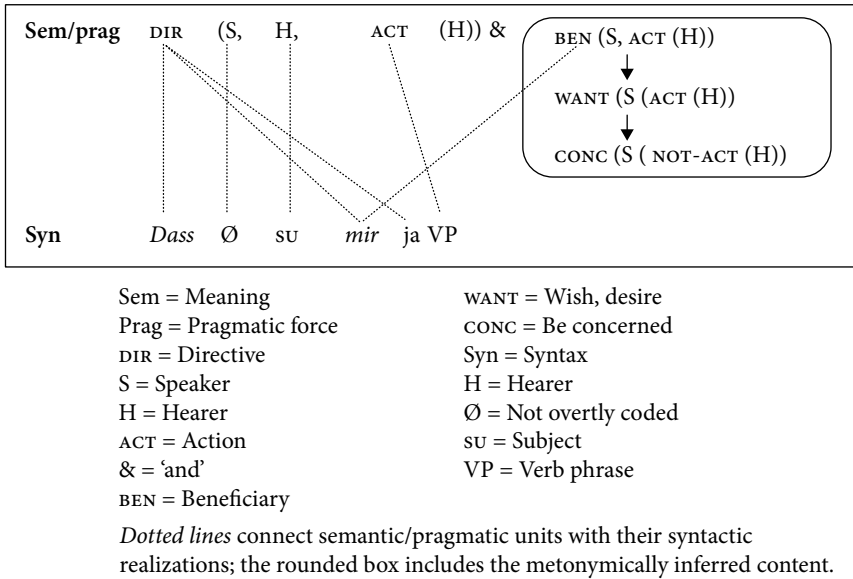


Figure 8. The conceptual and pragmatic function of directive *mir* in *dass*-clauses

- (62) *[W]o biste denn? w[ü]nsh dir frohe festtage, schöne ferien und dass du mir ja schnell zurück kommst, vermiss dich nämlich deftig!!*
'Where are you? I wish you a happy holiday season, a nice vacation and come back very quickly; I really miss you'
[www.forende/system/morethread-ichverabschiedemichdannmal-blazin_fanclub-113604-659442-30.html]
- (63) *"Dass du mir ja nichts anrührst von meinen Einkäufen", herrschte Annette das Mädchen an.*
'"And don't touch any of my shopping items," Annette barked at the girl.'
[autorin.eva-marbach.net/story/vorrat.htm]
- (64) *Und dass du mir ja mein Gebührenkonto mit löschst!*
'And don't forget to cancel the account that charges fees'
[www.mwellner.de/?id=35]
- (65) *Dass Du mir ja zurückkommst!!*
'Come back by all means'
[www.blacksheep.ch/vbs/data/august_05/header.html]
- (66) *Prinz Wilhelm schrieb am 24.8.1913, Kaiser Wilhelm II. habe ihm gesagt: "Daß Du mir ja nicht auf den Unsinn mit Albanien hereinfällt. ..."*
'Prince William wrote on August 24, 1913, that Emperor William had told him, "Don't be taken in by all this nonsense about Albania ..."
[www.zuwied.de/albanien.htm]

- (67) *Die Oma sagt: "Dass du **mir** ja nicht an den Schrank gehst." Der Opa sagt: "Geh **mir** nicht auf dem Dachboden." Als sie weg waren wollte Fritz was trinken. ...*
 'Grandmother says, "Don't you ever go near the closet." Grandfather says, "Don't ever go up to the attic." When they were gone, Fritz wanted to drink something. ...'
 [www.2cool4school.de/Witze/witze2-2.htm]
- (68) *Dass du **mir** ja fleißig lernst, damit noch einmal was wird aus dir.*
 'Learn very diligently so that you will get somewhere in life.'
 [www.8ung.at/daemon/blackmetalboese.html]
- (69) *Na dann wünsch ich dir mal viel Glück bei deinen Prüfungen, dass du **mir** ja nicht durchfällst, denn schliesslich hab ich viel investiert für dich ...*
 'Well, I wish you good luck with your exams; don't fail them, after all I have invested a lot in you ...'
 [www.kyopo.de/de/forum/topic_html]

Note that example (69), at first sight, seems to be a counterexample to our claim that directive *mir* has the role BENEFICIARY, since obviously it is not in the speaker's interest that the addressee should flunk the exam. Apparently, we have a case of what Ikegami (1998) (following Kendall 1980) refers to as an *adversative* ethical dative. However, this analysis overlooks the fact that it *is* in the speaker's interest that the hearer *not* fail the exam. Viewed from this perspective, the speaker can still legitimately be called a BENEFICIARY.

To conclude, there is one recurrent conceptual metonymy in directive *dass* constructions triggered by the pronoun *mir*: SPEAKER FOR SPEAKER'S DESIRE. From a speech act theoretic perspective, *dass*-clauses with directive *mir* have the interesting property of evoking the *sincerity condition* (psychological state) conventionally associated with directive speech acts such as orders, command, and requests.

From the preceding discussion it follows that the generic term 'ethical dative' conceals the fact that the phenomena that have been discussed under this rubric are conceptually quite diverse. That directive *mir* is distinct from the *mir* encountered in other speech acts is supported by the following data:

- (70) *Dass du **mir** (ja) vorsichtig bist!*
 that you me (PRT) cautious are
 'You should really be cautious (it's my wish)'
- (71) *Sei **mir** (ja) vorsichtig!*
 be me (PRT) cautious
 'Be really cautious (it's my wish)'
- (72) *Du bist **mir** (ja) vorsichtig!*
 you are me (PRT) cautious
 'You will be really cautious (it's my wish)'

- (73) **Du warst mir (ja) vorsichtig gestern.*
 you were me (PRT) cautious yesterday

Utterances (70)–(73) show that directive *mir* analyzed in this section is compatible only with constructions that conventionally convey directive speech acts. A purely descriptive statement like (73) seems to exclude the use of *mir* as an indication of speaker desire. Thus (73) is not well formed and cannot mean ‘You were cautious yesterday, and that was my wish.’¹⁷ However, utterance (72), which is syntactically a declarative sentence can be used with *mir* and the modal particle *ja*. The pragmatic force of this utterance is directive and it is exactly this pragmatic factor that restricts the occurrence of *mir* as an indicator of the speaker’s desire to directive illocutionary acts.

4. Conclusion

Let us return to the more general questions raised in Section 1 of how meaning is constructed and comprehended. The investigation of two types of dependent clauses that are usually treated as instances of “minor” sentence types has shed some light and cast some doubts on central dogmas of mainstream semantics. We list some of these doubts as questions and provide some brief (admittedly polemical) answers to them:

- How much of language meaning is compositional? We believe the answer is: much less than traditionally assumed. Constructions like the ones discussed in this chapter are to a large extent non-compositional in meaning. However, they are not mere “fringe” phenomena outside the “core” of grammar but, we suspect, rather typical of language in general. Every foreign language teacher knows that language learning involves the acquisition of a large number of constructions with idiosyncratic albeit not necessarily unmotivated meanings.
- How is meaning constructed? The answer given by cognitive linguistics and contemporary pragmatics is: Meanings are dynamically created through cognitive operations such as metonymic elaborations, metaphor, pragmatic inferences, and conceptual integration (cf. Fauconnier and Turner 2002). Furthermore, the role of world knowledge (encyclopedic knowledge), belief systems (world views including metaphysical beliefs), and cultural knowledge is crucial in meaning construction and interpretation and must be taken into account in an adequate semantic theory.

17. Note however that with the right intonation (and additional particles like *vielleicht* (lit. ‘perhaps’) as in *Du warst mir ja vielleicht vorsichtig gestern!* (‘You were really cautious yesterday!’) has an exclamatory force. The dative pronoun *mir* reinforces the exclamatory illocution, but it does not express a speaker’s desire with regard to the satisfaction of the propositional content. This is another indication that the free dative is a polysemous category. See Ikegami (1998: 346) for an attempt to find an abstract meaning for the ethical dative such as ‘benefactive’ or ‘adversative’ to a ‘sentient’.

- What is the relation between syntactic form and conceptual/pragmatic content? The answer we suggest is: Syntax is partially motivated, i.e. influenced by conceptual content and pragmatic function. We have demonstrated that the distinct meanings and pragmatic functions of verbal, constructional, and directive *mir* motivate their syntactic behavior.

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Schematic meaning of the Croatian verbal prefix *iz-*

Meaning chains and syntactic implications

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In contrast to the traditional approach where all verbs with the same prefix form a cluster of homonymic relations, this chapter proposes a single underlying schematic meaning as more or less common to all such verbs. Although these verbs differ in their more specific individual meanings, on the schematic level they form a category motivated by the single superschema. The schematic meaning of the Croatian verbal prefix *iz-* and its allomorphs *is-*, *iš-*, *iž-*, *i-* and *iza-* (jointly referred to as *iz-*) is best characterized as '*transition from an intralocative to an extralocative position*'. Its semantic span runs from prototypical to peripheral cases, and is defined by the conceptual status and relations among the agentive trajector, trajector and landmark.

Keywords: agentive trajector, conceptual networks, meaning chains, prototypes, schematic meaning, verbal prefix *iz-*

1. Introduction

The semantic analysis of *iz*-prefixed verbs and the syntactic implications of our analysis will show that cognitive linguistics converges, to a significant extent, with two important paradigms. On the one hand, cognitive linguistics shows affinities with some earlier functional approaches, notably the so-called traditional functionalism, functional grammars¹ in the first place, but also with Prague School (especially in prototype theory), with Jakobson's work, and with Boas' and Sapir's mentalism and field work in early American linguistics, where the relationship between language and

1. On similarities and differences between cognitive linguistics and traditional functional grammars see more in Nuyts (this volume). Cf. also Nuyts' discussion of the occasional over-stressing of differences between the two approaches, where in fact the two are generally widely compatible and convergent.

culture was a central issue and became a basis for the modern cognitive linguistic research, primarily in Conceptual Metaphor Theory and corpus linguistics. When we consider the linguistic contributions of some outstanding Prague School linguists, what strikes us as particularly relevant for our discussion is Jakobson's insistence on the concept of invariance vs variance, i.e. of equivalence in difference. This idea was inherited by cognitive linguistics, where it was further developed into the notions of schematic and specific meanings. On the other hand, despite crucial theoretical and methodological differences, it shares at least some of the basic ideas with certain formal approaches that tolerate greater or lesser inclusion of different semantic components into the grammatical description. The latter concerns, most notably, different strands of the localist theories of the 1970s and 1980s, in particular Anderson's localist theory of case (1971, 1977), which, like many cognitive linguists, put the category of space center stage in the analysis of grammatical relations. Our chapter on semantic chains and the syntactic ramifications of the prototypical vs peripheral semantics of *iz*-prefixed verbs (2.2.) concerns in some aspects the issues of mapping semantic roles with syntactic relations. Ever since Gruber's (1965) and Fillmore's (1968) pioneering work, this topic has pulled together different contemporary linguistic theories, formal and functional. At the same time, however, it has been the most notable distinguishing factor among them, mainly when the number and types of roles mapped onto grammatical relations and the nature of such mapping are concerned. Functionalist and formal approaches take a particularly different stand on the nature of this mapping. In the Principles and Parameters Theory thematic roles do rank high, however, the approach is highly objectivized, mainly because these roles, as semantic categories, are only an 'appendage' to D-structure. Unlike in functional approaches, they are completely eclipsed by syntax. Their link with the grammatical relations subject and object is not established via different semantic function hierarchies as in functional approaches (e.g. Dik's (1978, 1989) *Semantic Function Hierarchy*, Givón's (1984) *Topic Accession Hierarchy* or Van Valin's and LaPolla's (1997) *Actor-Undergoer Hierarchy*), but proceeds in accordance with the UTAH Hypothesis proposed by Baker (1988). The Hypothesis states that identical thematic relations between items are represented by identical structural relations between these items at the level of D-structure (Baker 1988: 46). Any surface differences between them are merely a result of the movement transformations. In addition to the UTAH Hypothesis, the PPT also invokes the θ -criterion to account for the mapping of thematic roles. The θ -criterion, which has had its precursors in the generative tradition since Fillmore's study (1968), states that each argument bears one and only one θ -role and each θ -role is assigned to one and only one argument. θ -roles are assigned directly, by the verb, to the internal arguments (objects). However, θ -roles can also be assigned externally, to the subject, over the entire V-bar constituent, i.e. the verb and the complement. It is said that verbs theta-mark their complements directly, and the subject indirectly. Strong arguments against this approach are given in Jackendoff (1990: 59–60) and for more detail on different approaches to semantic roles see Wilkins (1988).

All in all, Section 2.2. will be yet another contribution to the arguments against the 'strong'² autonomy of grammar, which is probably the most solid common ground between different contemporary functionalist theories, ranging from traditional functional grammars (e.g. Dik 1978 1989; Givón 1984, 1990; Foley and Van Valin 1984; Van Valin and LaPolla 1997), through Cognitive Grammar (Langacker 1987, 1991) to Construction Grammars in the narrower sense (e.g. Goldberg 1995; Croft 2001).

Since the early 1980s the linguistic elements that designate or modify spatial relations have occupied one of the central stages in cognitive linguistics. The central role of space in cognitive approaches to language is not at all surprising given that space, as well as time, is a basic cognitive domain present, explicitly or implicitly, literally or metaphorically, in many linguistic utterances. In its focus on spatial relations coded in language, cognitive grammar (Langacker 1982, 1987, 1988a, 1988b, 1988c, 1988d, 1991, 2000; Taylor 2002) has taken a particularly keen interest in spatial prepositions, verb-particles, and verbal prefixes (e.g. Brugman 1981; Lindner 1981; Rudzka-Ostyn 1985; Janda 1985, 1986, 1988; Lakoff 1987; Taylor 1995; Šarić 2003, 2006a, 2006b, 2008). According to traditional, prestructuralist linguistics, any prefix that productively forms semantically 'different' verbs was thought to be organized as a set of purely homonymic relations (e.g. Bogusławski 1963; Babić 1986). This had the unfortunate consequence of laying critical weight on semantic differences, while at the same time ignoring the semantic thread pulling together all the verbs sharing a prefix.

This sparked off critical reaction foremost within structuralist semantics, whose advocates (Van Schooneveld 1958, 1978; Flier 1975, 1984; Gallant 1979) were the first to spot this fundamental error in traditional analyses. However, given the specific methodology available at the time, including componential analysis and search for particular semantic features, structuralist semanticists took the problem to the other extreme. Using binary features to illustrate prefixal meanings, they shifted the spotlight to the features common to the verbs in the same prefixal group and away from their semantic distinctions, which largely remained unaccounted for. Or, put simply, while the prestructuralist account remained blind to the unity at the core of apparent diversity, structuralism foregrounded semantic unity at the expense of apparent heterogeneity.

Unlike traditional and structuralist approaches cognitive grammar treats these units as forming conceptual networks organized around prototypes. There is always some semantic link among members of a polysemous category, which is frequently established through *meaning chains* (e.g. Janda 1985, 1986, 1988). With meaning chains there is not one or more prototypical features common to all members of a category, but the meaning of one member is construable as an extension of semantic features of some other member.

2. On the need to distinguish between the so-called 'weak' and 'strong' autonomy see more in Langacker (2005: 103–104).

Meaning A is related to meaning B in virtue of some shared attribute(s), or other kind of similarity. Meaning B in turn becomes the source for a further extension to meaning C, which is likewise chained to meanings D and E, and so on. The process may be illustrated as follows: $A \rightarrow B \rightarrow C \rightarrow D$ etc. (Taylor 1995: 108).

On the other hand, in her lexico-semantic analysis of two English verb particles, *up* and *out*, Lindner (1981) proposes a single superschema for the meaning of the particle *out*. Nevertheless, the author considers this superschema too abstract to furnish the verb constructions with any relevant meaning and sets up three basic semantic groups for the meaning of the particle *out*. At the same time, no common superschema is proposed for the particle *up*. In essence, what Lindner refers to *the highest relevant level of abstraction* is specific relative to the superschema and is to be found within the three semantic subschemata of the particle *out*. What sets this paper apart from other cognitive linguistic work on the determinants of spatial relations is lifting the highest relevant level of abstraction one level up the schematicity scale. This highest relevant level now comes to coincide with the superschema that, contrary to the mentioned claims, abstracts away the common features of the more specific semantic groups and captures their relevant shared meaning. At the same time, the role of meaning chains and semantic networks reduces to reinforcing the links among certain elaborations of the superschema. In this chapter I intend to show that the semantic unity of the verbs sharing a prefix need not be rooted in indirect semantic links afforded by meaning chains. I will argue for a much tighter, direct semantic link established by a single superschematic semantic feature running through all such verbs.

The schematic meaning of *iz-* as the one of the most productive verbal prefixes in Croatian can be defined as the transition from an intralocative to an extralocative position that represents the superschema of extralocativity, as a submeaning of a more general spatial meaning of ablativity (Figure i).

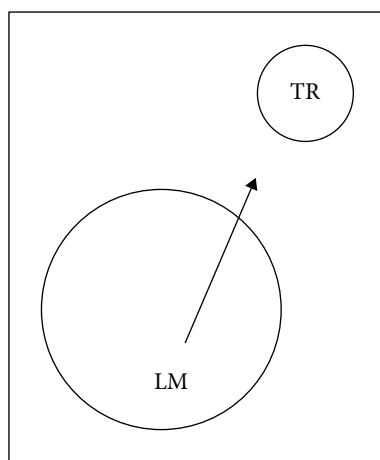


Figure i. Superschema of extralocativity

Our discussion will focus on the second level of schematicity, i.e. the level of the more concrete elaborations of the superschema.³ At this level, the schematic feature spans a region which includes both prototypical and peripheral cases, whereby prototypicality is largely determined by the meaning of the derivational base, the conceptual status and relations among the agentive trajector,⁴ the trajector, and the landmark. To put it simply, the more transparent the idea of movement and action in the semantic description of the derivational base, the more prototypical the prefixed verb will be in terms of exhibiting the schematic meaning at the second level. We are thereby not denying the possibility of establishing a network of more concrete meanings derived from the prototype by means of meaning chains; we are only questioning the priority of such an analysis over the one proposed here.

2. Discussion

2.1 Conceptual analysis of the schematic meaning of *iz-* and its allomorphs

In much of the rest of this chapter we shall analyze different groups of verbs, starting from the prototypical and proceeding toward the peripheral ones. The basic criterion for determining their prototypicality is how clear, in conceptual terms, the dispersion of the trajector's trajectory is; in other words, how clearly the trajector progresses from an intralocative to an extralocative state. Greater conceptual clarity in effect means a greater dispersion of the trajector's trajectory, and it is largely a reflection of the following prototypicality features:

1. high degree of trajector's concreteness;
2. trajector's movement from an intralocative to an extralocative state is caused by an agentive trajector, not by an effector, nor by any other participant from the wider semantic field of agent (the transitional semantic field between the agent and the effector, which includes human agentive trajectors acting nonvolitionally and unintentionally);
3. distinct action of the agentive trajector in the action chain;
4. the agentive trajector and the initial landmark, which together constitute the source spatial domain on the trajector's trajectory, are distinct entities.

Before we proceed with the main discussion, some general methodological notions should also be emphasized:

3. Elaborations of the superschema are specific relative to the superschema, but are schematic relative to the meanings captured in the individual lexical entries. The latter can be considered to occupy the lowest level of specificity in the taxonomy.

4. The label 'agentive trajector' (see also Rudzka-Ostyn 1988) was deliberately chosen over 'agent', as the former is more in tune with the other two labels, viz. trajector and landmark.

1. The English translations provided are no more than (more or less felicitous) approximations to the meanings of the Croatian verbs that we could provide as non-native speakers. What adds to the difficulty is the fact that the imageries in the two languages do not always coincide. Sometimes the relevant schematic meaning is present in the English counterparts on the sublexical level. Where the conceptual idea of transition from an intralocative to an extralocative state cannot be easily retrieved from the English counterparts, and where necessary for more detailed discussion, we will provide the glosses as well.
2. For purposes of this discussion the source and target domain could, but actually need not, correspond to the idea of the two domains as they are usually conceived with respect to the energy flow in an action chain. In the latter case, the agentive trajector occupies the source domain and the trajectory occupies the target domain. In our analysis, the source and target domains (in some groups of verbs) are determined with respect to the initial and the final location of the trajector in an action chain. Hence the initial position of the trajector is considered the source domain and the final position, into which the trajector settles by virtue of agentive trajector's activity, is considered the target domain. To keep the two conceptions of the source and target domains distinct, we will for our purposes use the labels *source spatial domain* (SSD) and *target spatial domain* (TSD).
3. In the groups that follow, and where necessary, I will be listing the reflexive particle in parentheses only if its addition does not call into question membership of the verbs in the groups concerned. Also, if the occurrence of a verb in reflexive form entails a change in the status of participants, I will not represent such details in the Figures for reasons of simplicity as they do not affect the essence of our discussion – the nature of the schematic meaning, viz. the trajector's transition from an intralocative to an extralocative state.
4. As the concrete trajector moves from the intra- to extralocative state quickly, which results in its defocusing in the transition procedure, i.e. its more difficult conceptual accessibility, the trajector will, in more prototypical groups, depending on the degree of concreteness or abstractness, be marked by thicker or thinner dashed lines indicating weaker conceptual accessibility. The dashed lines will also be used to indicate the trajector in the target domain, as this part of the extralocative scenario for *iz*-verbs also belongs to the second stage. On the other hand, solid lines will mark the initial phase of its direction, i.e. the moment when it changes into an extralocative state. The solid and dashed arrows will be used to indicate physical (solid arrows) or non-physical (dashed arrows) action of the agentive trajector, and to indicate the difference between the action initiated by the agentive trajector or some effector.

2.1.1 *Ispratiti, istjerati, izgnati...* ('see out'; 'chase out'; 'banish')

In the first group of verbs, direct or indirect action of the agentive trajector results in the movement of animate (mostly human) trajectors from their intralocative state with

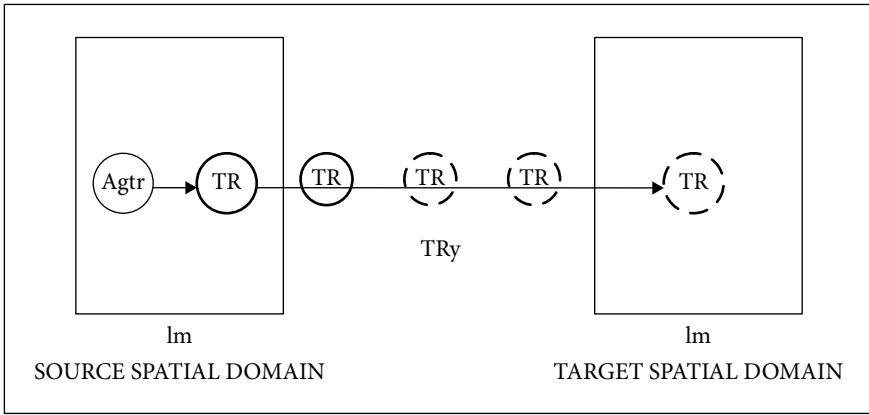


Figure 1. Elaboration of the superschematic meaning for the verbs of the type *ispratiti*, *istjerati*, *izgnati*

respect to the landmark of the SSD (which initially they may co-occupy with the agentive trajector) to the TSD of some other landmark.

- (1) a. *Istjerao je lopova iz kuće.*
'He chased the thief out of the house'
- b. *Ispratio je goste na ulicu.*
'He saw the guests out'
- c. *Izgnali su ga iz zemlje.*
'They banished him from the country'

2.1.2 Izvaditi, istovariti, iskrcati... ('pull out'/'take out'; 'unload')

The second group brings together verbs which designate situations in which typically concrete inanimate trajectors move from an intralocative to an extralocative state as a result of agentive trajector's action. At the beginning of the event the agentive trajector is located in a domain other than the domain of the trajector he acts on. The agentive trajector does not possess the landmark, i.e. the initial point of the event, or SSD. That is, the agentive trajector, i.e. event initiator, and the landmark are distinct entities. The agentive trajector acts volitionally and intentionally, causing the trajector to move from the domain of its initial landmark (SSD) to his own vicinity or to an area close to him (TSD).

- (2) a. *Istovario je robu iz kamiona.*
'He unloaded the goods from the truck'
- b. *Izvadio je meso iz hladnjaka.*
'He took the meat out of the fridge'

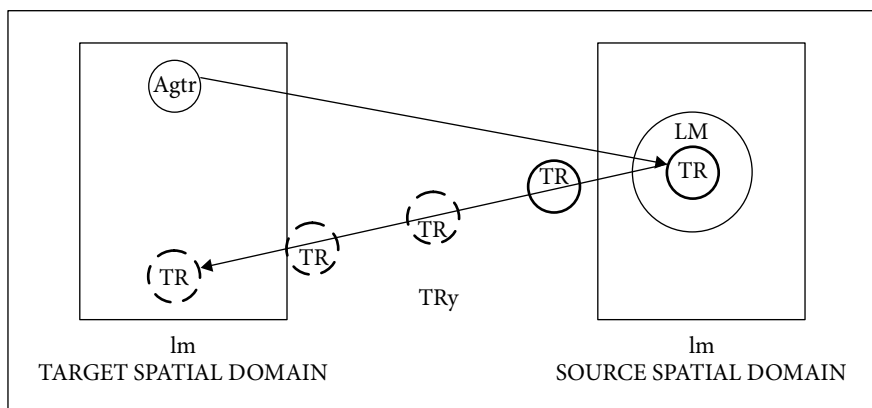


Figure 2. Elaboration of the superschematic meaning for the verbs of the type *izvaditi*, *istovariti*, *iskrcati*

2.1.3 Izaći, išuljati se, iskrasti se... ('go out'; 'sneak out'; 'slip out')

In group 3 the agentive trajector and the trajector are collapsed. They move volitionally from the intralocative state with respect to the landmark of the SSD to the extralocative state with respect to the landmark of the TSD.

- (3) a. *Izašao je iz stana zalupivši vrata.*
'He went out of the apartment slamming the door'
- b. *Iskrao se noću da ga nitko ne primijeti.*
'He sneaked out of the house at night so nobody would see him'
- c. *Išuljao se iz kuće dok su još svi spavali.*
'He slipped out of the house while everybody was still asleep'

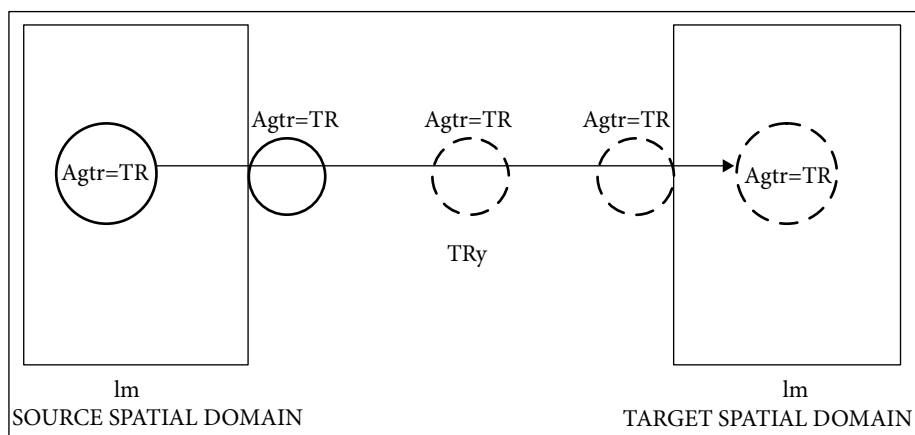


Figure 3. Elaboration of the superschematic meaning for the verbs of the type *izaći*, *išuljati se*, *iskracati se*

2.1.4 *Iscijediti, izmikati, ispuhati...* ('squeeze out'; 'wring out'; 'fire e.g. bullets', lit. 'out-shoot')

In this group the agentive trajector causes the movement of concrete inanimate trajectors out of the scope of the landmark of the SSD into the scope of some other landmark in the TSD. Unlike in the other groups, the agentive trajector possesses the landmark in the course of the action. The solid arrow stands for direct impact of the agentive trajector onto the landmark; the dashed arrow indicates that his impact on the trajectory is indirect, i.e. via the landmark.

- (4) a. *Ispucao je sve metke iz pištolja.*
'He fired all the bullets (from the gun)'
b. *Iscijedio je sav sok iz limuna.*
'He squeezed all the juice out of the lemon'
c. *Izmikao je sve ručnike i ostavio ih da se posuše.*
'He wrung out all the towels and left them to dry'

2.1.5 *Iznajmiti, izdijeliti, izdati...* ('lease'; 'hand out'; 'issue'; lit. 'out-give')⁵

In the fifth group, the agentive trajector initially possesses the trajector, or alternatively, the latter may be within the scope of the initial landmark in the SSD.

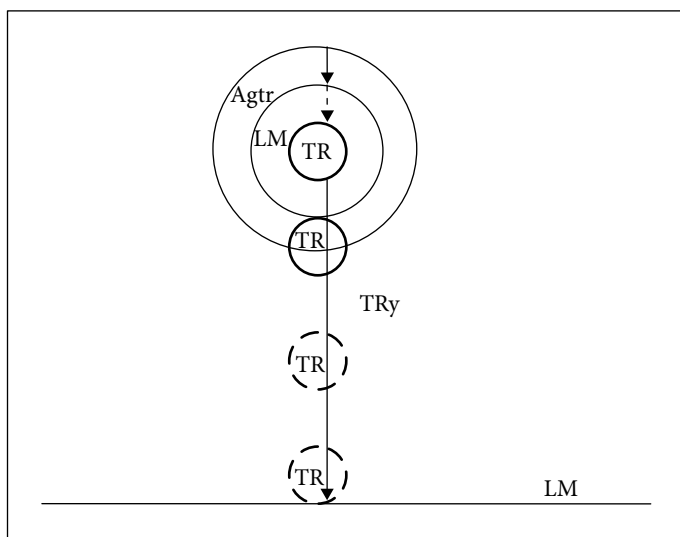


Figure 4. Elaboration of the superschematic meaning for the verbs of the type *iscijediti*, *izmikati*, *ispuhati*

5. The verb *lease* has been included here despite the fact that it could be a good candidate for membership in the next group by virtue of its lexico-semantic features (e.g. 'lease something from someone').

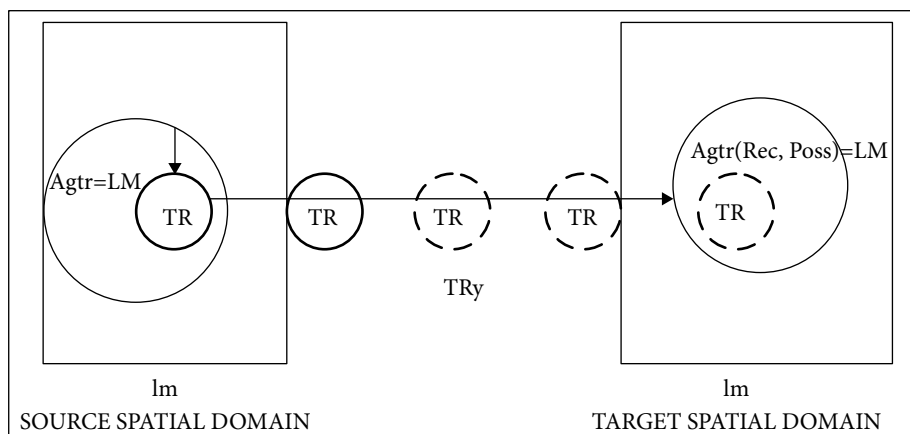


Figure 5. Elaboration of the superschematic meaning for the verbs of the type *iznajmiti*, *izdijeliti*, *izdati*

The agentive trajector causes the movement of the trajector into the extralocative state, which is a state of possession by some other human landmark in the TSD. In terms of the semantic categorization of the human landmark in the TSD, as many as three semantic fields collapse in this group – that of the agent, of the recipient and of the possessor. The agent role is licensed because the action of e.g. leasing, is in general driven by volition and intention of the lessee. The result of the leasing activity, i.e. receipt and eventual possession of an entity, also licenses the landmark's categorization as recipient and possessor. Therefore, in view of the participants' semantic roles we propose the following potential structure of the action chain: Agent (Agtr) > Theme (tr) > Agent = Recipient = Possessor (Agtr = LM).

- (5) a. *Iznajmili su svoj poslovni prostor nekoj stranoj firmi.*
 'They leased their business premises to a foreign company'
- b. *Izdali su mu vozačku dozvolu.*
 'They issued his driving licence'
- c. *Isporučili su robu u zadanom roku.*
 'They delivered the goods according to the schedule'

2.1.6 Iscjenkati, iznuditi, iskamčiti... ('haggle out'; 'extort'; 'cadge')

The sixth group is very similar to the previous one in terms of the relationship between the participants. However, the situation is here reversed; as a result of agentive trajector's action, inanimate trajectors (mostly concrete), move from the intralocative state, namely possession, with respect to an initial human landmark in the SSD into the hands of the agentive trajector, i.e. the ultimate landmark in the TSD.

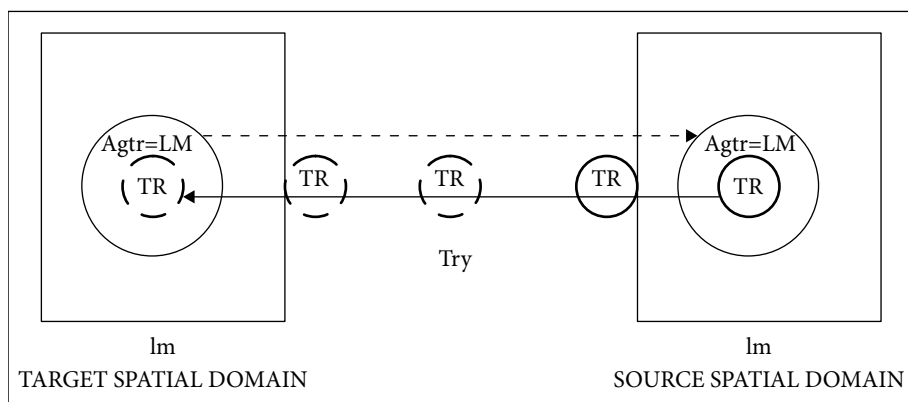


Figure 6. Elaboration of the superschematic meaning for the verbs of the type *iscjenkati*, *iznuditi*, *iskamčiti*

- (6) a. *Iskamčio je novac od svog oca.*
 'He cadged money from his father'
- b. *Iznudio je priznanje od njega.*
 'He extorted confession from him'
- c. *Imao je običaj cjenkati se i uglavnom je uspijevao iscjenkati sve što je zamislio.*
 'He was in the habit of haggling and he mostly managed to haggle a good deal'

2.1.7 *ispasti*, *ispustiti* (se), *iskliznuti*... ('fall out'; 'deflate' – lit. 'out-let (REFL)'; 'slip out')

In this group the trajector moves from the intralocative domain of the participant belonging to a wider semantic field of agent (there is no intention, volition or responsibility for the event on the side of this participant) that also represents the initial landmark, to the extralocative domain of some other landmark within the TSD. It is interesting to note that verbs like *ispustiti* 'drop' equally readily accept subjects whose semantic role is prototypical agent (e.g. deliberately dropping something from one's hands) as they do subjects belonging to the wider semantic field of agents (no intentionality involved).⁶ This group also accommodates reflexive scenarios, where an effector initiates trajector's transition from an intralocative to an extralocative state (e.g. *Lopta se ispustila*; 'The ball deflated' (lit. 'out-let REFL'). Verbs like *ispasti* 'fall out' and *iskliznuti* 'slip out' exclude prototypical agents as dative complements, i.e. their dative complements always belong to the wider semantic field of agent.

6. Involuntary agents in this group are marked with dashed arrow.

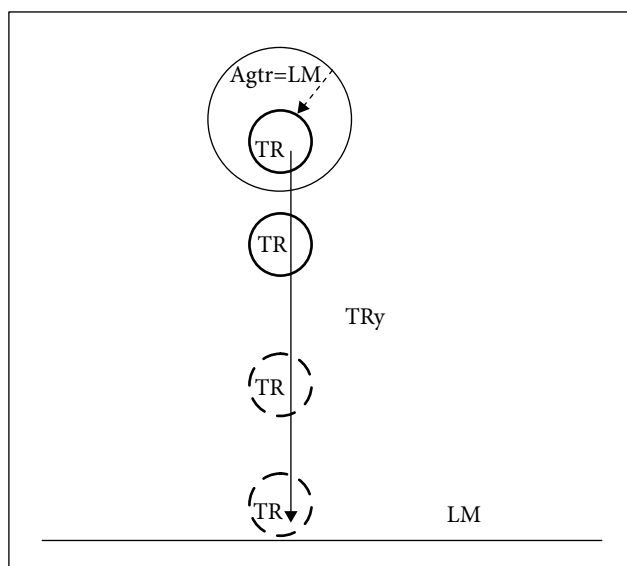


Figure 7. Elaboration of the superschematic meaning for the verbs of the type *ispasti*, *ispustiti (se)*, *iskliznuti*

- (7) a. *Ispao mu je tanjur*
 out-fall-PAST him-DAT AUX plate-NOM
iz ruke i razbio se.
 out-of hand and broke-PAST REFL
 'He dropped a plate and it broke'
- b. *Ispala mu je žlica na pod.*
 out-fall-PAST him-DAT AUX spoon-NOM on floor
 'He dropped a spoon on the floor'
- c. *Od šoka je ispustio iz ruku*
 from shock AUX out-let-PAST from hand-PL
sve što je nosio.
 all-NOM REL AUX carry-PAST
 'He was so shocked that he dropped everything from his hands'

2.1.8 *Iznojiti se, isplakati (se), ispovraćati (se)*... ('sweat' – lit. 'out-sweat REFL'; 'cry one's heart out' – lit. 'out-cry REFL'; 'vomit one's guts out' – lit. 'out-vomit REFL')

The initial point of action chain is occupied by a participant who also belongs to the wider semantic field of agentive trajector. It again coincides spatially with the initial landmark. But, unlike in the previous groups, at the beginning of action the trajectors are not held in the possession of the participant belonging to the wider semantic field of agents, but are located within the latter. Moreover, the trajectors are initially latent

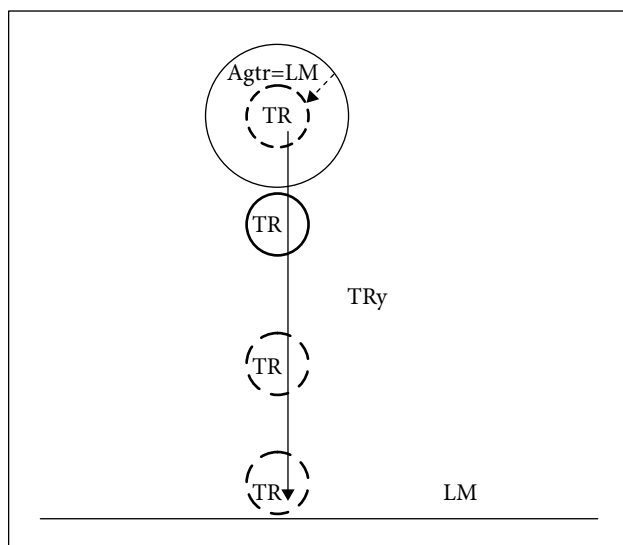


Figure 8. Elaboration of the superschematic meaning for the verbs of the type *iznojiti se*, *isplakati (se)*, *ispovraćati (se)*

or invisible and are therefore represented with dashed lines. They also seem to be familiar and thus remain unexpressed. Hence the frequent reflexive coding of these verbs ('out-cry REFL'; 'out-sweat REFL', etc./'out-cry tears', '*out-sweat sweat').

- (8) a. *Isplakao se tek kad se vratio sa sahrane.*
'He cried his heart out ('out-cry REFL') after he came back from the funeral'
- b. *Vikendom je obično odlazio na rekreaciju kako bi se istrčao i iznojio.*
'Over weekends his workout usually included running to work up a sweat'
(lit. '... in order to out-run REFL and out-sweat REFL')
- c. *Ispovraćao je sve što je pojeo.*
'He vomited up (lit. 'out-vomited') all he had just eaten'

2.1.9 *Izraziti(se)*, *iskazati*, *izgovoriti(se)*... ('express oneself'; 'utter'/'pronounce'/'say'; 'talk oneself out of sth')

In this group the trajector is an abstract entity (sound) that is located within the bounds of the agentive trajector at the beginning of the event. Here too the agentive trajector corresponds to the landmark of the SSD. His action causes the trajector to move from the intralocative state corresponding to the bounds of the agentive trajector into the scope of some other animate landmark within the TSD. In terms of semantic roles, the human landmarks in the TSD correspond largely to those in 2.1.5. However, the semantic field of agent only coincides with the semantic field of recipient and not with possessor, since sound as an abstract entity can hardly be claimed to be possessed by

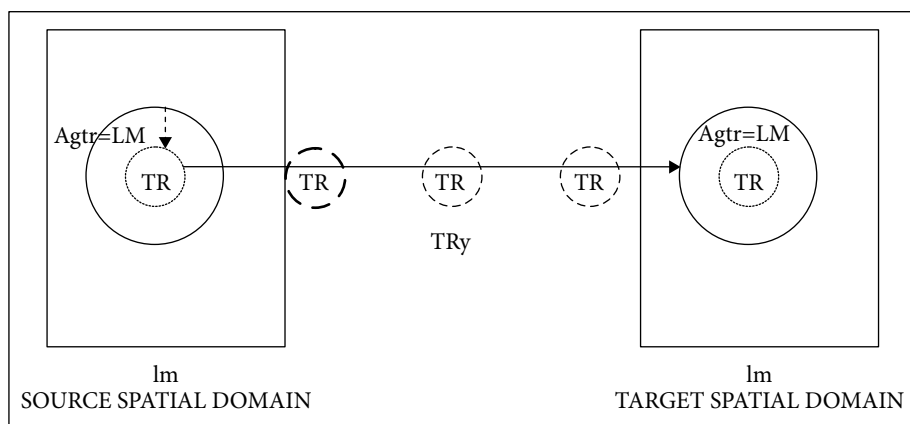


Figure 9. Elaboration of the superschematic meaning for the verbs of the type *izraziti(se)*, *iskazati*, *izgovoriti(se)*

anyone. As sound is a more abstract trajector than the bodily fluids from group 2.1.8, it is illustrated with even finer dashed lines within the agentive trajector of the SSD.

- (9) a. *Izgovorio je mnogo ružnih riječi.*
 'He said many bad words'
 b. *Krivo sam se izrazio.*
 'I didn't express myself right'
 c. *Konačno si našao prave riječi da iskažeš svoje misli.*
 'You've finally found the right words to express your thoughts'

2.1.10 *Izmisliti, izumiti, izmudrovati...* ('think up'; 'invent'; 'ponder' – lit. 'out-ponder')

The trajector is initially located within the agentive trajector, who coincides with the initial landmark. As a result of action performed by the agentive trajector, whose semantic sub-role is that of a cognizer, the trajector moves outside the agentive trajector. The peculiarity of this group lies in the fact that initially the trajector has no material form; it is a thought, or better yet, an idea that eventually materializes, i.e. becomes a concrete physical thought product. This applies, without exception, to the verb *izumiti* 'invent'. The verb *izmisliti* 'think up' can govern a concrete object (trajector), and an abstract object, while the verb *izmudrovati* 'out-ponder' as a rule governs abstract objects. The dotted arrow below is intended to bring out the abstract quality of agentive trajector's initial action. This action is targeted at the trajector (thought), which may, but need not, materialize as the action unfolds (compare the direct contact between the agentive trajector and the trajector in the process of inventing material objects). Further to be noticed about Figure 10 is the different marking of the trajector (dotted lines) in comparison to Figures 8 and 9, where the trajectors are similarly latent within

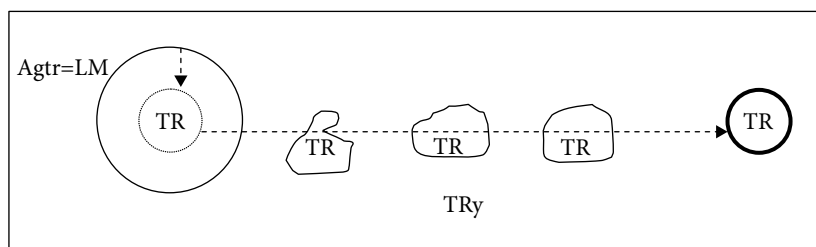


Figure 10. Elaboration of the superschematic meaning for the verbs of the type *izmisliti*, *izumiti*, *izmudrovati*

the agentive trajectors in the SSDs. This differential marking serves to mark them off as being particularly, i.e. the most abstract. Namely, unlike groups 2.1.8 and 2.1.9, whose trajectors are initially latent but still concrete (bodily fluids and sound⁷), the trajectors are here abstract thoughts. The elements along the abstract trajectory designate phases in the creation of the concrete product of an abstract thought process.

The verbs *izmisliti* 'think up' and *izmudrovati* 'out-ponder' have abstract trajectors in most cases (e.g. think up something, e.g. a lie, a plan, or an idea). This would be captured by representing the transition of such trajectors by dotted, rather than solid lines.

- (10) a. *A. G. Bell izumio je telefon.*
'A. G. Bell invented the telephone'
- b. *To si sada izmislio i to nije istina.*
'You've just thought this up and it's not true'
- c. *Ne moraš se ništa bojati, već ćemo nešto izmudrovati.*
'There's no need to be afraid, will think up something' (lit. 'out-ponder sth')

2.1.11 *Ishlapjeti, ispariti (se), izvjetriti (se)...* ('go flat' (e.g. of wine); 'evaporate' – lit. 'out-vapor REFL'; 'air out' – lit. 'out-wind REFL')

The characteristic feature of this group is that the departure of trajectors from the landmark area in the SSD is typically irreversible. These verbs typically involve chemical processes as triggers of the trajector's transition. In other words, under the influence of some effector the trajector irreversibly moves from the intralocative state to an extralocative state and disappears in the process. After the completion of such a process, the trajector can no longer be visually perceived.

- (11) a. *Zbog velike vrućine isparila je sva voda iz dječjeg bazena.*
'Because of intense heat, all the water from the child's swimming pool evaporated'

7. Sound, of course, is not as concrete as bodily fluids, or as other physical entities are. But, as speech is a reification of language, it ranks higher on the level of concreteness than thought.

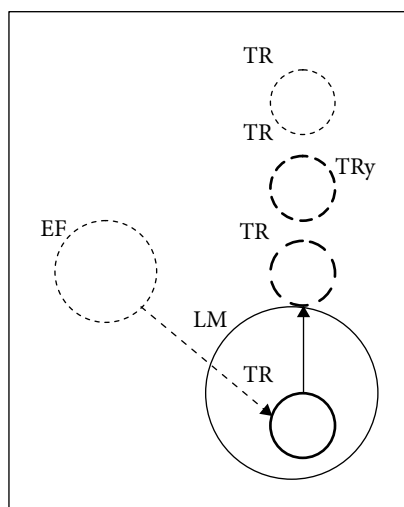


Figure 11. Elaboration of the superschematic meaning for the verbs of the type *ishlapjeti*, *ispariti* (*se*), *izvjetríti* (*se*)

- b. *Zaboravio si začepiti bocu pa je vino ishlapilo.*
'You forgot to cork the bottle so the wine went flat'
- c. *Konačno se izvjetrio sav smrad iz kuhinje.*
lit. 'finally REFL out-wind all odor from kitchen';
'The kitchen was finally aired out'

2.1.12 Iskljajati, izniknuti, izrasti... ('sprout'; 'shoot'; 'grow' – lit. 'out-grow')

The typical feature of these verbs is that their trajectors do not detach from the SSD landmark as they move from the intralocative to the extralocative state. Namely, the initial intralocative state is conceptualized as the state of the latent trajector within the SSD landmark, and the extralocative state is the state of the trajector at its highest vertical point within the TSD. This transition to this extralocative state is brought by an effector, i.e. some source of heat. Importantly, as our examples illustrate, the SSD landmark is most frequently conceptualized as soil, although in fact it is the seeds that play this particular role. However, since seeds are too small in size and visually inaccessible to be salient, for the purpose of this discussion we shall mark them as *defocused primary landmarks* (DPLM).

- (12) a. *Jučer je iz zemlje izniknulo prvo rano povrće.*
'Yesterday, the first early vegetables sprouted out from the soil.'
a.' *??Jučer je iz sjemenki izniknulo prvo rano povrće.*
'Yesterday, the first early vegetables sprouted out from the seeds'

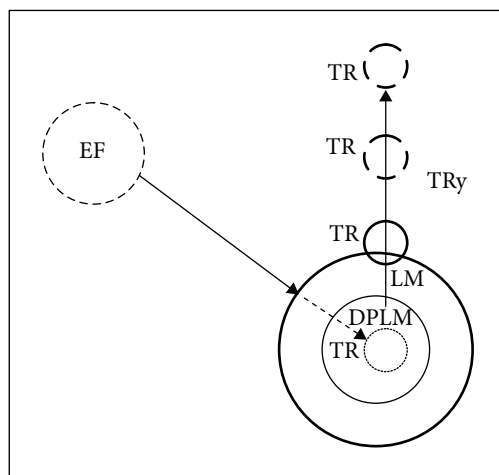


Figure 12. Elaboration of the superschematic meaning for the verbs of the type *isklijati*, *izniknuti*, *izrasti*

- b. *Nedavno su isklijale prve mladice u plasteniku.*
'Recently the first shoots sprouted out/up in the greenhouse'
- c. *Izraslo je sve što smo posadili.*
'Everything we planted has grown well' (lit. 'out-grown')

2.1.13 Izvrnuti (se), iskrenuti, iščašiti... ('tip over' (optionally *REFL*); 'sprain'; 'twist'; 'dislocate')

In their progress from the intralocative to the extralocative state, the trajectors in this group only partially leave their landmarks. In other words, it is only parts of the trajector that move out of the confines of the initial landmark. In some cases, the agentive trajector coincides with the initial landmark. This, however, only seems to be the case with the verbs of the *sprain* and *twist* type. In that case we may be reluctant to attribute to the human initial landmark the semantic role of agent; it rather qualifies as a member of the wider semantic field of agent, but also of patient due to his undergoing a change of state (i.e. the physical injury sustained, like the spraining or twisting of the ankle). It also is noteworthy that in sentences like *I've sprained my ankle* or *I've twisted my knee* both the subject and the direct object are patients. The direct object may be regarded as the primary patient, because it literally undergoes a change of shape and state, and of course because the semantic role is characteristic of the direct object in general. The subject, on the other hand might be labeled a secondary patient due to its referent's experiencing pain. With verbs of the type *izvrnuti* 'tip over' as in *Dijete je izvrnulo vazu* 'The child tipped over the vase', the situation is somewhat more complicated. First, unlike the verbs *sprain* and *twist*, where the syntactic subject always belongs to the wider semantic field of agent, the status of the agentive trajector (the child)

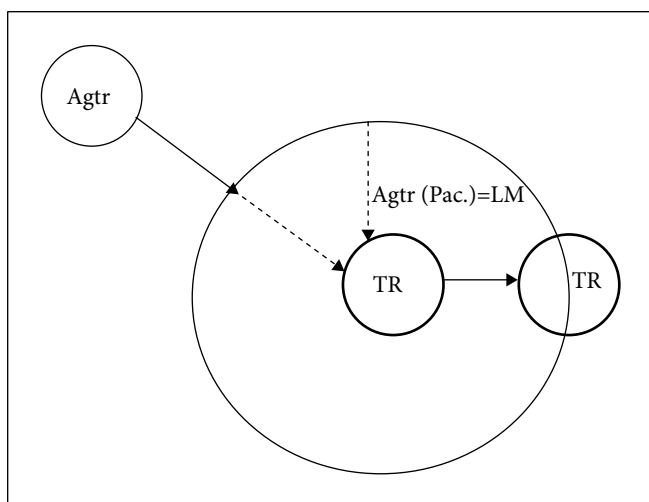


Figure 13. Elaboration of the superschematic meaning for the verbs of the type *izvrnuti* (*se*), *iskrenuti*, *iščašiti*

as a prototypical agent (if the child tipped the vase over on purpose) or a peripheral agent (in the absence of intention), is contextually determined. Second, the status of the trajector is also more uncertain since in examples like *tip over* there seem to be two trajectors. One is the primary trajector (vase), syntactically coded as direct object, which leaves its SSD as a result of direct contact with the agentive trajector, and the other is secondary (water), which also leaves its initial spatial confines, but unlike the primary trajector, its outward movement is not caused by the direct contact with the agentive trajector. Both the primary and the secondary trajector, just like the trajector (direct object) of the verb *sprain* and *twist* only partially leave their SSD. Namely, in an event of twisting one part of the trajector always remains within the SSD. Both possibilities are illustrated in the Figure 13 above.

- (13) a. *Danas je iščašio zglob igrajući nogomet.*
 'Today he sprained his ankle playing soccer'
 b. *Okliznuo se i iskrenuo gležanj.*
 'He slipped and twisted his ankle'
 c. *Izvrnuo sam bocu i prolio vino po novom stolnjaku.*
 'I've tipped over the bottle and spilt the wine all over the new table cloth'

2.1.14 *Ispružiti (se)*, *istegnuti (se)*, *isprсити se...* ('stretch (REFL) out'; 'straighten out'
 – lit. 'out-chest REFL')

This group is directly linked to the preceding one via meaning chains. It also occupies a somewhat more peripheral place than the previous one. Although the trajector and the landmark do go apart to an extent, the agentive trajector may be claimed to

correspond both to the landmark and to the trajector, which was not the case before. Conceptually, the portions of the human body that spread out correspond to the trajector because they radiate outwards from the initial compact whole. This causes an increase in the volume of the agentive trajector that thus comes to occupy agentive trajector (the human torso), which represents the spatial reference point (the landmark) for the trajector's 'departure'. We consider this group more peripheral than the preceding one because the trajector, or trajectors, which radiate outward from the torso (the landmark in these scenarios), cannot possibly be conceptualized in the absence of the other body parts with which they form a whole. In other words, the body parts (landmarks) from which the other body parts (trajectors) spread out have the function of an abstract domain for the conceptualization of the trajector's 'movement'.⁸ They function as the immediate conceptual base or the conceptual context for this particular conceptualization. We may say that the scenarios coded by verbs of this type portray the human being as a unity, while other portions of the body only function as active zones, that is, as the most prominent elements, viz. the trajectors. This extreme difficulty at conceptually separating out the agentive trajector, the landmark and the trajector renders this group the most peripheral in the category defined by the presence of the common schematic meaning, viz. the transition from an intra- to an extralocative state.

- (14) a. *Ispružio se na krevetu poslije napornoga rada.*
'He stretched himself out on the bed after a hard day's work'
(lit. 'out-stretch REFL')
- b. *Ako te bole leđa, pokušaj se nekoliko puta istegnuti.*
'If your back aches, try stretching out a few times' (lit. 'out-stretch REFL')
- c. *Ispravi se i nemoj se više hodati grbiti.*
'Stop hunching, straighten out/up!' (lit. 'out-straighten REFL')

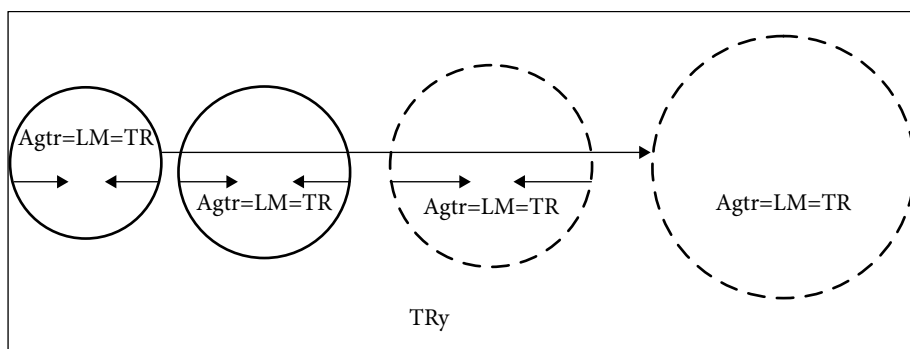


Figure 14. Elaboration of the superschematic meaning for the verbs of the type *ispružiti* (*se*), *istegnuti* (*se*), *ispružiti se*

8. On abstract domains see Langacker (1987: 147–150).

The following five groups of *iz-* prefixed verbs belong to the very periphery of our conceptual category. What lends them this peripheral status is the metaphoric nature of the transition from an intralocative to an extralocative state. In the cases that follow, the metaphorical conception of the trajector's extralocative state in the TSD derives from two related metaphors – SUBSTANCE IS A CONTAINER and THE OBJECT COMES OUT OF THE SUBSTANCE.⁹ These metaphors are at work in our conceptualization of the process of *making* as a special kind of direct manipulation process. This direct manipulation process, in turn, is a prototypical gestalt of the semantic field of causation. The basic feature that distinguishes these groups of verbs from the previous ones is the fact that the initial landmark and the trajector are in fact one and the same entity. Extralocativity is conceptualized as a *state* that *results* from the action. The more distinct the final state of the trajector from the initial state, the clearer the conceptual idea of the transition from an intralocative to an extralocative state. Therefore, even within this particular subcategory of *iz-*prefixed verbs we may claim the existence of prototypical and peripheral cases, whereby the greater or lesser degree of prototypicality depends on the greater or lesser presence of the following 4, of the total of 12 prototypical features of the direct manipulation process identified in Lakoff and Johnson (1980: 70):

- i. the change of state is physical;
- ii. the plan requires the agent's use of a motor program;
- iii. the agent touches the patient either with his body or an instrument;
- iv. the change in the patient is perceptible.

2.1.15 *Isklesati, izmodelirati, izdubiti...* ('carve out'; 'mould'; 'hollow out')

This group is considered prototypical as it exhibits all the four prototypicality features:

- i. the trajector undergoes a physical change of state which involves;
- ii. a drastic change of its form;
- iii. the motor activity of the agentive trajector is extremely dispersed; and
- iv. the agentive trajector remains in contact with the trajector throughout the action, either via the instrument used, or via his own body. Because of the presence of all the four features of the prototype, the final state of the landmark/trajector is a piece of work that emerges out of an amorphous mass. As already noted, the transition is effected with the help of a specific instrument whereby the instrument, e.g. a hammer or a chisel, frequently penetrates the substance of the landmark. Conceptually, this strengthens the impression that the trajector is in fact moving out of the amorphous mass under the impact of the invading instrument. This, in turn, licenses the use of an optional prepositional phrase *iz* + Loc ('out of' + Loc), which codes one aspect of the prototypical scenario of transition from an intralocative to an extralocative state with verbs such as *isklesati* 'carve out', *izdubiti* 'hollow out'. In contrast, the semantics of verbs like *izmodelirati* 'model' rarely involves contact between the agentive trajector and the landmark via a tool, or 'penetration' of agentive trajector's hands into the land

9. In this context we may also mention the metaphor THE SUBSTANCE GOES INTO THE OBJECT, but it bears no direct relevance to this discussion.

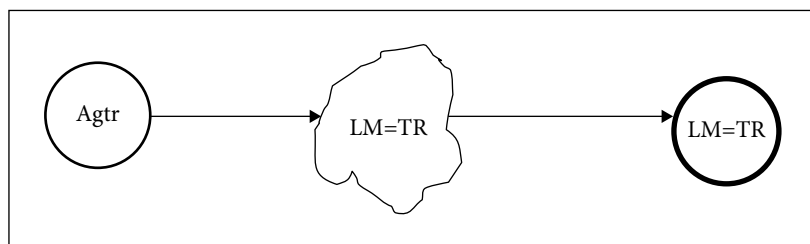


Figure 15. Elaboration of the superschematic meaning for the verbs of the type *isklesati*, *izmodelirati*, *izdubiti*

mark; it only involves the superficial shaping of the latter. This is not surprising given the lexical meaning of the verb *izmodelirati* that mostly involves soft materials like clay, plaster, sand, paper etc. Moreover, such verbs show a marked preference for the prepositional phrase *od* + Gen ('from + Genitive'), as more prototypical submeaning of ablativity, instead of *iz* + Loc.

- (15) a. *Isklesao je prekrasnu skulpturu iz kamena.*
 'He carved a beautiful sculpture out of stone'
 b. *Izdubio je kip iz drveta.*
 'He hollowed a statue out of a piece of wood'
 c. *Izmodelirao je prekrasnu vazuu.*
 'He modelled a beautiful vase'
 d.' *Izmodelirao je prekrasnu vazuu od gline.*
 outmodel-PAST AUX beautiful vase-ACC from clay-GEN
 d.'" ??*Izmodelirao je prekrasnu vazuu iz gline.*
 'outmodel-PAST AUX beautiful vase-ACC out of clay-ACC'

2.1.16 *Iscijepati, isitniti, iskidati...* (*chop up; chop/cut into pieces; tear to pieces*)

In this group the landmark/trajector changes state as a result of the action performed by the agentive trajector; it turns into smaller parts. The motor activity of the agentive trajector is highly dispersed and he remains in contact with the trajector either via the instrument used or via his own body. As in the previous, prototypical group, the state of the trajector changes drastically in comparison to its initial state because the trajector turns into smaller pieces. However, this change of state is of a more peripheral nature. After all, at the end of the action, the trajector's initial and its final state can only be distinguished by one semantic feature, i.e. size. Compare the parameters of change involved in group fifteen, viz. size, regularity of shape, smoothness of surface etc. Further, in the action of e.g. *chopping wood* the penetration of the instrument (e.g. axe) into the wood tissue (landmark) is not so salient in terms of its duration and dispersion. This explains the relative unacceptability of the prepositional phrase *iz* + Loc,

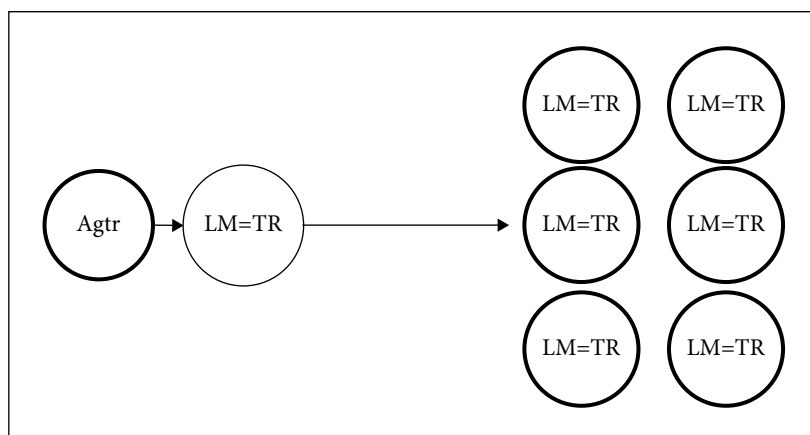


Figure 16. Elaboration of the superschematic meaning for the verbs of the type *iscijepati*, *isitniti*, *iskidati*

which is a prototypical syntactic indicator of the transition from an intra- into an extralocative state, with *some* verbs in this group. With others, its occurrence is highly unlikely, in particular where the agentive trajector is in direct contact with the landmark without any mediating instrument. As we will see, in the three groups that follow this prepositional phrase becomes completely unacceptable.

- (16) a.' *Iscijepao je drva za ogrjev.*
 'He chopped up wood for the fire' (*He chopped smaller pieces of wood out of a *bigger piece of wood*.)
- a." ??*Iscijepao je drvca za potpalu vatre iz prilično velike cjepanice.*
 'He chopped up small pieces of wood out of a fairly large stump to light the fire.'
- b.' *Iskidao je papir na sitne komadiće.*
 'He tore the paper into pieces'
- b." ???*Iskidao je papir na sitne komadiće iz velikoga A3 formata.*
 'He tore the paper into small pieces out of a big A3 sheet of paper'
- c. ??*Škarama je izrezao sitne komadiće papira iz velikoga A3 formata.*
 'Using scissors he cut small pieces of paper out of a big A3 sheet of paper'

2.1.17 *Ispeći (se)*, *ispržiti (se)*, *iskuhati (se)*... ('roast' (lit. 'out-roast (REFL)'); 'fry' (lit. 'out-fry (REFL)'), boil (lit. 'out-cook (REFL)'))

In this group the four prototypicality features mentioned above are even less in evidence. The motor activity of the agentive trajector is not so dispersed, and the difference between the initial and the final state of the trajector is not so striking either.

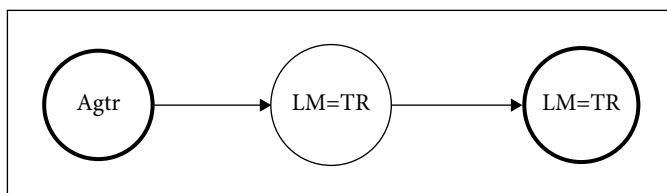


Figure 17. Elaboration of the superschematic meaning for the verbs of the type *ispeći* (*se*), *ispržiti* (*se*), *iskuhati* (*se*)

Namely, on completion of the action the entity is effectively the same as at the beginning of the action. Therefore, the prepositional phrase *iz* + *Loc* is impossible.

- (17) a. *Ispekao je meso u pećnici.*
 'He roasted the meat in the oven'
 a." **Ispekao je meso u pećnici iz sirovoga komada mesa.*
 'He roasted the meat in the oven out of a raw piece of meat'
 b. *Ispržio je meso na tavici.*
 'He fried the meat in a pan'
 c. *Iskuhao je bijelo rublje.*
 'He boiled the white laundry.'

2.1.18 *Išamarati, istući, izbatinati...* ('slap (to completion') (lit. 'out-slap'; 'beat up' (lit. 'out-beat'))

A similar situation obtains in group 2.1.18, but this group is even further away from the prototype. Admittedly, the motor activity of the agentive trajector is more in evidence and is much more intensive than in the previous group, but what makes these verbs less prototypical is the almost negligible change of state of the trajector on action completion. These verbs, therefore, are also reluctant to admit the prepositional phrase *iz* + *Loc*.

- (18) a. *Istukao je svoga mlađeg brata.*
 'He beat up his younger brother'
 b. *Išamarao ga je jer je bio zločest.*
 'He slapped him (+sense of completion) because he was mischievous'

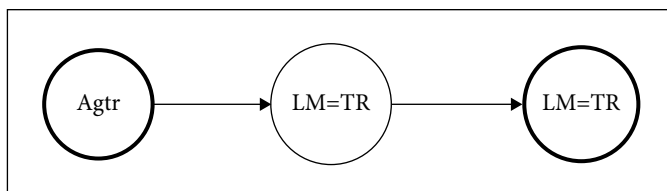


Figure 18. Elaboration of the superschematic meaning for the verbs of the type *išamarati*, *istući*, *izbatinati*

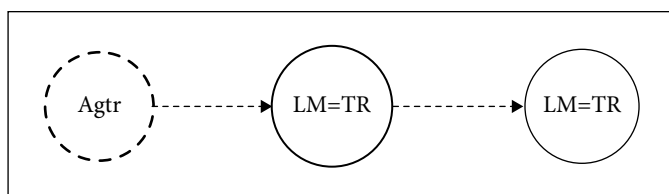


Figure 19. Elaboration of the superschematic meaning for the verbs of the type *ispolitizirati*, *ismijati*, *izrelativizirati*

2.1.19 Ispolitizirati, ismijati, izrelativizirati... (*'politicize'*, *'make fun of'*, *'relativize'*)

The last group stands out as the least prototypical one because the change of the trajector's state is of an abstract kind. It follows that there is but a very negligible motor activity on the side of the agentive trajector, that there is no contact between the agentive trajector and the trajector, and that the change of state upon action completion is perceptually hardly accessible. This again rules out the prepositional phrase *iz* + Loc.

- (19) a. *Čitava je stvar ispolitizirana.*
'They have politicized the whole matter'
- b. *Ismijalo ga je cijelo društvo.*
'He was laughed to scorn by the entire company'
- c. *Prekomjerno si to izrelativizirao.*
'You have relativized this beyond reasonable limits'

2.2 Meaning chains and syntactic implications

As has become clear from our analysis, meaning chains function as a sort of interanalytical level of interpretation in the proposed semantic analysis of verbs with the same prefix. Their primary role is to facilitate the establishment of links between units elaborating the schematic meaning. As far as *iz*-prefixed verbs are concerned, the nineteen groups proposed above can be arranged in five classes (2.1.1–2.1.3; 2.1.4–2.1.7; 2.1.8–2.1.10; 2.1.11–2.1.14; 2.1.15–2.1.19), whereby the meaning of each class down the hierarchy (which becomes progressively more peripheral in terms of exhibiting the schematic meaning, viz. transition from an intralocative to an extralocative state) more or less derives from, or better yet, is motivated by the meaning of the immediately preceding class. Furthermore, a lower ranking of a particular class correlates with the greater absence of one or more of the prototypicality features which determine the conceptual distinctness of the trajector's trajectory in its progress from an intralocative to an extralocative state. I turn now to a brief discussion of the five classes.

The first class (1–3) is the most prototypical one according to almost all the criteria proposed. Particularly noticeable is the high level of concreteness of the trajector and distinct activity of the agentive trajector as the initiator of the action chain.

However, despite the prototypical status of the class as a whole, its first group (*istjerati...* 'chase out') and the second one (*izvaditi...* 'take out') stand out as more prototypical than group three (*izaći...* 'go out'). In the latter the agentive trajector simultaneously fulfills the role of trajector, which means a reduced number of participants. The fewer the participants the lesser the conceptual distinctness of the entire ICM (idealized cognitive model), i.e. of the scenario involving the trajector's trajectory, and hence the lesser prototypicality of this group in comparison to that of the first two.

Unlike groups 2.1.1–2.1.3), in group 2.1.4 (*iscijediti...* 'squeeze out') the agentive trajector possesses the initial landmark. This is at the same time the only group where the agentive trajector and the initial landmark are distinct entities within the same domain. In terms of the latter feature, group 2.1.5 (*iznajmiti...* 'lease') seems more peripheral and is motivated as an extension of group 2.1.4 that also accommodates trajectors initially possessed by the agentive trajector. However, in group 2.1.5, the agentive trajector corresponds to the initial landmark. Group 2.1.6 (*iznuditi...* 'extort') ties nicely into the picture and is readily motivated by the verbs in group 2.1.5. The only difference between the two lies in the reversal of the direction of the trajector's trajectory. It is worth noting that group 2.1.6 differs from groups 2.1.4, 2.1.5. and 2.1.7, because initially the trajector is not within the boundaries of the agentive trajector – action initiator – but within the limits of another human entity. However, despite this fairly noteworthy difference, group 2.1.6 has been classed together with groups 2.1.4, 2.1.5 and 2.1.7 as their verbs bear the most striking resemblance to each other in terms of the remaining features. Verbs in group 2.1.6 seem to be particularly akin to the verbs in group 2.1.5.

The seventh group (*ispasti...* 'fall out') is even more marginal; as earlier, the trajector is initially within the limits of the agentive trajector and the latter corresponds to the initial landmark, but unlike groups 2.1.4, 2.1.5 and 2.1.6, no prototypical agent is involved, but rather a participant from the wider semantic field of agent (volition and intention are missing).

In class three, there are three groups (2.1.8–2.1.10) that differ from each other according to the degree of concreteness on the part of the trajector and are thus more or less prototypical members of this class. In group 2.1.8 (*isplakati se* 'cry one's heart out...') the trajector is bodily fluids; in group 2.1.9 (*izraziti se* 'express oneself...') it is the sound, as a more abstract entity; and in group 2.1.10 (*izmisliti* 'think (sth) up...') it is the thought as the most abstract trajector of the three.

Class 4 (2.1.11–2.1.14) comprises verbs that are less prototypical by virtue of exhibiting two specific features. First, in all but group 2.1.14, the initiator of the trajector's transition from an intralocative to an extralocative state is not a prototypical agent but an effector, or a participant from a wider semantic field of agent. Second, in moving from an intralocative to an extralocative state the trajector does not detach completely from the initial landmark. This second criterion allows us to rank group 2.1.11 (*ishlapiti...* 'evaporate') somewhat higher on the prototypicality scale, namely, the trajector eventually completely abandons the region of the initial landmark. However, given the

length of the process of disappearance, i.e. the gradual nature of separation of its segments from the whole, a portion of the trajector remains attached to the initial landmark for an extended period of time.¹⁰ Verbs like *istruniti* i *izumrijeti* ('rot out' 'die out') illustrate nicely the workings of meaning chains within group 2.1.11. Although these verbs do bear some resemblance to the other verbs in the group (irreversible disappearance of the trajector) they also depart from them on account of other semantic criteria. Unlike the verbs *ispariti*, *ishlapiti* ('evaporate', 'become flat' (of wine)) etc. with verbs like *izumrijeti* and *istruniti* it is mostly (with the verb *izumrijeti* exclusively) animate trajectors that disappear. The effector, as the causer of disappearance, is of a different nature. It is time, as perceptually the most inaccessible effector. Its effects are the slowest and the process of disappearance is missed by the human eye. In view of that, it seems most appropriate to categorize these verbs as peripheral members of group 2.1.11 that, of course, are still motivated by the prototypical schema of transition from an intralocative to an extralocative state. Group 2.1.12 (*isklijati*... 'sprout') ranks somewhat lower on the prototypicality hierarchy. Its trajectors always remain partly attached to their initial landmarks. Nevertheless, the group is more prototypical than group 2.1.13 (*iščašiti*... 'sprain') because the degree of detachment of the trajector from the confines of the initial landmark is still higher than in the latter. Namely, group 2.1.13 comprises verbs where only parts of trajectors actually 'detach' from their initial landmarks. Group 2.1.14, in turn, occupies the very periphery of class four when it comes to the degree of such detachment (*istegnuti* (*se*) 'stretch (oneself) out'...). The trajector remains in contact with the landmark via one of its parts so that the two make a compact and perceptually indivisible whole. Importantly, this whole, or unit is constituted by a network of abstract domains, whereby one such domain represents the immediate conceptual base that is vital for the conceptualization of the other. That is perhaps why the degree of the trajector's detachment from the landmark must be the lowest.

In groups 2.1.15–2.1.19 (*isklesati* 'carve out'; *isjeckati* 'chop up'; *ispeći* 'roast'; *išamarati* 'slap (to completion)'; *ispolitizirati* 'politicize') the workings of meaning chains are perhaps most in evidence since the classes become progressively more peripheral according to perceptibility of the change of trajector's state. In other words, here we witness the typical effect of meaning modification via chaining; one meaning derives directly from the meaning of its precursor. The further down the chain, the less conspicuous and the less accessible the common meaning thread, viz. the change of trajector's state.

We have already tackled some of the syntactic implications of different (prototypical and less prototypical) relations among the participants in the rich scenarios which host the schematic meaning discussed in this chapter. We have also brought to light some of the syntactic anomalies resulting from the peripheral status of some groups in terms of the degree of exhibiting the schematic meaning (e.g. permissibility of prepositional phrase *iz* + *Loc* in groups 2.1.15–2.1.19). Now we turn to the problems of verb

10. *Parts* may not be the most felicitous term here, because water, air, etc., make compact units whose 'parts' are of the same substance and shape.

government, the problems that again underscore one of the basic tenets of cognitive linguistics, namely that syntactic anomalies are triggered by semantic anomalies.

The syntactic anomalies related to verb government arise where the transition of the trajector from an intralocative to an extralocative state is not caused by action of a prototypical agent, but of a participant belonging to the wider semantic field of agent or to the semantic field of effector. A closer look at the nineteen groups proposed in this chapter reveals that all the verbs, except verbs like *iščašiti* 'sprain', where the transition of the trajector from an intralocative to an extralocative state is not caused by action of the prototypical agent, are either intransitive or reflexive. It is also worth noting that instead of 'reflexive verbs' we are in fact dealing with pseudo-reflexive verbs, or the *reflexiva tantum* verbs as the more anomalous kind government-wise. In such verbs the element *se* is not in fact a reflexive pronoun functioning as the syntactic direct object, its function is that of a particle. Compare e.g. *ispovraćati (se)* ('vomit', lit. 'out-vomit REFL'), *isplakati (se)* ('cry ones heart out', lit. 'out-cry REFL'), *ispariti (se)* ('evaporate', lit. 'out-vapor REFL'), *iznojiti se* ('sweat', lit. 'out-sweat REFL'), etc. This of course, does not preclude the reverse possibility, i.e. that verbs that designate the trajector's transition initiated by action of the prototypical agent can be reflexive or intransitive (e.g. *istegnuti (se)* 'stretch out', lit. 'out-stretch REFL', *izaći* 'go out', etc.), or the fact that, given the size of a corpus (Anić 2004), one may stumble upon a transitive verb where the transition of the trajector is caused by action of the participant from a wider semantic field of agent or the semantic field of effector.

Thus, for example, in group 2.1.7 (*ispasti* 'fall out', *iskliznuti* 'slip out', *ispustiti (se)* 'deflate' lit. 'out-let REFL') the verbs *ispasti* and *iskliznuti* are intransitive because the participant who causes the trajector's transition from an intralocative to an extralocative state is not a prototypical agent, i.e., he lacks volition and intention in performing the action in question.

- (20) *Iskliznuo mi je tanjur iz ruke*
out-slip-PAST me-DAT AUX plate from hand
'The plate slipped out of my hand'

- (21) *Ispala mi je žlica na pod*
out-fall-PAST me-DAT AUX spoon on floor.
'The spoon fell on the floor'

In contrast, the verb *ispustiti* 'drop' is transitive, but its transitivity is conditioned by the fact that its subject, whose semantic role is normally that of a peripheral agent (e.g. when something is *dropped* accidentally, which is always retrievable from the context), can also bear the semantic role of prototypical agent: something can be dropped intentionally.

- (21) *Ispustio sam loptu (zrak iz lopte) kako bih je mogao lakše spremiti u torbu.*
'I deflated (lit. 'out-let') the ball (air from the ball) to fit it into my bag'

or:

- (22) *Ispustio sam sve iz ruke kako bih spriječio da dijete ne pregazi automobil.*
 ‘I dropped (lit. ‘out-fall’) everything from my hands to save the child from being run over by a car’

When the verb *ispustiti* (lit. ‘out-let’) appears in the reflexive form, i.e. when there is a syntactic anomaly pertaining to government (e.g. *Lopta se ispustila*; ‘The ball deflated’ (lit. ‘out-let REFL’)), the trajector’s (air) transition from an intralocative to an extralocative state is caused by an effector that is hard, or even almost impossible to access perceptually, for example heat and time, respectively (balls, balloons etc. deflate over time). With verbs of the type *iskliznuti* ‘slip out’ and *ispasti* ‘fall out’ there is one more syntactic anomaly that merits closer scrutiny. The problem is that of the *dative* marking of the participant from the wider semantic field of agent (*Ispale su mi-DAT stvari na pod*; lit. ‘out-fall-PAST AUX me-DAT things-NOM on floor’), and of the prototypically *nominative* marking of the subject (*stvari*, see above). This is a very complex problem, as it brings up the question of which syntactic function to attribute to the dative *mi* in such constructions. Works on syntax frequently explain away the problem by treating the ‘mi’ as a possessive dative. However, there is no attribution involved there, as there is for example in clear-cut cases of possessive datives e.g. *Ispala mi je kosa*. lit. ‘out-fall-PAST me(DAT) AUX hair(-NOM)’ ‘I lost my hair’. Namely, in the latter example there is no agentivity whatsoever on the side of the entity who loses hair.

Compare:

- (23) *Ispale su mi stvari.* > *Ispale su mi moje stvari.* > *Ispale su mi tvoje stvari.*
 out-fall-PAST AUX me-DAT thing_{pl}(Nom) > out-fall-PAST AUX me-DAT my
 things-PL-NOM > out-fall-PAST AUX me-DAT your thing-PL-NOM

with

- (24) *Ispala mi je kosa.* >??? *Ispala mi je moja kosa.* > **Ispala mi je tvoja kosa.*
 out-fall-PAST me-DAT AUX hair-NOM >??? out-fall-PAST me-DAT AUX my hair-
 NOM > *out-fall-PAST me-DAT AUX your hair-NOM

To call these datives indirect objects is even less acceptable since objects are the targets of energy transfers in action chains, not instigating entities (compare *Dao mi je novac* ‘He gave *me* the money’ where *mi* is clearly a dative marked indirect object). Therefore, according to semantic criteria, the dative from our example above seems to be much closer to the syntactic function of subject than that of object. On the other hand, if treated as a kind of subject, how it is possible that a single sentence can host two subjects at the two opposite ends of an action chain, i.e. one in the source domain (*mi*), and the other in the target domain (*stvari*). Moreover, the noun *stvari* has all the morphosyntactic features of subjects; nominative case marking and agreement with the verb. On the other hand, it does not have a single semantic feature of subjects – its semantic micro-role is that of theme or patient¹¹ (note that the sentence is not in the

11. Its treatment as one or the other (i.e. patient or theme) would vary from theory to theory.

passive form), which is typical of direct objects. There is some plausibility in the hypothesis proposed by Buljan and Kučanda (2004). Namely, in their view these constructions have two elements both of which exhibit some features of the subject: the first one (*mi*) is morphosyntactically nonprototypical by virtue of its dative marking. Still, it has the prototypical semantic and pragmatic features of the subject; its semantic macro-role is *actor*, and its pragmatic role is that of the *topic*. The other subject, in turn, (*stvari*) has the prototypical morphosyntactic features of subjects, viz. it is marked with the nominative and agrees with the predicator; however, at the semantic level it bears the macro-role of *undergoer* and is not the topic of the sentence, i.e. is not what the sentence is about.¹² The authors well observe that these types of sentences emphasize two syntactic elements both of which have some features of subjects, however, they do not address the crucial question of *why* a single active sentence may host a second syntactic element at the opposite end of the action chain that has the semantic and pragmatic features of a subject. We will try to answer this question by digging a little deeper in our cognitive analysis.¹³

We could say that the sentence *Ispale su mi stvari na pod* 'out-fall-PAST AUX me-DAT thing-PL-NOM on floor', actually hosts two morphosyntactic subjects provided we treat the sentence as a pragmatically motivated and cognitively economical **compressed complex sentence** of the type *Through carelessness I brought it about that the things fell on the floor*. After compressing this complex sentence, we are left with the simpler sentence which (i) retains the subject of the dependent object clause *things* with all its morphosyntactic features; and (ii) due to the fact that the valency of the verbs *ispasti* and *iskliznuti* disallows an agentive subject in the nominative (unlike the verb *ispustiti*), inherits the subject of the main clause in the dative (*mi*) as a syntactic token of agentivity. Remember, in the main clause of the complex sentence this pronoun was marked as the prototypical nominative *ja*. On this analysis the simple sentence *Ispale su mi stvari na pod* would in fact be a reduced complex sentence. This allows us to propose an explanation for the appearance of two subject-like elements at the opposite ends of the action chain. The subject '*things*' is assigned the semantic macro-role of *undergoer* from the dependent object clause in the semantic paraphrase, and the dative element *mi* is assigned the macro-role of *actor* as the bearer of the hidden causal semantics from the main clause. In the semantic paraphrase the subject of the main clause (the implicit *ja*) is more prototypical both according to the semantic criterion, as it designates an animate participant who is an instigator of the action described, and according to the pragmatic criterion, as it represents the sentential topic. In contrast,

12. Among other work in RRG, on the semantic macro roles *actor* and *undergoer* see more in Van Valin and LaPolla (1997) and Van Valin (2001); on relations between the pragmatic function *topic* and the syntactic function of subject see more in Li and Thompson (1976), Comrie (1981), Shibatani (1991) and Givón (1984).

13. More on the syntax, semantics, and pragmatics of such dative NPs see also Belaj and Kučanda (2007).

the same criteria (higher or lower degree of agentivity of the subject) render the subject of the dependent object clause (*things*) more peripheral. The semantic relations that obtain in the dependent clause in the paraphrase are inherited by the compressed simple clause, only their syntactic arrangement is different because of the different syntactic characteristics of the verbs *ispasti* and *iskliznuti*. A test can be invoked to prove that the simple sentence is indeed the semantic paraphrase of the full complex structure. Namely, the same conceptual unpacking seems not to work in a very similar case. If we take a roughly synonymous sentence with the verb *ispustiti* 'drop', which binds a prototypical subject nominal and governs a direct object (of course, here we have a prototypical agent in mind, one who is acting volitionally and intentionally, not a subject belonging to the wider semantic field of agent – although this verb would license the latter as well – e.g. *Ispustio sam stvari na pod (kako bih pomogao djetetu u nevolji)* 'I dropped the things on the floor in order to help the child in danger') and if we paraphrase the sentence expanding it with a causal segment¹⁴ *I intentionally brought it about that things fell to the floor (so I could help the child in danger)*, there is a sense of incongruity there.¹⁴ Namely, the semantics of causation is not so intimately linked to the deliberate causation of things falling to the ground, as it is in the case where such falling is brought about unintentionally. In other words, although the semantics of causation does exist here as well, in the case of deliberate dropping of the things it is only secondarily linked to the action designated by the verb. We may say it has been detopicalized and thus made redundant in the paraphrase. This further implies that there is no need to code the subject properties on two elements, and has repercussions on the structural description of the sentence, i.e. on the valency potential, or government potential of the verb *ispustiti*. Therefore, an appropriate paraphrase of the sentence *Ispustio sam stvari na pod (kako bih pomogao djetetu)* 'I've dropped the things on the floor (to help the child)' could perhaps read *Bacio sam stvari na pod (kako bih pomogao djetetu u nevolji)*. 'I threw my things on the floor (to help the child.)' where intention has been put into focus (and is coded as a dependent purpose clause). By introducing the element of causation in the paraphrase, we may also explain why the verbs *iskliznuti* 'slip out' and *ispasti* 'fall out' take a marginal participant as action initiator, namely, one that has both the features of an effector (+non-volitional) and of an agent (+animate, +human). Moreover, its nonprototypical morphosyntactic coding (dative) is a result of the valency anomaly of these verbs, which in turn is triggered by the fact that the direct manipulation scenario is not initiated by a prototypical agent.

We have still not addressed properly the question of the syntactic function of the dative *mi*. Obviously, it is neither the subject, nor the object, nor it could be treated as possessive dative. For lack of a better solution, we propose for the time being that the dative functions as an internal syntactic argument which is an undisputed bearer of the role of nonprototypical agent (one from the wider semantic field of agent); it has

14. Remember that the verbs *iskliznuti* and *ispasti* can only take nonvolitional and unintentionally acting agents.

emerged after the compression of the topicalized causal semantic field from a roughly equivalent complex structure which contains semantically equivalent prototypical nominative subject. The above examples show that the dative NP does not have a clear syntactic function, that is, it is not clear which grammatical relation to assign to it. It has the coding properties of an indirect object, but it has the semantic and pragmatic properties of prototypical subjects. Since most definitions of subject (for example: Dik 1978, 1989; Givón 1984; Langacker 1991) include also the semantic or pragmatic elements, the notion subject is often confusing and its morphosyntactic properties should be terminologically distinguished from its semantic and pragmatic properties. All in all, whatever approach one assumes, it is for our purposes important to stress that in cases such as the one above we have yet another case of syntactic anomaly, which is triggered by the presence of nonprototypical agents as initiators of the trajector's transition from an intralocative to an extralocative state.

Before we conclude our discussion of valency anomalies, we turn briefly to group 2.1.8. (*ispovraćati se* 'out-vomit REFL', *isplakati se* 'cry one's heart out', *iznojiti se* 'out-sweat REFL'). The verb *iznojiti se* is a reflexiva tantum verb. These verbs are unacceptable without the particle *se* in whatever form (compare **sweat out sweat*) because their subjects are by definition non-volitional and unintentional. The verb *ispovraćati (se)* most frequently appears in the reflexive form as vomiting itself is typically done unconsciously and unvolitionally (though the verb may become transitive, and have a prototypical agent subject, when vomiting is done intentionally, as in cases of eating disorders). However, the verb *ispovraćati (se)* is interesting in that it frequently appears in a reflexive form even when vomiting is done intentionally (we may say *Odmah nakon jela ispovraćala je sve što je pojela*. 'Right after the meal she vomited up (lit. 'out-vomited') all that she had eaten'; but also *Odmah nakon jela otišla se ispovraćati*. 'Right after the meal she went to vomit REFL'). This leads us to the conclusion that the verb *ispovraćati (se)* does have immanent the property of unintentionality on the side of the agent. The verb *isplakati (se)* behaves similarly. It also appears in both the reflexive and the transitive form, only the former seems to be much more frequent than the latter since cases of intentional crying seem to be much rarer (almost nonexistent in everyday life) than cases of unintentional vomiting, i.e. the subject of the verb *isplakati (se)* almost always belongs to the wider semantic field of agent. In its transitive form the verb only appears in stylistically highly marked contexts like^{??} *cry tears*, as in literary style, i.e. poetry.

Syntactic anomalies of the verbs from group 2.1.11. (*ishlapiti* 'go flat (of wine)', *ispariti (se)* 'evaporate' – lit. 'out-vapor REFL', *izvjetriti (se)* 'air out' – lit. 'out-wind REFL' > *izumrijeti* 'die out', *istrunuti* 'rot out'), i.e., their transitivity or reflexivity, also mirror the nonprototypical status of action initiators. In terms of valency, the most anomalous of all is the verb *ishlapiti*, which is intransitive, followed by the redundantly reflexive verb *ispariti (se)* and finally by verbs like *izvjetriti (se)*, *izračiti (se)*... which appear both in a reflexive and in a transitive form. This seems to be so because with the verbs *ishlapiti* and *ispariti (se)* the initiator of the trajector's transition from an intralocative state to an extralocative state is an inaccessible effector – like heat *ispariti (se)* or air

ishlapiti. Verbs like *izvjetriti* (*se*) can become transitive if the agent is prototypical (compare *Izvjetrio je (izračio je) prostoriju jer je bilo puno dima*; 'He aired the room because it was full of smoke'). However, even in cases when these verbs appear in a reflexive form (*Prostorija se izvjetrila/izračila*, lit. 'Room REFL out-wind-PAST/out-air-PAST'), the initial cause, i.e. the entity whose action enabled the airing, is frequently an agent; windows or the door cannot open on their own to let the effector (air) do the airing (except in cases of a draft). The reflexive form of such seems to be the strategy used to detopicalize the information-poor, i.e. pragmatically unacceptable agent and effector (*Ivan je otvorio prozore kako bi svježi zrak mogao ući i izračiti prostoriju* 'Ivan opened the windows so that fresh air could come in and air out the room').

The verbs *istrunuti* and *izumrijeti*, which are 'appended' to the verbs in group 2.1.11 via meaning chains, are intransitive because the cause of rotting and dying out is time, as perceptually the most inaccessible effector. The syntactic anomalies in this group raise an interesting question, which, admittedly, has nothing to do with the question of semantic roles attributable to the action instigator. The question is: why is the verb *ishlapiti* 'go flat' intransitive (*Vino je ishlapilo* 'The wine went flat'/**Vino se ishlapilo* 'The wine went flat REFL'), whereas the verb *ispariti* (*se*), lit. 'out-vapor (REFL)' is redundantly reflexive? That is, why can the verb *ispariti* (*se*) have both an intransitive and reflexive form (*Voda je isparila* 'Water has out-vapored'; *Voda se isparila* 'Water REFL out-vapored'), when in fact we have two verbs with almost identical meaning. One intuitively appealing explanation might be that the verb *ishlapiti* does not contain a trajector in its lexical entry, i.e. the entity that evaporates (**hlap* *hlapi*), while the verb *ispariti* (*se*) does (vapor out-vapors (REFL)). However, this issue merits a more detailed investigation.

And finally, group 2.1.12 appears to be the most peripheral of all (*isklijati* 'sprout', *izniknuti* 'spring', *izrasti* 'grow out') given its valency potential. All the verbs are intransitive because, as with some verbs from group 2.1.11, action of the instigator of transition is highly inaccessible; the transition is a result of joint impact of both heat and time.

3. Conclusion

The semantic analysis of verbs with the prefix *iz-* presented above supports the idea that the meanings of a verbal prefix may be held together by a single schematic feature. Moreover, this single schematic meaning seems to be the core of their semantic description and is the first and the essential step in the semantic analysis of prefixed verbs. Such an analysis may be also applicable to other verbal prefixes in Croatian (see Belaj 2008), and I believe in other languages too, but the question of the function of this schematicity in the communicative process, i.e. the question of the awareness of speakers of the existence of one such feature, is matter for further empirical, primarily psycholinguistic research. We must also emphasize that this analysis should by no means be considered final, since due to the size of the potential corpus, a verb could crop up that would not fit in any of the groups we have proposed. But it seems likely

that any such new members would tie into the picture we have just developed, and elaborate or extend the schematic pattern presented in the analysis above.

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The conceptual motivation of bahuvrihi compounds in English and Spanish*

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This chapter investigates a representative sample of English and Spanish bahuvrihi compounds (BCs). The main thesis is that, although BCs are motivated by the overriding metonymy CHARACTERISTIC PROPERTY FOR CATEGORY, the property itself can be conceptualized “literally” (as in *humpback* or *dos piezas*), metonymically (as in *acidhead* or *simpecado*), or metaphonymically, with two major types and several subtypes (*fathead*, *cabeza cuadrada*, *featherweight*, *caradura*). The analysis is followed by a brief discussion of the connection between the semantics of BCs and their grammatical and prosodic form, and by some remarks on the contrasts between the two languages.

Keywords: exocentric compounds, metaphor, metaphonymy, metonymy, prosodic and grammatical form

1. Introduction

In cognitive linguistics, the notion of grammatical construction includes lexical items (Langacker 1987: 58) like bahuvrihi compounds. It has long been known that metonymy is involved in the meaning of *bahuvrihi* compounds. However, their detailed semantic characterization requires much more than just pointing out this general involvement of metonymy: It is also necessary to specify whether only one or more metonymies or other factors, especially metaphor (which regularly interacts with metonymy in linguistic meaning), are also involved. Moreover, it is also necessary to investigate whether the semantics of these compounds motivates to some extent their prosodic and grammatical form.

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In Section 2, I briefly introduce and discuss the notion of *bahuvrihi* compounds. In Section 3, I present the goals and methodology of the project partially reported in the chapter. Section 4 is devoted to the presentation of the analysis of a number of representative compounds in English and Spanish. Section 5 includes a brief exploratory discussion of the connection between the semantics of these compounds and their grammatical and prosodic form. In Section 6 I offer a few remarks on some contrasts observable between both languages, and in the final section I present the conclusions.

2. On the notion of *bahuvrihi* compounds

The word *bahuvrihi* is a Sanskrit term, meaning literally ‘much rice’, and designating by extension ‘a rich person, one who has much rice’ (www.haryana-online.com/sanskrit.htm). An initial, informal definition of this type of compounds is the following: *Bahuvrihi* compounds jointly denote a type of entity via one of the characteristic properties of that entity (for similar definitions, see Huddleston and Pullum 2002: 1651–1652; Jespersen 1909–1949: VI, 149–152; Quirk et al. 1985: 1576). For instance, *highbrow* ‘intellectual’, becomes conventionalized on the basis of the popular belief that intellectuals are characterized by having a lofty expanse of forehead.

Let us now enumerate some of the main properties of *bahuvrihi* compounds:

i. Metonymy is involved

It should be obvious even from this simple definition (at least to a cognitive linguist), that metonymy is involved in the standard meaning of these compounds, as will be claimed below in greater detail. Jespersen had already realized this fact (he seems to have been one of the few descriptive grammarians to do so):

They [*bahuvrihi* compounds] must be classed simply as instances of the stylistic trick called *pars pro toto*, which is found with compounds as well as simple words (cf. *buttons* ‘liveried page’: vol II 5.723 and below 8.9₂), and also with free syntactic constructions: ‘faint heart never won fair lady.’ (Jespersen 1909–1949, VI: 149)

We shall call the metonymy motivating the development and basic meaning of these compounds CHARACTERISTIC PROPERTY FOR CATEGORY, since a category of entities is conceptualized and named on the basis of one of its salient properties.

ii. *Bahuvrihis* are a type of “exocentric” compounds

Exocentric compounds: Unlike “endocentric” compounds, exocentric compounds are *not* hyponyms of their grammatical head, because they can designate entities that are different from those that can be designated by their grammatical head (or profile determinant; see below). The entities designated by the compound as a whole are mentally accessed via the mention of one of their characteristic properties. But these

entities, i.e. the “semantic heads” of the compounds, are not mentioned explicitly. These compounds are thus often regarded as semantically headless compounds.

Take the noun *schoolgirl*, which denotes a type of girl; this compound is a hyponym of *girl* and is thus an “endocentric” compound. By contrast, *scarecrow* does not denote a type of crow, but something or someone used to scare birds (which are evoked by *crow*); and *fathead* does not denote a type of head, but a type of person (a stupid person). Both *scarecrow* and *fathead* are exocentric compounds, but of them only *fathead* is, additionally a bahuvrihi compound.

The difference between bahuvrihis and other exocentric compounds is sometimes not clear in the literature. In fact, bahuvrihis are often confused in the literature with some of the types of exocentric compounds, especially with the type *V+(object)N*, as exemplified by *pickpocket*, *breakwater*, *cut-throat*, *scarecrow*, or *turnkey* (Huddleston and Pullum 2002: 1652, Tuggy 2003). The *V+(object)N* type is very frequent in Spanish (*abrelatas*, *rascacielos*, *paraguas*, *sacapuntas*, *matarratas*, etc.) and is no longer productive in English, according to Huddleston and Pullum (2002: 1652). An excellent detailed contrastive study of Spanish and English *V+(object)N* exocentric compounds is Tuggy (2003).

In traditional Sanskrit grammar *bahuvrihis* are called “possessive” compounds. This means that they denote an entity by explicitly mentioning a *reified* characteristic property (either physical or abstract) that the entity *possesses* (in a broad sense of “possession”); the characteristic property is presented metaphorically or non-metaphorically as a (typically physical) “thing” (Langacker 1987). These compounds can thus often be paraphrased approximately by means of possessive constructions: *He has a fat head* – *He is a fathead*. In the two previous examples, the characteristic property is the abstract property “stupidity”, but this property is metaphorically presented as a physical “thing” (a “fat head”); in other bahuvrihis, the property is presented non-metaphorically as a “thing”: *He has a hump in his back* – *He is a humpback*. By contrast, exocentric *V+(object)N* compounds do not denote a reified property “possessed” by the entity, but a temporal relation (i.e. an event, an action or a process) in which the entity is typically involved: *scarecrow*, Spanish *abrelatas* (lit. ‘opens-cans’, can-opener), Sp. *matarratas* (lit. ‘killsrats’, rat poison).

A further minor difference is that bahuvrihis in English and Spanish (less frequently in Sanskrit) tend to denote people, whereas exocentric *V+(object)N* compounds tend to designate objects or instruments; but both types of exocentric compounds can be used to designate both types of entities.

On the basis of these differences (see also Tuggy 2003: fn 1), I have not treated exocentric *V+(object)N* compounds as types of *bahuvrihis* in the research reported in this chapter.

iii. *Bahuvrihi* compounds constitute a *prototype category*

Prototypical *bahuvrihi* compounds exhibit the following properties:

1. They are *exocentric* compounds where a characteristic property is used to denote an entity *not explicitly mentioned* in the compound. Non-prototypical category members in terms of this property would be compounds like *double-decker* (a bus characterized by having a double deck), where the “possessor” entity is schematically mentioned by means of the derivational nominalizing morpheme *-er* (see Langacker, 1991: 185).
2. The characteristic property is presented as a (typically physical) entity (hence it is reified). This property excludes *V+(object)N* exocentrics in principle from *bahuvrihis*.
3. There exists a “possessive” relation between the entity and its reified characteristic property: *redcoat* (a person that has/wears a red coat), *paleface* (a person that has a paleface). That is, in possessive constructions approximately paraphrasing the compound, the entity can be a reference point (Langacker 1993, 1999a) for the reified property: *John is a birdbrain* vs. *John has a bird brain*/*Mike is a baldhead* vs. *Mike has a bald head*. All *V+(object)N* exocentric compounds would in principle be excluded from the class of *bahuvrihi* compounds in terms of this property.
4. They *profile an entity* (or a type of entity) via the mention of its characteristic property; “profile” is used in Langacker’s sense. That is, they are *nouns* (see also Jespersen 1909–1949: 149) that can be the head of an NP. This property would in principle exclude similar compounds (treated by Jespersen as *bahuvrihis*) which only function as adjectives or adverbs, hence not profiling an entity, such as *al-icorto* (adjective only in Spanish); or *bareback*, *barefoot* (adjective or adverb).
5. Other properties:
 - a. They typically denote *people*, their second base normally indicating some part of the body or dress (Jespersen, *ibid*), and are often used as nicknames (Jespersen *ibid.*, Quirk et al. 1985: 1576; Barcelona 2004, for metonymy and paragon names), though they can also denote animals e.g. *redbreast*, plants e.g. *longleaf*, *whitethorn*, and inanimates e.g. *greenback*, a type of banknote, *hatchback*, a kind of car (Huddleston and Pullum *ibid*: 1652), even actions, as in *hot-foot* (Jespersen *ibid*).
 - b. When applied to people, they are typically derogatory (Huddleston and Pullum *ibid*: 1652; Quirk et al. *ibid*: 1576) and de-humanizing: People are metonymically reduced to a reified physical property, a “thing”.¹
 - c. They are typically informal in style (Quirk et al. *ibid.*).
 - d. In English, they typically respond to the morphosyntactic patterns Modifier Adjective+Noun Head (*fathead*) and Modifier Noun+Noun Head (*birdbrain*).

1. It may be argued that, when this dehumanizing effect is sought by the communicator or perceived by the addressee, a dehumanizing conceptual metaphor intervenes, whose target is the personal category conventionally denoted by the *bahuvrihi* and whose source is a nonpersonal category (ANIMALS, BODY PARTS, INERT PHYSICAL OBJECTS, etc.). In these cases, source and target are construed as maximally distinct frames.

- In Spanish, they typically respond to the morphosyntactic patterns Noun Head+Modifier Adjective (*caradura*) or Noun+Modifier Prepositional Phrase (*cabeza de chorlito*). Another frequent pattern is Numeral+Noun (*ciempiés*).
- e. They are limited in number in English (Huddleston and Pullum *ibid*: 1651–52) and apparently in Spanish, though they are still productive in both languages.

Not all of the items in the sample below respond to each of these properties, but most of them respond to properties 1–4.

3. Goal and methodology

The *goal* of the project partly reported in this chapter is to answer the following research questions:

- i. Can the metonymy CHARACTERISTIC PROPERTY FOR CATEGORY plausibly be argued to motivate the existence of *all* of the *bahuvrihi* compounds in the sample?
- ii. Is only that metonymy involved in the semantics of these compounds, or are other metonymies or metaphors also involved? If so, which are the main patterns of metonymy-metonymy or metaphor-metonymy interaction observable in these compounds?
- iii. Are there any systematic connections between the metonymic and metaphorical motivation and the grammatical and prosodic form of these compounds?
- iv. Are there any systematic semantic and grammatical differences between English and Spanish with respect to bahuvrihis?

The *methodology* to be applied in the development of the research project consists of the following steps:

- a. Compilation of a representative 40-item sample (20 bahuvrihis for each language), in two steps:
 - a–1. An initial random search of instances of these compounds in both languages (not many Spanish examples were found). Sources: Jespersen (1909–1949), Quirk et al. (1985), Huddleston and Pullum (2002), Real Academia Española de la Lengua (‘Royal Academy of the Spanish Language’) [RAE] (2001), Oxford English Dictionary [OED] (2002), and several additional internet sources. The results of this initial survey are displayed in Appendix 1. As can be seen there are obvious differences in morphosyntactic patterning between both languages. As can also be seen, the type of entity profiled by the compounds is not limited to people: It also includes physical objects, plants, animals and other entities
 - a–2. The selection of the 40-item sample from the list of items resulting from the initial survey.

The *criteria for selection* were the following:

1. Representation of the various morphosyntactic types in each language.
2. Representation of the various types of entities profiled by these compounds.
3. Representation of at least the fundamental types of metaphor-metonymy combinations in *bahuvrihis*. An initial list of such types results from an *adaptation* of Benczes' (2004, revised and published as Benczes 2006) larger scheme for figurative noun-noun (not only *bahuvrihi*) compounds:

Type a: The compound as a whole is metonymic. An example is *humpback*, which can profile a type of whale, or a person with a humpback.

Type b: Metaphorical modifier and metonymic profile determinant. An example is *acidhead* 'LSD user', according to Benczes; this type is the least satisfactory of Benczes' types, and was eliminated after analyzing in detail the semantics of *acidhead*, as it was found to be a variant of type a (see below).

The term *profile determinant* is borrowed from Langacker (1987: 235–236), and is the component of a construction that determines the type of conceptual region profiled by a construction as a whole (i.e. by the compound as a whole in this case), thus also determining its grammatical class. In most cases it is equivalent to what is normally called “head” in a phrasal construction, but the notion is broader (e.g. the preposition is the profile determinant in a prepositional phrase, since it determines the profile of the construction as a whole). In *acidhead*, the profile determinant is *-head*, which profiles a “thing” and the compound is therefore a noun.

Type c: Metaphorical relationship between modifier and profile determinant, with the profile determinant being metonymic. An example is *fathead* ‘stupid person’, similar to her *hammerhead* ‘stubborn’ example. The profile determinant is again *-head*, which profiles a “thing” and the compound is therefore a noun. Since Type b. was eliminated, I enlarged the coverage of Type c. to allow it to include all possible types of metaphor-metonymy interaction in the motivation of the compound that might be found in my corpus, and not only those where the modifier-profile determinant relationship is metaphorical.

With the above modifications, the initial list of types in terms of metaphor-metonymy combination has been reduced to these two general types:

Type 1: The compound is motivated by metonymy only.

Type 2: The compound is motivated by some type of metaphor-metonymy interaction.

The result of the selection following the three criteria is shown in Appendix 2. As can be seen, at least the major and some of the minor morphosyntactic types of *bahuvrihi* compounds in each language are represented in the appendix (if one compares it to longer Appendix 1). And so are the various types of entities profiled, in approximately the same proportion as in the list in Appendix 1. Finally, a preliminary analysis of the

items selected in terms of the first two criteria and gathered in Appendix 2 revealed that the two basic types (Type 1 and Type 2) of metaphor-metonymy combination are represented for both languages in the forty-item sample selected; thus we find cases like *humpback* 'person with a hump' or *pelirrojo* 'person with red hair, red hair' (where only metonymy is involved; see below) next to instances such as *fathead* or *featherweight* 'a pugilist who is very light in weight' (where metaphor interacts with metonymy).

- b. Semantic analysis of the 20 representative examples of *bahuvrihi* compounds in each language in terms of the interaction of metonymy and metaphor with the main components of their morphological structure. I have followed Barcelona (2002a) for metaphor and metonymy identification.
- c. Grammatical analysis of the two selected samples, following Cognitive Grammar (Langacker 1987–1991, 1993, 1999a) as regards grammatical theory and description.
- d. Contrastive analysis at both the semantic and the grammatical levels of the selected samples in the two languages

Of the above steps in the project, only step a. and most of step b. have been completed. The following section reports on some representative findings in step b. Sections 5 and 6 include some exploratory observations on, respectively, steps c. and d.

4. The analysis

The analysis of the 40-item sample has resulted in the following general pattern of metonymy-metaphor interaction in the conceptual motivation of these compounds:

1. The overall metonymy CHARACTERISTIC PROPERTY OF A CATEGORY FOR THE CATEGORY motivates the extensional range of these compounds, as it determines the category of entities (people, physical objects, plants, animals, etc.) designated by each compound.
2. The conceptualization of the characteristic property (which may also be called, using Langacker's (e.g. 1993, 1999a) terminology, the "reference-point property") mapped by the preceding metonymy responds to one of the following types:
 - a. The characteristic property is conceptualized nonmetonymically and non-metaphorically (i.e. "literally").
 - b. The characteristic property is conceptualized metonymically and non-metaphorically.
 - c. The characteristic property is conceptualized by means of metaphorico-metonymic interaction.

I have been able to identify so far several subtypes of types b and c but the precise determination and characterization of these subtypes, which is fairly complex, is still under way. In this chapter I will only be able to present the detailed analysis of one or two bahuvrihis representing each of the above types in each language.

The aspects contemplated in this analysis are the following:

- a. Conceptualization of the characteristic property of the category named by the compound that, via the CHARACTERISTIC PROPERTY FOR CATEGORY metonymy, is mapped onto the category (literally, metonymically, metaphorically, or by means of some pattern of interaction of metaphor and metonymy).
- b. Degree of prototypicality of the compound with respect to the category of bahuvrihi compounds as a whole (see Section 2, for the abstract characterization of the category prototype).

4.1 Compounds where the characteristic property (the reference-point property) is conceptualized nonmetonymically and nonmetaphorically (i.e. “literally”)

4.1.1 *An English item: Humpback* (‘person with a hump’)

Characterization of the compound in terms of the interaction of its conceptual make-up with the main components of its morphological structure:

1. The overall metonymy operating over the whole compound maps the characteristic property onto the category.
2. The characteristic property is *not conceptualized by means of metaphor or metonymy*. It is understood literally, i.e. as denoting a certain shape of a human back.

Prototypicality attributes; all satisfied: personal denotatum and derogatory and de-humanizing overtone, stylistically informal, and responding to a typical morphosyntactic pattern (N–N).²

4.1.2 *A Spanish item: Dos piezas* literally ‘two pieces’, ‘two-piece’ (a type of clothes)

This compound (not yet registered by most standard dictionaries,³ but very frequent in colloquial European Spanish) is conceptually, grammatically and phonologically a real compound, even if orthographically the two lexical morphemes are still treated as separate lexemes. Conceptually, the syntagm designates in Spanish a suit type consisting of two garments, either a jacket and trousers, or a coat and dress, matching or meant to be worn together. Phonologically, the syntagm has the typical prosodic pattern of compounds, with main stress and pitch rise on the last stressed syllable of the second component (*piezas*) and no stress or secondary stress and comparatively low

2. Since most of the bahuvrihi compounds in the sample exhibit the prototypical properties listed in Section 2 (c) under numbers 1–4, the differences normally arise with respect to the attributes listed under number 5 (personal denotatum and derogatory overtone, stylistically informal, and typical morphosyntactic pattern (limited productivity is another category-wide property, hence not significant in terms of internal category structure)).

3. One exception is the *Collins Spanish Dictionary*, 7th edition (2003), which registers the compound.

pitch on the first component. Grammatically, it can take singular concord despite the plural meaning of the noun phrase in which the compound originates (*dos* ‘two’ and *piezas* ‘pieces’): *Compré un dos piezas* (‘I bought a two-piece’), *Ese dos piezas me queda bien* (‘That two-piece becomes me’). The compound is equivalent in conceptual make-up to the English model for the type (*humpback*).

Characterization of the compound in terms of the interaction of its conceptual make-up with the main components of its morphological structure:

1. The overall metonymy operating over the whole compound maps the characteristic property onto the category.
2. The characteristic property is *not conceptualized by means of metaphor or metonymy*. The characteristic property (‘having/consisting of two-(clothing) pieces, two (main and individualizable) parts’) is conceptualized non-metaphorically and non-metonymically. In other words, the lexical morpheme {pieza} is understood in its abstract ‘literal’ sense here, as an ‘individualizable part of a whole’; its connection to clothing in the meaning of the compound is established directly against the conceptual background provided by the CLOTHES frame, which includes the knowledge that many clothes often consist of two pieces of garments, and the linguistic knowledge that *pieza* (and *piece* in English) is part of the lexicon of clothing.

The specific sense of this lexeme in the CLOTHES frame was probably motivated by metonymy (PIECE (CATEGORY) FOR PIECE OF CLOTHING (MEMBER)). But, once this sense has become a conventional sense of this lexeme, it is doubtful that that this metonymy still plays any major role in the conceptualization of the characteristic property mapped now by the *bahuvrihi* compounds *dos piezas/two piece* (the corresponding compound in English), into which the lexemes *pieza* and *piece* in their clothing sense are integrated as lexical morphemes.

Prototypicality attributes: Few of them satisfied: non-personal denotatum and attitudinally neutral overtone, stylistically neutral, and an untypical morphosyntactic pattern (Numeral-N).

4.2 Compounds where the reference-point property is conceptualized metonymically and non-metaphorically

4.2.1 An English item: Acidhead

The OED defines the slang term *acidhead* like this: ‘one who habitually takes the drug LSD’. In the same dictionary, we find that *head* (sub-entry 7e) can mean ‘a drug-addict or drug-taker; freq. with defining word prefixed, as *hophead*, *pothead*’. And *acid*, as used in *acidhead* (initially written *acid head*), *acid freak* and other combinations, means, according to the same dictionary ‘the hallucinogenic drug LSD’.

Characterization of the compound in terms of the interaction of its conceptual make-up with the main components of its morphological structure:

1. The overall *metonymy* CHARACTERISTIC PROPERTY FOR CATEGORY operating over the whole compound maps the characteristic property (HAVING A BRAIN USED TO, ADDICTED TO, etc. LSD) onto a category (LSD USERS).
2. The characteristic property is (or was originally) *conceptualized by means of metonymic interaction*:
 - SALIENT PART OF FORM (ACID) onto WHOLE FORM (THE FORMULA “LYSERGIC ACID DIETHYLAMIDE”), operates on the modifier, to identify the kind of drug involved.
 - CONTAINER (HEAD) FOR CONTENT (BRAIN) operates on the profile determinant to activate one of the notions (BRAIN) involved in the characteristic property mapped by 1.
 - An active zone metonymy maps BRAIN onto its relevant active zone in its conceptual composition with LSD (“acid), namely the conceptual relation BRAIN USED TO/ADDICTED TO LSD).
 - The metonymy BODY PART (HEAD) FOR PERSON (LSD USER), operating over the profile determinant, helps identifying the target category in the overall metonymy (1) as a category of people, in conjunction with the three previous metonymies (which in turn evoke people-related mental spaces such as drugs and addiction), and of course, and fundamentally, with the discourse and social context.

Prototypicality attributes: All of the category-wide prototypicality attributes for *bahuvrihis* are manifested by this compound. Apart from attributes 1–4 discussed in Section 2, it also exhibits the attributes 5a–e listed in the same section: personal reference, derogatory and de-humanizing, informal (slang in most cases) and N–N morphosyntactic pattern.

4.2.2 A Spanish item: ‘Simpecado’

Simpecado (lit. ‘without sin’). Its core meaning could be described as a banner bearing the legend “sin pecado concebida”, literally ‘without sin conceived’. But the meaning of the compound is richer and is understood against the background of a complex pattern of social practices: It actually designates the banners that precede the images of the Holy Virgin Mary in the famous Easter religious processions in Seville, Spain; the banners bear the Latin inscription *sine labe concepta* (‘conceived without sin’).

The compound is morphosyntactically (cf. the *sin*-noun structure) connected to the Spanish noun compound *sinvergüenza* (lit. ‘without shame’, i.e. ‘scoundrel, a shameless person’). Despite this morphosyntactic similarity, and despite the basic negative meaning of the lexical morpheme {sin} (‘without’), the characteristic property mapped onto the category designated by the compound is not presented negatively in *simpecado*, but positively. Rather than being paraphrasable negatively as ‘has no sin’, the meaning of the compound should be paraphrased positively as “has the ‘without-sin’” because the expression ‘without sin’ in its Latin equivalent (*sine labe*), appears prominently on the banner.

But this is not the only difference between this highly idiosyncratic compound and *sinvergüenza*. The reference-point property in the latter (“not having any shame”) is understood nonmetonymically and nonmetaphorically.⁴ But the reference point in *simpecado* is conceptualized metonymically. Let us see the details below.

Characterization of the compound in terms of the interaction of its conceptual make-up with the main components of its morphological structure:

1. The *overall metonymy* CHARACTERISTIC PROPERTY FOR CATEGORY operates over the whole compound and maps this characteristic property onto the category (of banners) exhibiting it.
2. The characteristic property is itself *conceptualized by means of metonymic interaction*:

Two chained metonymies operate over the whole compound:

- One form-level metonymy (SALIENT PART OF FORM FOR WHOLE FORM) maps the initial prepositional phrase in the legend onto the whole legend. This phrase is a salient part because of its initial position, and because of its conceptual salience with respect to the social meaning of the whole legend; these two factors jointly make it more useful to evoke the whole legend than the final participle (*concebida*).
- One content-level metonymy, which could be described as either LEGEND FOR BANNER OR SALIENT LOCATED FOR LOCATION, maps the legend onto the banner bearing it that is thus mentally activated.

Prototypicality attributes. This is clearly a non-prototypical bahuvrihi. Even though it manifests the basic prototypical properties 1–4 in Section 2, it manifests few of those listed in 5 a-e: Its standard referent is not personal and its attitudinal meaning is not derogatory, it is not stylistically informal and its morphosyntactic pattern (Preposition-Noun) is untypical of bahuvrihi compounds as a whole, and of nominal compounds in general.

4.3 Compounds where the reference-point property is conceptualized by means of metaphorico-metonymic interaction

That metaphorico-metonymic interaction responds to two major subtypes:

- The reference-point property is conceptualized by means of a metaphor motivated by metonymy-highlighted *correlation* between metaphorical source and metaphorical target.

4. Unless we assume that any possessive construction where the entity possessed is an abstract entity involves a metaphorical mapping. These cases would be instances of the general metaphor ABSTRACT NOTIONS ARE PHYSICAL ENTITIES. If so, instances like *sinvergüenza* would constitute one more subtype of the type of bahuvrihis, treated below in 4.3., where the characteristic property is conceptualized metaphorically and perhaps also metonymically (the implicature leading to the opposite property would be based upon a metonymy).

- The reference-point property is conceptualized by means of a metaphor motivated by the generalization of a metonymy.

These two major types correspond to the two main types of the metonymic motivation of metaphor proposed by Barcelona, 2000.

4.3.1 *Compounds where the reference-point property is conceptualized by means of a metaphor motivated by metonymy-highlighted correlation between metaphorical source and metaphorical target*

A. An English item: *Fathead* ('stupid person')

This compound instantiates Benczes' type c (see Section 3). But the interaction of metaphor and metonymy is fairly complex in this case, and its description cannot be reduced to stating that the profile determinant is metonymic (*head*) and that the relationship between it and the modifier is metaphorical.

Here the notion of *FATNESS* is metonymically understood from the perspective of the associated notion of *SLOW FUNCTIONING* (since fat animals and people tend to move slowly and lack agility). And the notion of *STUPIDITY* is also understood from the perspective of the same associated notion (*SLOW FUNCTIONING*). These two metonymies, which share the same source, make it possible to pick out the abstract similarity (the abstract correlation) holding between *FATNESS* and *STUPIDITY* (since both are metonymically understood as *SLOW FUNCTIONING* – physical in one case and mental in the other), thus motivating, i.e. making conceptually possible (see Barcelona 2000), the overall metaphorical mapping of *FATNESS* onto *STUPIDITY* in this and in similar expressions (e.g. *a thick-head*, *a thick-headed person*). On the other hand, the *HEAD* is a metonymic source for the most salient part of its content, the brain, and through the latter, for the folk-theoretical "content" of the brain, namely *INTELLIGENCE*; this metonymy reinforces the metaphorical interpretation of the compound in the domain of mental functions. The *HEAD* is also often, as in this case, a metonymic source for the whole person. The meaning of this compound might, then, be regarded as simply the output of this metaphor-metonymy interaction, since it contributes the two main components of the meaning of the compound: stupidity and personhood.

However, since all *bahuvrihis* and all other exocentric compounds indirectly denote a kind of entity by mentioning directly a characteristic property (a physical, intellectual, or moral trait, or a characteristic function, behavior, etc.), it may be argued that the conceptual factor that decisively leads to the conventionalization of these compounds as common nouns (i.e. as category labels) is the overriding conceptual metonymy *CHARACTERISTIC PROPERTY FOR CATEGORY*. That is, *fathead* denotes the *class* of people characterized by being dim-witted, by having slow-functioning brains, just as the V-O exocentric compound *scarecrow* denotes the type of person or device whose function is to scare birds (which are metonymically activated by *CROW*) away from crops. This *overriding metonymy* operates on the basis of the metaphors and

metonymies that yield the other essential facets of the meaning of these compounds, and it explains their “exocentric” nature.

Characterization of the compound in terms of the interaction of its conceptual make-up with the main components of its morphological structure.

1. The *overall metonymy* CHARACTERISTIC PROPERTY FOR CATEGORY operates over the whole compound and maps this characteristic property onto the category (of people) exhibiting it.
2. The reference-point property is conceptualized by means of a *metonymy-based metaphor* (STUPIDITY IS FATNESS) operating over the modifier-profile determinant connection.

The metaphor is in turn motivated and activated by two metonymies capturing the abstract correlation between metaphorical source and target:

- One of them operates over the modifier morpheme {fat} and within the source domain FATNESS: (SLOW PHYSICAL FUNCTIONING (EFFECT) FOR FATNESS (CAUSE)).
- The other operates within the metaphorical target domain STUPIDITY, in turn metonymically activated by the profile determinant morpheme {head}: SLOW MENTAL FUNCTIONING (EFFECT) FOR STUPIDITY (CAUSE).
- The activation of the metaphorical target (STUPIDITY) is further reinforced by a metonymic chain operating over the profile determinant of the compound (HEAD FOR BRAIN FOR INTELLIGENCE).
- The personal character of the category activated by the overall metonymy CHARACTERISTIC PROPERTY FOR CATEGORY is further reinforced by the latent metonymic connection between HEAD (SALIENT PART) and PERSON (WHOLE).

Prototypicality attributes: All of those listed in Section 2 are satisfied, thus the compound ranks very high with respect to the category of bahuvrihis as a whole.

B. A Spanish item: *Cabeza cuadrada*

This semantic, syntactic and phonological⁵ (though not yet orthographic) compound, according to the authoritative dictionary of the RAE, means “persona metódica y

5. The prosodic pattern in the syntagm responds to the typical pattern in Spanish compounds (with main lexical stress and intonation change occurring on the final syllable), which reflects its semantic and syntactic cohesion; with respect to the latter, the gender concord of the compound can vary depending on its intended referent. Thus, if the referent of the noun phrase headed by the compound is an identified male person, the correct form is *el cabeza cuadrada* (with the singular masculine definite article *el*), instead of *la cabeza cuadrada* (with the singular feminine definite article *la*), which would be the correct form in terms of the grammatical gender of the head lexical morpheme *cabeza* (‘head’), which is feminine in Spanish when it constitutes an independent noun lexeme. When *la cabeza cuadrada* manifests the bahuvrihi, its referent would be a female person, not a head with a square shape.

demasiado obstinada” (‘a methodical and too obstinate person’), but it is almost exclusively used in the second part of this meaning (“too obstinate a person, an excessively stubborn person”). The dictionary marks the syntagm as stylistically “colloquial”.

Characterization of the compound in terms of the interaction of its conceptual make-up with the main components of its morphological structure:

1. The *overall metonymy* CHARACTERISTIC PROPERTY FOR CATEGORY operates over the whole compound and maps this characteristic property onto the category (of people) exhibiting it.
2. The characteristic property mapped is itself *conceptualized by means of metaphor-metonymy interaction*:
 - Through a *metonymy-based metaphor* (STUBBORNESS IS GEOMETRICAL SQUARENESS) operating over the modifier-profile determinant connection.
 - The metaphor is in turn motivated and activated by two metonymies capturing the abstract correlation between metaphorical source and target.
 - One of them operates over the modifier lexical morpheme {cuadrada} and within the source domain GEOMETRICAL SQUARENESS, which is metonymically understood in terms of one of its concomitant properties, UNCHANGEABILITY OR RIGIDITY IN SHAPE. The metonymy would then be UNCHANGEABILITY OR RIGIDITY IN SHAPE (CONCOMITANT PROPERTY) FOR GEOMETRICAL SQUARENESS (PROPERTY)). This property, UNCHANGEABILITY/RIGIDNESS, can be said, in turn, to be metonymically connected, as CAUSE, to its EFFECT, namely, the SPATIAL INADAPTABILITY of a given geometrical square to the properties of even slightly different spatial configurations, if the square is mapped or superimposed onto them; e.g. a 2 x 2 inch square mapped (for descriptive, measuring or other purposes) onto a 4 x 4 inch square surface or onto a circle or an amorphous surface. And a further metonymic CAUSE-EFFECT connection leads us from the SPATIAL INADAPTABILITY of that square to its INADEQUACY as a template to gauge the spatial properties of those other configurations.
 - The other metonymy operates within the target domain STUBBORNESS, which is in turn metonymically activated by the profile determinant morpheme {cabeza}, and which is also understood in terms of a concomitant property: MENTAL UNCHANGEABILITY (CONCOMITANT PROPERTY) FOR STUBBORNESS (PROPERTY). This property, MENTAL UNCHANGEABILITY, can be said, in turn, to be metonymically connected, as CAUSE, to its EFFECT, namely, MENTAL INADAPTABILITY. A “stubborn mind” cannot adapt easily even to situations which may differ minimally from those presupposed by its “mental configuration” (i.e. by the set of principles, prejudices, theories, expectations, making up such a mind etc.). Again, a further metonymic CAUSE-EFFECT connection leads us from the MENTAL INADAPTABILITY of that mind to its INADEQUACY as a template to gauge the (abstract, social, emotional, etc) properties of those situations.

- The activation of the metaphorical target is possible additionally thanks to the metonymic chain operating over the profile determinant of the compound (HEAD FOR BRAIN FOR MIND, or simply HEAD FOR MIND). Prototypicality attributes. These are almost all satisfied: Personal denotatum and derogatory overtone, stylistically informal, and a typical morphosyntactic pattern in Spanish (N-Adj); however, its prototypicality should rank slightly lower, if we take into account that its orthography does not reflect its semantic and grammatical status as a lexical unit (compare this bahuvrihi compound, written as two orthographic words, with e.g. *fathead*, written as one orthographic word).

As in *fathead*, the personal character of the category activated by the overall metonymy characteristic property for category is reinforced by the metonymic connection between head (salient part) and person(whole).

4.3.2 *Compounds where the reference-point property is conceptualized by means of a metaphor motivated by the generalization of a metonymy*

A. An English item: *featherweight*

These are the main current senses of the lexeme, according to the OED:

1. “That which has the weight of a feather; hence a very small thing”.
2. “*Racing*. The lightest weight allowed by rules to be carried by a horse in a handicap. Hence sometimes applied to the rider”.
3. “*Boxing*. Applied to a pugilist who is very light, as distinguished from a *heavy*-, *middle*-, or *light-weight*”.

There is a fourth sense whereby the compound can denote a type of very light paper.

The sense we are concerned with here is OED sense 3. It is obviously connected to sense 1, of which sense 2 is also obviously an extension. An important point is that sense 3 designates a particular value in a small contrastive lexico-semantic set encoding the “boxer classification scale” within the conceptual frame for boxing; therefore, this sense is not simply an extension from sense 1, since an important part of its overall semantic structure derives from its contrast with the other subcategories in the boxer classification. These subcategories include, among others, *strawweight*, *flyweight*, *bantamweight*, *featherweight*, *lightweight*, *welterweight*, *middleweight*, *heavyweight*, and *cruiserweight*.

Characterization of sense 3 of the compound in terms of the interaction of its conceptual make-up with the main components of its morphological structure:

1. Overriding metonymy guiding/motivating the denotational value of the compound as denoting *an official category of boxers*: CHARACTERISTIC PROPERTY (HAVING VERY LIGHT WEIGHT) FOR CATEGORY (THE CATEGORY OF VERY LIGHT PHYSICAL ENTITIES).
2. The characteristic property is conceptualized by means of metaphor-metonymy interaction. The *metonymy-based metaphor* A VERY LOW WEIGHT IS THE WEIGHT

OF A FEATHER arises on the basis of the *generalization* or *decontextualization* of the metonymy SALIENT MEMBER (THE WEIGHT OF A FEATHER) FOR CATEGORY (THE CATEGORY OF “VERY LOW WEIGHTS”). An instance in which this metonymy has not generalized to the metaphor would be a sentence like this: *This garbage bag is very light, because it just contains a few chicken feathers* (the implicature that the causal clause is relevant for the topic of the main clause is guided by the above metonymy: FEATHER WEIGHT activates VERY LOW WEIGHT; on the role of metonymy in implicature, see e.g. Barcelona 2002b, 2003b, 2005, and the various other essays in Panther and Thornburg 2003). When feathers are no longer physically involved in the situation evoked by a sentence, the use of the concept FEATHER becomes a generalized metaphorical source for the target VERY LOW WEIGHT, as in *This garbage bag is really feather-weight: it only contains three banana skins and a few fish bones*.

This metonymy-based metaphor accounts for the reference-point property mapped in the bahuvrihi meaning registered as sense 1. Its ability to denote a category of physical entities is due, as in every bahuvrihi, to the overall metonymy CHARACTERISTIC PROPERTY (HAVING VERY LIGHT WEIGHT) FOR CATEGORY (THE CATEGORY OF VERY LIGHT PHYSICAL ENTITIES).

The phrasing by the OED of the definition of sense 1 is misleading, as it seems to suggest that the meaning is due to simile (“the weight of a feather”), but the intent of the definition is to suggest that the meaning is due to metaphor (i.e., the idea is not that *featherweight* denotes something having the same or almost the same weight as a feather, but simply a physical entity which is very light in comparison with the typical entities in their category; this is made clear by the examples used by the dictionary to illustrate the sense, in which the compound is applied mainly to people).⁶

Sense 3 arises through the application of sense 1 to one particular type of (comparatively) very lightweight physical entities, namely the members of the boxer subcategory coded by *featherweight*, who are very lightweight in comparison with the members of the other boxer subcategories. This extension is now due to the metonymy CATEGORY (THE OVERALL CATEGORY OF PHYSICAL ENTITIES CHARACTERIZED BY HAVING VERY LOW WEIGHT, i.e. by being “featherweight”) FOR MEMBER (THE SUBCATEGORY OF BOXERS CHARACTERIZED BY HAVING VERY LOW WEIGHT IN COMPARISON WITH OTHER BOXER SUBCATEGORIES).

Prototypicality attributes. Not all of them satisfied, for which reason the bahuvrihi does not rank high in prototypicality: Personal denotatum (but the overtone is neutral and not derogatory), stylistically neutral (rather than informal), and responding to a typical morphosyntactic pattern (N-N).

6. The examples also include instances in which *featherweight* is metaphorically applied to unimportant abstract notions, but this is a special additional extension of sense 1 that does not concern us here.

B. A Spanish item: *Caradura* (lit. 'hard face') 'cheeky person'

The personal sense of this compound being examined here is a metonymic extension (CHARACTERISTIC PROPERTY FOR CATEGORY) from its non-personal sense (*Tuvo la caradura de pedirme más* 'He had the cheek to ask me for more') in which the compound designates the main property of cheeky people, namely "impudence, cool confidence" (which in English is figuratively coded by one of the senses of the nouns *cheek* or *nerve*). The conceptual make-up of the nonpersonal sense ("cheek") of the compound is inherited by its personal sense ("cheeky person") as the reference-point, characteristic property mapped onto the entity bearing it.

This reference-point property is conceptualized by means of metaphorico-metonymic interaction and by means of the composition of two metonymy-based metaphors. The *main metaphor* is BEING COOLLY IMPUDENT/AUDACIOUS AND NOT SHOWING THAT ONE IS EMBARRASSED IS KEEPING ONE'S FACIAL EXPRESSION UNALTERED. Note that the expression *caradura* can be used of someone whose face may not be seen at the moment, or has never been seen by the speaker/writer (e.g. when commenting on someone that the speaker has only met through correspondence); that is, the source frame KEEPING ONE'S FACIAL EXPRESSION UNALTERED is generalized outside the visual domain and mapped abstractly onto a certain type of behavior, and this is the reason why we have metaphor.

The metaphor is based on the *generalization* (i.e. the *decontextualization*) of an experienced-based metonymy: NOT ALTERING ONE'S FACIAL EXPRESSION TO SHOW ONE'S EXPECTED EMBARRASSMENT (EFFECT)⁷ FOR BEING COOLLY IMPUDENT (CAUSE). This metonymy is in turn combined with the metonymy FACE (BODY PART) FOR EXPRESSION OF EMOTIONS/ATTITUDES (BODY PART FUNCTION), i.e. FACE FOR FACIAL EXPRESSION; this simpler metonymy contributes the notion FACIAL EXPRESSION OF EMOTION to the other metonymy.

But the notion of UNCHANGEABILITY, already present in the main metaphor, is vividly emphasized by another metonymy-based metaphor that is *subsidiary* to the main metaphor in the conceptualization of the reference-point property, namely AN UNALTERED FACIAL EXPRESSION IS A HARD OBJECT. This second metaphor has a clearly hyperbolic effect, and unlike the main metaphor, is based on the metonymically captured correlation between its metaphoric source and its metaphoric target. This correlation is captured by means of the metonymic understanding of both the metaphoric source and the metaphoric target:

- Metonymic understanding of the metaphoric source HARD OBJECT, which is a CATEGORY of objects, in terms of a SALIENT PROPERTY, namely RESISTANCE TO CHANGE IN SHAPE. Hard objects are known to be less flexible and more resistant to shape change than softer objects. This metonymic understanding of the metaphoric source as RESISTANCE TO CHANGE IN SHAPE (MEMBER) is further generalized

7. Because of the feeling of shame that most people are expected to experience when behaving improperly, and because of the possible reactions of others to such behavior.

metonymically to RESISTANCE TO CHANGE IN GENERAL APPEARANCE (CATEGORY), in order to set up the correlation with the metonymic conceptualization of the metaphoric target (see below).

- Metonymic understanding of the metaphoric target UNALTERED FACIAL EXPRESSIONS, which is a CATEGORY of facial expressions, in terms of a SALIENT PROPERTY, namely RESISTANCE TO CHANGE.⁸

These two metonymic conceptualization allow us to capture the abstract (metaphoric) similarity between hard objects and inexpressive facial expressions.

As can be seen, *caradura* constitutes a blend between the types in Section 4.3.1 (reference-point property conceptualized by means of a metaphor motivated by metonymy-highlighted *correlation* between metaphorical source and target) and Section 4.3.2 (reference-point property conceptualized by means of a metaphor motivated by the generalization/decontextualization of a metonymy). Since in *caradura* the second type of metaphor is the fundamental metaphor, I have included the compound as a (non-prototypical) instance of the type treated in 4.3.2., but it could also be regarded as a non-prototypical variant of the type treated in 4.3.1. These blends of patterns in the conceptualization of the characteristic property occurs frequently in my data.

5. Grammar and phonology

This section is concerned with research question (iii) (“Does there exist any systematic connection between their metonymic and metaphorical motivation and their grammatical and prosodic form?”).

I have only been able so far to begin to explore this issue. Therefore, I can only offer below a few *tentative* suggestions.

5.1 Bahuvrihi compounds as grammatical constructions

In Cognitive Grammar (CG), *bahuvrihi* compounds would be treated as a type of *reference-point construction* (Langacker e.g. 1993, 1999a), whereby a *reified* characteristic property (see the circle enclosing R_p in Figure 1) of a category is a reference point providing mental access to a target (T) constituted by that category (c); the whole category is represented as T_c . Since the property is supposed to be a “part” of the “dominion” (D) constituted by the category, T and D collapse, and the target is then the whole dominion represented by the larger circle. The dashed arrows linking C to R and R to T “indicate the mental path the conceptualizer follows in reaching the target” (Langacker 1999a: 173–174). Cognitive salience is indicated by means of boldface lines and circles.

8. An unaltered facial expression is one resistant to change, not only in geometrical “shape” (as from a sad look to a smiling look), but also to change in other possible dimensions determining its general appearance to an observer, such as blushing (a cheeky person would manage not to blush) or blinking (again a cheeky person might manage not to blink).

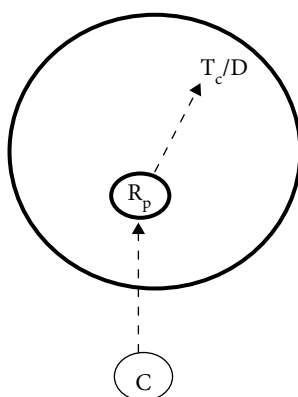


Figure 1. A schematic representation of the reference-point construction in a bahuvrihi compound

This reference-point construction in this case is a metonymy, hence an *asymmetric mapping* whereby the target is perspectivized from the source R (Barcelona 2002a, 2003a). As stated in Section 3, the reified conceptualization of the reference-point property is one of the factors that distinguish *bahuvrihis* from exocentric V-0 compounds. In the latter, the reference-point property would be a *relationship* (in Langacker's sense), and its diagrammatic representation would not be the one for "things" (one circle), but the corresponding diagram for relationships, specifically for processes.

A detailed representation in CG notation of the constructional structure of a bahuvrihi compound would have to include at least a separate (complex) diagram representing the conceptualization ("literal", metonymic or metaphorical) of the reference-point property (a property is a "relationship" in CG), which would be connected to the R_p symbol by means of a correspondence line (for a CG account of metonymy and metaphor, see Langacker 1999b). It would also connect this fuller representation of its built-in reference-point construction to the "surface" phonological (especially prosodic) and morphological structure of each compound (i.e. to the fully specified constructional schema for compounding applicable in each case). Finally, this further specified representation of the reference-point construction would be included in constructional schema for nominal predications, where the region profiled would be precisely the category labeled by the bahuvrihi noun; since this category corresponds precisely to the target and the dominion of the reference point construction, this fact would have to be indicated in the final diagram. In this diagram, furthermore, maximum profiling would be assigned to the target category designated by the compound.

5.2 Prosody

As indicated above, the representation of the prosodic structure of these compounds (and, strictly speaking, of their whole phonological structure) would have to be

included in a detailed CG representation of the grammar of these compounds. In this subsection, I simply add a few brief comments on the connection of the typical prosodic features of the bahuvrihis in English and Spanish with their semantics and their grammatical form.

In English bahuvrihis, prosodic stress and pitch rise typically falls on the first element, i.e. on the modifier, but sometimes secondary stress also falls on the second element). The main stress and intonation in the compound normally signal the key conceptual element in the reference point property (take 'fat, head; the morpheme {fat} is the decisive cue to "stupidity").

In Spanish, these compounds are pronounced as one word, with the first lexical morpheme unstressed with low pitch, and with the main stress and a slight pitch rise on the final stressed syllable of the second lexical morpheme (e.g. *dos piezas* pronounced as *dos' piezas*; *caradura* pronounced as *cara, dura*). This prosodic behavior is a typical stress pattern in all types of Spanish compounds, and is indicative of the "unit status" of these syntagms as established lexical units, despite their occasional orthographic treatment as phrases. On the other hand, the morpheme receiving primary stress in Spanish bahuvrihis normally also signals the key conceptual element in the reference point property ({dura} is the decisive cue to "unchangeability"); however, the compounds whose initial lexical morpheme is a numeral, which provides in these cases the main cue to conceptualize the reference point property, do not assign primary stress to the numeral morpheme; for example, *dos' piezas* (main cue provided by {dos}) or *ciempiés* 'centipede' (main cue provided by {cien} 'hundred', but primary stress falling on {pies} 'feet').

6. Contrastive issues

This section is concerned with research question (iv): "Are there any systematic semantic and grammatical differences between English and Spanish with respect to bahuvrihis?" At the present stage in my research only the following general observations can be offered.

As regards the patterns of metonymy and/or metaphor interaction in the conceptualization of the reference point property, I have identified a few noteworthy differences so far. The two languages are represented in all of the three types discussed in Section 4. However, the internal structure of the types in both languages differs slightly. For example, type b (where the characteristic property is conceptualized metonymically and non-metaphorically) includes a subtype (manifested in Spanish by *pelirrojo*, *milhojas*, *petirrojo*), which does not occur in the 20-item English sample (although, with some minor differences, it occurs in other items outside the sample, such as *redhair* or *redbreast*); in this subtype, the characteristic property is conceptualized by

means of only one metonymy.⁹ The subtype of type b in which the characteristic property is conceptualized by means of the interaction of several metonymies seems to be more richly subcategorized in English (subcategories represented by such items as *acidhead*, *wetback*, *lazybones*, and *hardtop*) than in Spanish (with only two subcategories represented by *espalda mojada* y *simpecado*).

However, these differences may be due to the size of the samples, and an exploration of larger samples for each language may reduce or eliminate these differences and uncover other significant differences.

As regards grammatical and phonological structure, on the basis of the selected samples, there seems to be in Spanish a wider structural variety than in English in terms of the types of lexical morphemes making up the compound: Noun-Adjective, Numeral-Noun, Noun-Preposition-Noun, Adjective-Adjective, Preposition-Noun, Numeral pronoun-Preposition-Noun in Spanish; and Adjective-Noun, Noun-Noun, Numeral-Noun, Auxiliary-Full Verb in English. The other formal differences are due to general grammatical (especially in the ordering of the morphemes) and prosodic tendencies in each language in the area of compounding

7. Blending and compression

At least types b and c of these compounds (i.e. those whose reference-point property, henceforth RPP, is understood metonymically or metaphonymically; see Section 4) seem to exhibit blending (Fauconnier and Turner 2002), with selected elements of the various input spaces projected into the blended space to construct the reference-point property, which then can be seen as a blend. This blend is metonymically mapped onto the category (of people, objects, etc.) denoted by the compound. These compounds, therefore, seem to constitute an excellent means to achieve conceptual and referential *compression* of the characteristic, reference-point property (which is a “decompressed” property of the category) *with* the members of the target category.

However, the conceptualization of the RPP, the overall meaning, and the grammatical behavior of almost all the forty compounds studied can *apparently* be explained without necessarily invoking any blending process; that is, the blending and compression that can be observed in these compounds can be argued to be simply a

9. This metonymy would be, for *pelirrojo/a*, TOP OF THE SCALE FOR WHOLE SCALE. In this special type of compound, {pelo} acts as a modifier, since the meaning of the compound in its nominal use can be paraphrased as “someone red as to his/her hair”). The head lexical morpheme {rojo} designates in this case the top scale of the scale of “redness”, which may vary from shades merging with other color categories such as orange or brown through several reddish shades to undoubted reds. Red-haired people rarely have pure red hair. To the extent that this metonymic sense of the head lexical morpheme is inherited by the composite notion RED HAIR, we may also argue that the metonymy also applies to the semantic interaction between modifier and profile determinant.

regular by-product or effect of what are basically metonymic and metaphoric processes, not the other way around. There are, nonetheless, a number of Spanish bahuvrihis that seem to constitute an exception to this rule: *Cuatro ojos*, on the one hand, and *manirroto* and similar bahuvrihis (*pelirrojo*, *manilargo*, etc.). For lack of space I can only include a brief comment on the first of these (for details, see Barcelona 2008; n.d.), *cuatro ojos*. The fact that it is written as two words does not mean that it is not conceptually, grammatically and phonologically a compound. Its literal gloss is ‘four eyes’, and it is a colloquial contemptuous way of designating a person that wears eye-glasses. It belongs to type c (metaphorico-metonymic conceptualization of RPP), and a blending analysis is necessary to account for its grammatical behavior. The reason is that the quantifying modifier *cuatro* ‘four’ and the head *ojos* ‘eyes’ (in plural) are used to cover both the bodily eyes and the metaphorical eyes (due to the metaphor THE LENSES IN A PAIR OF SPECTACLES ARE EYES). This grammatical fact is motivated by the blend (‘EYE’) of the metaphor’s source with its target.

8. Conclusions

With respect to research question (i), “Can the metonymy CHARACTERISTIC PROPERTY FOR CATEGORY reasonably be argued to motivate the existence of all of the *bahuvrihi* compounds in the corpus?”, the analysis shows that the profiling by the compound of the category characterized by the reference-point property is due in every case to the overriding metonymy CHARACTERISTIC PROPERTY FOR CATEGORY, and is not simply the output of the interaction of *other* metaphors and metonymies.

With respect to research question (ii), “Is only that metonymy involved in the semantics of these compounds, or are other metonymies or metaphors also involved? If so, which are the main patterns of metonymy-metonymy or metaphor-metonymy interaction observable in these compounds?”, the results reported in this chapter suggest that, apart that apart from the above-mentioned overriding metonymy, the characteristic property mapped by it is conceptualized in three main ways:

- Nonmetonymic and nonmetaphorical conceptualization (type a).
- Metonymic conceptualization (type b).
- Metaphorico-metonymic (“metaphonymic”, Goossens 1990) conceptualization (type c), with the interaction mainly consisting, either in the motivation of the metaphor by means of the metonymic understanding of source and target that brings out their structural correlation, or in the motivation of the metaphor by means of the generalization/decontextualization of a metonymy.

Several subtypes (in turn analyzable into yet further subtypes) can be discerned within these types. The detailed analysis of these subtypes is still under way.

Finally, as stated in Section 7, all of these compounds seem to lend themselves to an account in terms of blending; though most of them can be explained without

recourse to blending, a blending process is a natural by-product of the metonymic and metaphorical processes underlying their conceptualization, and in some of them (like *cuatro ojos*) a supplementary blending account is virtually inevitable.

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Appendix 1: Initial sample

ENGLISH BAHUVRIHIS

<u>Adj+N</u>	<u>Type of entity profiled by the compound</u>
fathead	People
bald-head	People
highbrow	People
hardback	Physical objects (books)
loudmouth	People
redcap	People
busybody	People
hardtop	(part of) Physical objects (car roof)
paleface	People
bluebell	Plants (flowers)
heavyweight	People or animals
redcoat	People/Plants (a type of tree)
redhead	People/Animals (various birds)

blackhead	Animals (several types of birds, worms)/Inanimates (bodily ailments (a pimple, an animal disease))
blue jacket	People
blue-stockings	People (women)
grey-beard	People/Animals (fish/polyp)
<i>Bluebeard</i>	People
tenderfoot	People
hot-foot	Type of action (see OED)
a lazy-bones	People/object related to <i>these</i> people
a light-skirts	People
a sobersides	People
<i>Braveheart</i>	People
redbreast	Animals (birds or fish)/People (through further metaphorical extension)
longleaf	Plants
whitethorn	Plant
greenback	Inanimate object (banknote, book, a tomato disease, a type of wave in surfing)/several animals, including frogs
wetback	People
double-decker	Object (type of bus)
<u>N+N</u>	<u>Type of entity profiled by the compound</u>
birdbrain	People
feather-brain	People
heartthrob	People
egghead, egg-head	People
acidhead	People
skinhead	Body part/People
suedehead	People
blockhead	People
hammerhead	Animals (shark, bird, bat)
sheep's head	People
featherbrain	People
paperback	Objects (books)
shellback	People/Animals
hatchback	Objects (car door; car type)
butterfingers	
(N+plural N)	People
featherweight	Objects/People
hunchback, humpback	People/Animals
pot-belly	People
ironside	Objects

<i>Ironsides</i>	People
<u>Numeral+N</u>	<u>Type of entity profiled by the compound</u>
a five-leaf	Plant
a five-finger	Types of Plants/Fish/Type of card
a four-way(s)	Place
<u>Aux+Full Verb</u>	
(a) has been	People/Period of time

SPANISH BAHUVRIHIS

<u>N+Adj</u>	<u>Type of entity profiled by the compound</u>
barbarroja	People
<i>Barbarroja</i> (nickname)	People
pelirrojo	People
petirrojo	Animals (birds)
manirroto	People
patizambo	People
boquirroto	People
espalda mojada (like <i>wetback</i>)	People
caradura	People
cabeza cuadrada	People
cabeza rapada (modelled on English <i>skinhead</i>)	People
malasombra	People
malasangre	People
<u>Numeral+N</u>	<u>Type of entity profiled by the compound</u>
ciempiés	Animals (insect)
milhojas	Plant
milrayas	Object (tissue)
cuatro ojos	People
cuatro orejas	People
cuatro latas	Object (car; a type of Renault make)
dos piezas	Object (female garment consisting of two parts: jacket and skirt/pants)
<u>N+prep+N</u>	<u>Type of entity profiled by the compound</u>
cara de acelga	People
cabeza a pájaros	People

piel de sapo	Plant (fruit: melon type)
cabeza de chorlito	People
<u>Adj+Adj</u>	<u>Type of entity profiled by the compound</u>
azulgrana	People (Barcelona FC supporter/player)
<u>Prep+N</u>	<u>Type of entity profiled by the compound</u>
simpecado	Object (religious banner)
sinvergüenza	People
<u>Numeral pronoun</u>	<u>Type of entity profiled by the compound</u>
<u>+prep+noun</u>	
milenrama	Plant

Appendix 2: Selected samples

ENGLISH BAHUVRIHIS

<u>Adj+N</u>	<u>Type of entity profiled by the compound</u>
fathead	People
bald-head	People
hardtop	(part of) Physical objects (car roof)
blackhead	Animals (several types of birds, worms)
hot-foot	Type of action (see OED B.1 and B.2)
a lazy-bones	People
greenback	Inanimate object
	several animals, including the frog
wetback	People
<u>N+N</u>	<u>Type of entity profiled by the noun</u>
birdbrain	People
egghead, egg-head	People
acidhead	People
blockhead	People
hatchback	Objects (car door; car type)
featherweight	People
featherbrain	People
humpback	People/Animals
<u>Numeral+N</u>	<u>Type of entity profiled by the noun</u>
afive-leaf	Plant
five-finger	Plant

<u>Aux+Full Verb</u>	<u>Type of entity profiled by the noun</u>
(a) has been	People/Period of time

SPANISH BAHUVRIHIS

<u>N+Adj</u>	<u>Type of entity profiled by the noun</u>
pelirrojo	People
petirrojo	Animals (birds)
boquirroto	People
espalda mojada (modelled on <i>wetback</i>)	People
caradura	People
cabeza cuadrada	People
cabeza rapada (modelled on on <i>skinhead</i>)	People

<u>Adj+N</u>	<u>Type of entity profiled by the noun</u>
malasombra	People

<u>Adj+Adj</u>	<u>Type of entity profiled by the noun</u>
azulgrana	People (Barcelona FC supporter/player) (<i>un azulgrana</i>)

<u>N+Prep+N</u>	<u>Type of entity profiled by the noun</u>
cara de acelga	People
cabeza a pájaros	People
piel de sapo	Plant (fruit: melon type)
cabeza de chorlito	People

<u>Prep+N</u>	<u>Type of entity profiled by the noun</u>
sinvergüenza	People
simpecado	Object (religious banner)

<u>Numeral pronoun +prep+noun</u>	<u>Type of entity profiled by the noun</u>
ciempiés	Animals (insect)
milhojas	Plant
milrayas	Object (tissue)
dos piezas	Object (female garment consisting of two parts: jacket and skirt/pants)

<u>Numeral pronoun +Prep+N</u>	<u>Type of entity profiled by the noun</u>
milenrama	Plant

On the subject of impersonals

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In accordance with basic principles of Cognitive Grammar, impersonal *it* (e.g. *It's obvious that he's angry*) is claimed to be meaningful. Three avenues of approach are followed in the characterization of *it* and the constructions it appears in: a comparison with related constructions; a comparison to other pronouns; and examination of a basic cognitive model called the “control cycle”. This broad perspective leads to a unified account in which the meaning of impersonal *it* is a special case of the general semantic value of this pronoun.

Keywords: control cycle, defocusing, delimitation, field, nominal, pronoun, reference, setting, vagueness

1. Introduction

It is a problem. By “it”, I mean the *it* illustrated by the sentences in (1). This hapless formative is treated by the reigning theoretical orthodoxy as a second-class linguistic citizen. It suffers the indignity of being described by a whole series of derogatory words, such as “expletive”, “pleonastic”, “epenthetic”, and even “dummy”, which clearly imply its lack of reality, virtue, or intelligence. It (i.e. *it*) does not deserve this abuse. To have a more neutral term that does not *discriminate* or prejudge its character, I will refer to it as the *impersonal it*.

- (1) a. *It is obvious that my novel will never be published.*
- b. *It's hard to wash a cat.*
- c. *It seems that the fire started in the attic.*
- d. *It's embarrassing when you can't remember someone's name.*
- e. *It's in April that we go to Japan.*
- f. *It is very peaceful without the children around.*
- g. *It rained last night.*

We need not dwell on generative accounts, where – in accordance with the doctrine of autonomous syntax – *it* is treated as a purely formal object to be inserted and discarded at will. It is, though, worth recalling the classic transformational analysis based on the

“extraposition” of a subject complement clause. On this account, *it* is either inserted as subject when the complement clause is extraposed, or alternatively, is base-generated along with the complement and is deleted when the latter remains in place (Rosenbaum 1967). At best this analysis covers only part of the data. Observe that *it* alternates with a subject complement clause only for the first two examples in (1), as seen in (2):

- (2) a. *That my novel will never be published is obvious.*
- b. *To wash a cat is hard.*
- c. **That the fire started in the attic seems.*
- d. **When you can't remember someone's name is embarrassing.*
- e. **That we go to Japan is in April.*
- f. **Without the children around is very peaceful.*
- g. **Last night rained.*

Especially problematic is the notion occasionally entertained that *it* is a cataphoric pronoun with the extraposed clause as its antecedent. If so, their relationship directly violates the most robust restrictions otherwise imposed on where pronouns and antecedents can occur relative to one another (Langacker 1969, Reinhart 1983, van Hoek 1995, 1997). One idea that does make sense is the distinction between so-called “pro drop” languages (e.g. Spanish), which allow omission of a pronominal subject, and languages where an overt subject is required. English *it* provides the needed subject when nothing else is available. Likewise for its counterpart in other languages (e.g. French *il*, German *es*, Dutch *er*).

- (3) a. *It seems that she is very intelligent.*
- b. *Il semble qu'elle est très intelligente.* [French]
- c. *Parece que es muy inteligente.* [Spanish (“pro drop”)]

I accept the notion that English finite clauses require an overt subject (with various qualifications that do not concern us), and that impersonal *it* provides one when needed. Still, the mere fact that it serves this grammatical function does not entail the formalist view that *it* is just an empty syntactic shell uninhabited by any semantic spirit. The central claim of Cognitive Grammar (CG) is that lexicon and grammar form a continuum fully describable as *assemblies of symbolic structures*, each of which pairs a semantic structure and a symbolizing phonological structure (Langacker 1987a, 1990, 1991, 1999a). From this perspective, the very first question one should ask is: What does *it* mean? This is not by way of avoiding grammar, but is rather the first and crucial step in the investigation of impersonal constructions. If we want to understand their grammatical structure, we must first understand their semantic import. What, then, is the conceptual structure of impersonal expressions? To paraphrase Bill Clinton, that depends on what the meaning of *it* is.

Cognitive and functional linguists have made various proposals concerning its meaning. *It* (or its congener in other languages) has variously been described as designating a *mental space* (Lakoff 1987: 542; Smith 2000), an *abstract setting*

(Langacker 1993a), the *immediate scope* (Achard 1998: 7.2), and what I call a *field* (Langacker 2002a, 2004b). Kirsner (1979: 81) ascribes to Dutch *er* the meaning of “low situational deixis”, often interpreted as “general presence or availability”, or “mere sceneness” – i.e. an entity is “on the scene”, but “the identity of that scene is immaterial”. As an abstract meaning shared by all uses of *it*, Bolinger (1977: 84–85) describes it as

... a ‘definite’ nominal with almost the greatest possible generality of meaning, limited only in the sense that it is ‘neuter’ ... It embraces weather, time, circumstance, whatever is obvious by the nature of reality or the implications of context.

Obviously, a definitive semantic description has not yet been established. The conceptual characterizations cited are, however, all in the same ballpark. They are kindred in spirit, and if there is any inconsistency among them, it is of a very subtle nature. The notions alluded to, and how they relate to one another, do of course stand in need of clarification. Though hardly desirable, the current confusion is certainly understandable. Coming up with clear, explicit, and convincing descriptions of abstract concepts is not at all an easy task. Even harder, perhaps, is the characterization of maximally general notions. Yet the difficulty of pinning down its meaning precisely does not constitute a valid argument that *it* is meaningless. Nor does its generality. In the words of Bolinger (1977: 85), “our mistake has been to confuse generality of meaning with lack of meaning”.

The semantic characterization of *it* and the constructions it appears in cannot be dealt with in isolation. Their analysis demands a broad perspective, where they are seen against the background of related phenomena, from which they emerge as special cases. I am going to pursue three broad avenues of approach to the problem, each providing clues about some aspect of it. I will then try to fit these pieces together into a coherent overall account. The first avenue will be a comparison with related constructions. Here I suggest that impersonal constructions – themselves quite varied – fall within a considerably broader range of constructions allowing focal prominence to be conferred on different aspects of a complex scene. In the second avenue of approach, *it* will be compared to other pronouns – both impersonal pronouns and personal pronouns in their “impersonal” uses. The third avenue will be to examine a basic cognitive model referred to as the *control cycle*. This model proves essential for explicating the conceptual organization of impersonal expressions.

2. Alternations in focal prominence

2.1 Basic grammatical notions

As it must, given its central claim, CG offers conceptual characterizations of basic grammatical constructs. A key notion for this purpose is that of *profiling*, one kind of *prominence*: within the overall conception it evokes as its *base*, an expression *profiles* some substructure, i.e. puts it in focus as the entity it *designates* (refers to). An

expression's grammatical category is determined by the nature of its profile (Langacker 1987a: chs. 5–7, 1987b). A noun profiles a *thing* (abstractly defined), as does a full NP. A verb profiles a *process*, as does a full finite clause. A process is characterized as a relationship apprehended by tracking its development through time. Adjectives, adverbs, and prepositions profile various kinds of relationships that are *non-processual*.

An expression that profiles a relationship confers varying degrees of prominence on its participants. There is usually a *primary focal participant*, called the *trajector* (tr), and often a *secondary focal participant*, the *landmark* (lm). Like profiling, trajector/landmark alignment is an aspect of linguistic meaning with important grammatical consequences. Specifically, it is claimed to provide the conceptual basis for the notions subject and object. A subject is characterized as a nominal expression that specifies the trajector of a profiled relationship, and an object as one, which specifies a landmark.

By way of concrete illustration, core elements of the clause *Floyd broke the glass* are diagrammed in Figure 1. The three boxes represent the *component* expressions *Floyd*, *break*, and *(the) glass*, which (along with elements not shown) combine grammatically to form a *composite* expression (the clause). Note that circles are used for things, lines and arrows for relationships, and heavy lines for profiling. *Floyd* and *glass* both profile things (F and G abbreviating their additional semantic specifications). The process profiled by *break* consists of the trajector exerting force (double arrow), which causes the landmark to undergo an internal change (solid arrow) whereby it becomes non-functional (nf). *Floyd* specifies the trajector of *break*, and *glass* its landmark. What this means, semantically, is that the nominal profiles respectively *correspond* to the verb's trajector and landmark, as indicated by the dotted lines. These correspondences constitute the subject and object relationships. The *composite semantic structure* (the meaning of the full expression) is the same as for *break* except that the trajector and landmark have the respective semantic specifications F and G.

Crucially, the prominence of the profile, the trajector, and the landmark is not something inherent in the scene described. Rather, this prominence is imposed on elements of the scene by the linguistic structures employed in coding it, as an aspect of their meanings. The linguistic structures that concern us include the lexical meanings of verbs as well as various constructional schemas pertaining to clause structure (Langacker 1990: ch. 9, 1991: part II, 1993b), e.g. the schemas, instantiated in Figure 1,

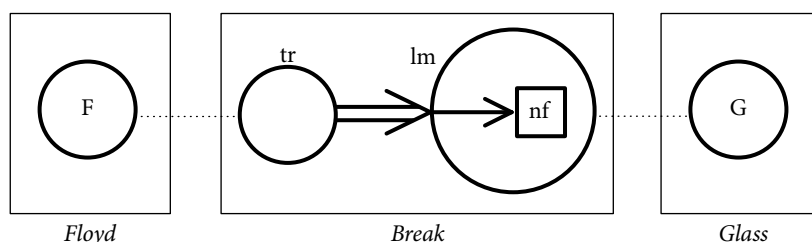


Figure 1.

describing the basic subject and object constructions. Intrinsic to every lexical and grammatical unit is a particular way of *construing* the conceptual content it evokes or applies to, and thus a particular way of viewing the situations coded by expressions that employ it. This has two important consequences. First, by using different expressions we can always portray a situation in alternate ways – the objective nature of a situation does not determine its linguistic coding or the specific meanings of the expressions describing it. Second, the elements made prominent linguistically need not be the most salient on non-linguistic grounds. There is of course a natural tendency for linguistic prominence to be conferred on elements with the greatest cognitive salience. Nonetheless, we have the linguistic means to focus whatever we like.

For example, the expressions in (4) could all be used to describe the same situation, highlighting different aspects of it through alternate choices of landmark (expressed by the first object nominal). The oft-noted contrast between (4a) and (4b) reflects the choice of conferring secondary focal prominence on either the topic of instruction or else the recipients of the knowledge. While these are certainly the most salient non-agentive elements in a teaching situation, we also have the option of focusing more peripheral elements, such as the kind of institution or the level of instruction. Instead of central participants in the profiled activity, these pertain to the circumstances in which it occurs.

- (4) a. *Jack teaches American history to immigrant children.*
- b. *Jack teaches immigrant children American history.*
- c. *Jack teaches elementary school.*
- d. *Jack teaches fourth grade.*

Metaphorically, I think of trajector and landmark status as primary and secondary spotlights, which can be directed at different elements within a scene. Now a spotlight illuminates not only its target, but also the immediately surrounding area. Likewise, focusing some element as trajector or landmark serves as well to augment the salience of those facets of the overall situation it is directly involved in. Alternate assignments of focal prominence thus have the effect of adjusting the profiled relationship, either in terms of which facets of the situation are encompassed by the profile, or else in terms of their degree of prominence within it. Focused to the highest degree is the relational component corresponding to how the trajector interacts with the landmark. Focused to a secondary degree are the components corresponding to how the trajector and the landmark interact with the non-focal participant.

The well-known contrast between (4a) and (4b) emerges as a consequence. In (4a) there is greater emphasis on the theme moving (or becoming accessible) to the recipient. The ditransitive construction in (4b) places greater emphasis on the resultant situation in which the recipient apprehends or controls the theme. Examples (4c) and (4d) take a different perspective on the overall situation by shifting secondary focal prominence to a circumstantial element that would ordinarily be left implicit. Hence the

most prominent component relation is that of the teaching activity being situated with respect to the institution or its levels of instruction.

2.2 Actor defocusing

The contrasts in (4), resulting from alternate choices of landmark, are hardly insignificant. Yet linguists have generally paid more attention to those resulting from alternate choice of trajector, which have a more drastic impact on grammatical organization. Here the archetypal example is an active/passive alternation. The passive clause *the glass was broken* is partially diagrammed in Figure 2. The details of particular passive constructions are not our present concern. The important point is that trajector status is conferred on a participant that would otherwise – given the usual alignment imposed by the verb stem – be the landmark, expressed by a direct object. Instead, the nominal expressing this same participant functions as grammatical subject, precisely because it has trajector status.

Specification of the agent is not an obligatory part of the passive construction. Indeed, its occurrence is relatively infrequent in ordinary conversation, and passives in many languages do not allow this option. This goes along with the claim, reflected in the diagram, that the passive agent does not have the status of a landmark: although it is (at least in English) a central participant in the profiled relationship, it is not a *focal* participant. This claim is in full accord with Shibatani's (1985) characterization of passives in terms of *agent defocusing*. A passive is used when there is motivation for leaving the actor implicit and unspecified, e.g. because it is unknown or because responsibility cannot be assigned to any single individual (van Oosten 1986). When there is discourse motivation both for focusing the patient and also for identifying the actor, the latter is specified periphrastically, by means of a *by*-phrase. Introduced as a prepositional object, the actor is not then a focal participant at the clausal level (for details, see Langacker 1990: ch. 4, 1992).

If it is not specified periphrastically, a passive agent is simultaneously defocused in two ways: the absence of focal prominence (trajector or landmark status); and also by remaining implicit and unspecified. By explicitly mentioning a participant and supplying

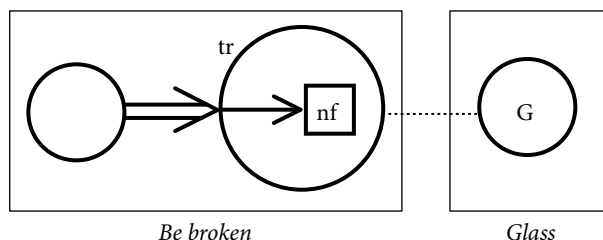


Figure 2.

a detailed characterization of it we necessarily direct attention to it, so leaving a participant implicit and unspecified renders it less prominent than it would otherwise be. These two complementary means of defocusing can work independently. In the case of a passive with a *by*-phrase, the lack of focal prominence works. Conversely, non-specification works alone in the kind of construction referred to as *impersonal* (or sometimes *impersonal passive*). An example from Hopi is given in (5). alone. The sentence lacks an overt subject, and *taaqa* ‘man’ takes the usual object-marking suffix *-t*. This is not a passive (in any restrictive sense), because the verb’s landmark does not assume the function of clausal trajector.

- (5) *Taaqa-t niina-ya.* [Hopi]
 man-OBJ kill-PL:SUBJ
 ‘[They] killed the man’

The agents in Figure 2 and in (5) are left *unspecified*. What does this mean, precisely? It means that the notion of an agent is invoked, but that no indication is given of how that role is filled. For a given role, we can imagine a class of possible *candidates*, consisting of everyone (or everything) that could conceivably be selected to fill it. When the role is specified by a nominal expression, a correspondence is established between the role and the individual or set of individuals profiled by the nominal, as in Figure 3 (a)–(b). When the role is left unspecified, there is no indication of what it corresponds to within the class of candidates. Invoking it implies that it is somehow filled, but no further information is provided.

For an unspecified participant, various interpretations are possible. Conceivably a single individual is involved, but the speaker chooses not to identify it. This is ruled out in (5) by the verbal suffix indicating a plural subject. It could then be the case that an unknown group of individuals are involved, or perhaps most everybody in the class of candidates. A closely related possibility is that the statement is offered as a kind of generalization, being applicable – under appropriate circumstances – to any member of the candidate class. In this latter case I will speak of a *generalized* participant.

This notion is useful in describing a number of constructions involving a shift in focal prominence, so that a defocused role is readily interpreted in generalized fashion. A familiar case is the so-called “middle” construction. The verb *steer*, for instance, implies an agent and is basically transitive. In this construction, however, the spotlight

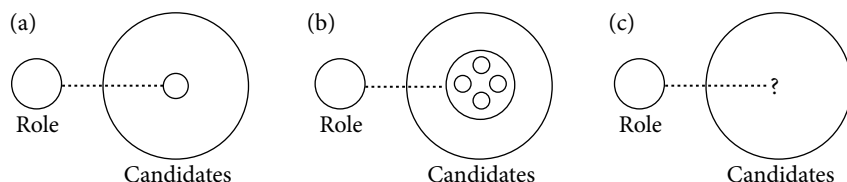


Figure 3.

of primary focal prominence falls on the theme, leaving the agent in the shadows. This construction tends to be used for general statements, like (6) a., which thus invokes a *generalized agent* – anyone driving the truck would experience the ease of steering it. Less typical but still possible is its use for specific events, as in (6) b., but even here the agent (presumably a particular individual) cannot be specified.¹

- (6) a. *This truck steers quite easily.*
- b. *The truck steered quite easily (*by the workman).*

Consider next the lexically governed alternations in (7):

- (7) a. i. *She tasted the soup.*
- ii. *The soup tastes salty.*
- b. i. *She smelled the milk.*
- ii. *The milk smells sour.*
- c. i. *She felt the cloth.*
- ii. *The cloth feels smooth.*
- d. i. *She looked at the lawn.*
- ii. *The lawn looks healthy.*
- e. i. *She listened to his voice.*
- ii. *His voice sounds pleasant.*

As transitives, the sensory predicates *taste*, *smell*, *feel*, *look at*, and *listen to* take as their subject a participant that combines the roles of actor and experiencer (the action serving to induce the experience). By contrast, their intransitive counterparts – *taste*, *smell*, *feel*, *look*, and *sound* – confer primary focal prominence on the *stimulus*, thus highlighting the quality it manifests to the senses. These predicates can be used for specific occurrences, and a particular experiencer can be specified periphrastically (e.g. *The soup tasted salty to her*). Still, these intransitives tend to be used for general statements, thus invoking a *generalized experiencer*. For instance, *The soup tastes salty* suggests that anybody tasting it would have the same sensation.

We begin to see a pattern here. Though English is an agent-oriented language (Ikegami 1985; Langacker 2004c, 2006), it provides a range of alternative constructions in which trajector status is conferred on some element other than the most active participant, which would typically attract it. This participant – some kind of actor or experiencer – is further defocused by being left unspecified. Since no particular individual is singled out to fill this active role, the construction lends itself to use in general statements, involving a generalized actor or experiencer. Besides the families of constructions exemplified in (6) and (7), this description applies to passives. For

1. It can however be specified indirectly in its role as beneficiary, e.g. *The truck steered quite easily for me*. For discussion of the middle in functional terms, see van Oosten (1977); Langacker (1991: 334–335); Heyvaert (2003: ch. 6).

instance, *Bush cannot be trusted* invokes a generalized experiencer: anybody who might be tempted to trust him ought not do so.

2.3 Non-participant trajectors

The pattern is even wider. In the cases examined thus far, the alternative to an active trajector has been some other participant in the overall interaction. We have already seen, however, that focal prominence is sometimes conferred on more peripheral elements, which are not participants in any narrow sense, but are better described as pertaining to the circumstances of the interaction. Recall the landmarks in (4c–d): *Jack teaches {elementary school/fourth grade}*. It also happens that primary focal prominence – trajector status – is conferred on non-participants.

One kind of entity that can function as trajector is a *location*. In (8), for example, the subject is not the actor with respect to the profiled activity, but merely the location where it occurs: it is the bees that swarm, the fires that blaze, the bells that ring, and the fleas that crawl. The role of the garden, the sky, the streets, and the cat is that of *host* to this activity, which pervades it, the actors being specified periphrastically by means of a *with*-phrase. A further property of this construction, established by Dowty (2000), is that the location is portrayed as the source of a sensory impression created by the ubiquitous activity – imagine, for instance, the visual and auditory impression of a garden filled with swarming and buzzing bees. This in turn implies an experiencer, for without an experiencer there is no visual or auditory sensation. The construction, however, leaves the experiencer unmentioned and unspecified. It is a *generalized experiencer*, the import being that anybody capable of observing the location would receive the impression in question.

- (8) a. *The garden is swarming with bees.*
- b. *The nighttime sky was blazing with forest fires.*
- c. *The streets were ringing with church bells.*
- d. *My cat is crawling with fleas.*

The construction is sketched in Figure 4 (a), where the rectangle stands for the location and a solid arrow for the activity going on inside it. The location is focused as trajector and coded as clausal subject. The actors, introduced periphrastically, are not focal participants. As expected given this choice of trajector, the construction highlights the location's role as host for the activity. Solid and dashed arrows represent the location functioning as stimulus with respect to the experiencer (E), who thus perceives the location. However, because this generalized experiencer is implicit and unspecified, I take their perceptual relationship as being unprofiled.

While a location is a restricted area, a *setting* is a global expanse within which events unfold (the difference is one of degree). A setting can also function as clausal trajector, as in (9). Whereas a verb like *experience*, *see*, or *witness* normally selects the experiencer as its subject, here the trajector is the spatial or temporal setting hosting the experienced events coded by the object nominal. These predicates do invoke an experiencer,

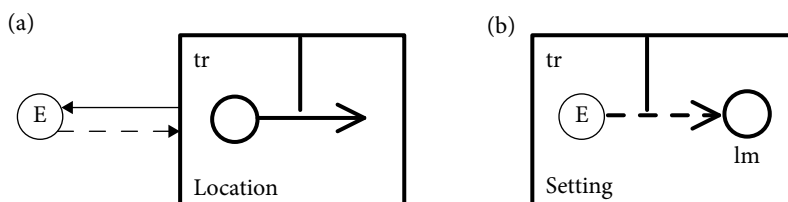


Figure 4.

but a generalized one – the import is that the events in question would be observed by anyone found within the setting. The construction is sketched in Figure 4(b).

- (9) a. *Florida experiences a lot of hurricanes.*
 b. *This town has seen a long series of political scandals.*
 c. *The last few decades have witnessed amazing scientific progress.*

At least in English, passivizability correlates with transitivity, which in turn involves the interaction of participants, in an *action chain* or something analogous to one (Rice 1987). To the extent that the trajector or landmark is instead construed as a setting, a location, or some other kind of circumstance, the felicity of a passive is diminished (Langacker 1987c, 1991: ch. 7). It is well-known that the expressions in (9) do not allow passives, despite the presence of non-oblique subject and object nominals:

- (10) a. **A lot of hurricanes are experienced by Florida.*
 b. **A long series of political scandals have been seen by this town.*
 c. **Amazing scientific progress has been witnessed by the last few decades.*

Observe, now, that impersonals with *it* are analogous, in that they do not passivize, even when they have a nominal in object position:

- (11) a. *It's raining big drops.*
 b. **Big drops are being rained (by it).*
 c. *It seems that the Florida election was rigged.*
 d. **That the Florida election was rigged is seemed (by it).*

This parallel behavior is one motivation for my suggestion that impersonal *it* be analyzed as designating an *abstract setting* (Langacker 1993a, 1993b). We will return to this matter after discussing nominal specification and the control cycle.

3. The specification of nominal referents

3.1 Nominal organization

Having reached impersonal *it* through one avenue of approach, pertaining to the external grammar of nominal expressions, we will now approach it along a second

avenue, pertaining to their internal semantic and grammatical organization. A nominal expression is one that profiles a *thing* (abstractly defined). Falling under this heading are both lexical nouns and full NP's, including pronouns. In CG, a full NP is referred to as a *nominal*.

By itself, a lexical noun (e.g. *pencil*) merely specifies a *type* of thing. A nominal (e.g. *that pencil*) profiles a *grounded instance* of some type. The *ground* comprises the speech event, its participants, and its immediate circumstances (such as the time and place of speaking). *Grounding* is a grammaticized means of indicating how a profiled thing or process relates to the ground with respect to certain fundamental, "epistemic" notions (like time, reality, and identification). For our purposes, nominal grounding elements are roughly coextensive with what are traditionally called "determiners".²

Type specification and grounding work together to single out nominal referents. Consider the phrase *that pencil*. Used successfully in a particular discourse context, this nominal directs attention to one particular thing out of all the conceivable entities in our mental universe that we might possibly wish to refer to. The noun and the demonstrative embody different ways of selecting from this vast range of candidates. The noun describes a type of thing, and thus limits attention to the class of candidates which instantiate this type. Since the type conception is immanent in the conception of all its instances (representing their abstracted commonality), the noun itself fails to choose among them. By contrast, the demonstrative does single out a particular referent, but irrespective of type. To single out a physical referent in the immediate discourse situation, the demonstrative can stand alone as a full nominal, accompanied by a pointing gesture (*I want that* [□]). I take this as a concrete manifestation of a demonstrative's general conceptual import, which I would characterize (however vaguely and impressionistically) as a kind of mental pointing. In combination with a noun, then, a demonstrative constitutes a mental gesture of pointing to a particular referent selected from the class of candidates delimited by the noun's type specification.

Both definite and indefinite determiners are grounding elements, singling out an instance of the specified type that subsequently functions as a discourse referent:

- (12) *Jill needs {the/a} pencil – and she needs it now.*

The difference is that the referent of an indefinite nominal has a kind of *virtuality* with respect to the range of candidate instances (Langacker 1999c, 2005). With a definite, the nominal is taken as being sufficient to single out the intended referent, at the current stage of the discourse, *independently* of the clause containing it. It is thus a matter of the speaker directing the hearer's attention to that referent, whose participation in the clause provides supplementary information about it. By itself, on the other hand, an indefinite nominal is merely an instruction for the hearer to "conjure up" (i.e. to imagine) an instance of the type, *pending* the information provided by the clause

2. For discussion of nominal structure and grounding, see Langacker (1991: Part I), (2002b), (2002c), and (2004a).

containing it (Verhagen 1986: 123–124; Langacker 2004a). It is that clause which determines its identity, as well as its status as actual or virtual – that is, the clause may not be sufficient to establish its actuality. In (12), the referent of *a pencil* remains a virtual entity (no particular pencil is singled out).

Nominal structure gives rise to various kinds of impersonal expressions. Most obviously, an indefinite pronoun like *someone* provides an alternative to a specified, personal subject: *Someone broke the glass*. Since the type specification indicates only that the referent is human, and indefinite grounding implies the absence of prior identification, the subject nominal does not itself do anything much by way of singling out a particular individual. The same holds for indefinite nominals like English *one* (e.g. *One never knows*), French *on*, and German *man*, where grounding and type specification are conflated in a single, morphologically unanalyzable form.

Impersonals can also result from using an ungrounded noun (in lieu of a full, grounded nominal) to specify the clausal trajector. This is more familiar in the case of objects, where it is often referred to as “object incorporation”. Both are exemplified in (13), from Shoshoni. The noun *ka^hni* ‘house’ is incorporated in the verb to form a predicate meaning ‘house-have’, which describes the landmark only in terms of type. This predicate in turn takes the prefix *ta-*, which is schematic even in this regard. In effect, it indicates only that the subject will remain unspecified (Langacker 1976).

- (13) *Ta-ka^hni-pai*. [Shoshoni]
 UNSPEC:SUBJ-house-have
 ‘[One] has [a] house’

3.2 Definites

It might at first seem contradictory that a definite pronoun, with specific reference, can function as an impersonal subject in a manner comparable to a non-specific indefinite like *one*. For this reason impersonal *it* is generally not attributed any meaning at all, not even that of definiteness, despite its formal identity to the personal pronoun *it*. Recall, however, Bolinger’s statement: “Our mistake has been to confuse generality of meaning with lack of meaning”.

Let us start with nominals grounded by definite determiners, i.e. demonstratives and definite articles. In contrast to indefinites, a definite nominal identifies its referent independently of the content of the clause containing it. I have further suggested that a demonstrative constitutes a kind of mental pointing (often accompanied by a physical pointing gesture). In using a demonstrative, the speaker performs the act of singling out the intended referent from whatever pool of candidates is eligible given the discourse context and the type specification provided by the nominal it grounds. In lieu of an actual pointing gesture, the singling out is effected by the demonstrative’s specification for *proximal* vs. *distal*, whether this is interpreted spatially or with respect to some other dimension, such as discourse proximity or speaker empathy (Kirsner 1993;

Janssen 1995). In uttering (14), for instance, the speaker is dividing the relevant scope of discourse into a proximal region and a distal region, where the proximity most likely has spatial, temporal, and attentional components – *this shirt* is the one I am currently examining, *that one* is the shirt I examined previously. Given the partitioning of the scope of discourse into two sectors, using *this* or *that* in reference to the type specification *shirt* amounts to mentally pointing to one or the other instance of that type.

(14) *I like this shirt much better than that one.*

What about the definite article? At the risk of great oversimplification (cf. Hawkins 1978; Langacker 1991: 3.1.1; Epstein 2001, 2002), we can say that using the definite article implies that there is only one eligible candidate (only one instance of the specified type) within the relevant scope of consideration. Hence there is no need to single it out from other candidates, either by physical pointing or in terms of proximity. It represents the limiting case of mental pointing, where it suffices to merely *register* unique selection instead of acting to *achieve* it.

Both demonstratives and definite articles co-occur with nouns.³ Personal pronouns generally do not, despite their close relationship (synchronic and diachronic) to the definite determiners. The type specifications they themselves supply are quite schematic: ‘human’, ‘feminine’, etc. Instead they select their referents on the basis of their referential status vis-à-vis the speech event participants, traditionally called *person*, roughly as presented in (15):

(15) Referents of *personal pronouns*:

- a. *first person singular*: speaker
- b. *first person plural*: group that includes the speaker
- c. *second person singular*: hearer
- d. *second person plural*: (group that includes the) hearers
- e. *third person singular*: individual other than speaker and hearer
- f. *third person plural*: group that excludes the speaker and hearer

Though personal pronouns are often used anaphorically, as in (16a), they do not require any overt linguistic antecedent. A third person pronoun is felicitous when an otherwise unmentioned referent is clearly evident to both interlocutors from the non-linguistic context, as in (16b) (Hankamer and Sag 1976).

- (16) a. *The farmer chased the duckling, but he couldn't catch it.*
 b. [seeing a farmer chase a duckling] *He'll never catch it.*

Pronouns like *he* and *it* are comparable to the definite article by presupposing that there is only one eligible candidate within the relevant scope of conception – or *immediate scope* – contextually established by linguistic or non-linguistic means. They differ from

3. The definite article does so obligatorily since it does not point, hence cannot single out a referent in the absence of a type specification.

a definite article in how the set of eligible candidates is selected. With an article, selection is achieved through the type specification provided by the lexical noun (e.g. *farmer*, *duckling*). With a pronoun, on the other hand, selection is achieved through the very minimal (highly schematic) type indicated by the pronoun itself (e.g. 'human male', 'neuter'). Since there are generally more potential referents in a scene for a form like *he* or *it* than for *farmer* or *duckling*, with a pronoun it is harder to establish a situation where only one eligible candidate is available within the scope of consideration. Thus a pronoun requires prior delimitation of the pool of eligible candidates through an explicit antecedent, as in (16) a., or through a particular candidate having sufficient contextual salience to stand out as the only plausible choice (cf. van Hoek 1997). In the case of *I* and singular *you*, uniqueness is normally assured by the very fact of an utterance being produced by just a single speaker and directed at a particular addressee.

We must now confront a basic question: If *personal* pronouns single out a particular referent, how can they function as the subject of *impersonals*? The answer resides in a factor we have not yet considered, namely *delimitation*.

3.3 Delimitation

I have been using terms like *selection* and *singling out* for the process of directing attention to an instance of some type, i.e. establishing the linguistic referent of a nominal (a full NP). By contrast, I will use the term *delimitation* in regard to how the profiled instance projects to the world (or the relevant universe of discourse). It pertains to how much of the world the instance subsumes (or *delimits*), so that by referring to it we are limiting attention to a certain facet of the world as opposed to all others. As I am using the terms, *selection* and *delimitation* are very similar – both involve restricting attention within the full range of candidates for attention (the world of discourse, everything we might have occasion to think about or refer to with a nominal expression). They are distinguished on functional grounds, as pertaining to different levels of nominal organization. Selection (or singling out) is a matter of *choosing* a profiled instance, while delimitation involves the *size* (or *extension*) of that instance (or the pool of candidates conforming to the type specification).

Although the notion is a general one, we can start with spatial delimitation. Of the two nominal expressions *a pond* and *a lake*, the former projects to a smaller portion of our spatial world than does the latter, just by virtue of lexical semantics. *Pond* implies a higher degree of delimitation than *lake* in terms of size or spatial extension. Observe, however, that the extent of spatial delimitation is sometimes quite flexible. Consider *place*, which profiles a limited region in space. Despite being bounded (since *place* is a count noun), a place has no intrinsic size. What counts as a *place* is functionally determined, reflecting the purpose for invoking it. In terms of actual spatial extension, it ranges from the smallest region imaginable to the largest, as seen in (17). Naturally, increasing the size of the profiled region diminishes the degree of spatial delimitation effected by the nominal.

- (17) a. *A zinc atom can be found at several **places** in this molecule.*
 b. *That's a good **place** to put the vase.*
 c. *They're looking for a suitable **place** to build a shopping mall.*
 d. *Dubrovnik is a nice **place** to visit.*
 e. *The world has become a very hostile **place**.*
 f. *The universe is a very big **place**.*

Even a deictic element like *here* varies in its degree of spatial delimitation. If *here* profiles a spatial region that is in some way proximal to the speaker, the actual spatial extent of this region can nonetheless vary without intrinsic limit, as shown in (18). The same holds for *now*, in terms of temporal delimitation, as in (19).

- (18) a. *Put the vase right **here**.*
 b. *We should build the garage right **here**.*
 c. *It's pleasant **here** in Dubrovnik.*
 d. ***Here** in our solar system there is only one habitable planet.*
 e. *Everything in the universe has a reason for being **here**.*
- (19) a. *Hand it to me right **now**!*
 b. ***Now** we can pay our debts.*
 c. *The earth is habitable **now** but won't be much longer.*
 d. *The universe is very different **now** than in its formative stages.*

3.4 Definite impersonals

In (18)–(19), we observed that even a definite nominal can vary greatly in regard to delimitation. *Here* singles out and profiles a bounded, deictically anchored location, but in terms of actual spatial extension it need not effect any significant delimitation – at the extreme, the profiled region is coextensive with whatever spatial expanse we might contemplate. In cases like (18e), the implied contrast with *there* is essentially vacuous, *here* serving only to indicate the speaker's location within this maximally inclusive spatial region. The temporal expanse profiled by *now* can also be expanded indefinitely. Although the delimitation it effects in time may never be totally vacuous, it can certainly be quite minimal.

We can now understand the impersonal use of plural pronouns. They resemble *here* and *now* in being deictically anchored yet highly variable in their degree of delimitation. But instead of designating a region in space or a span of time, they refer to groups of people.⁴ Delimitation thus pertains to the size of the profiled group in relation to the set of all people, the *maximal extension* of this type. Each of the plural pronouns can be interpreted as profiling a highly delimited group or one of indefinite size. At least in the case of *we*, the referent can even coincide with the maximal extension.

4. I ignore the application of *they* to non-humans, as this is irrelevant for impersonal expressions.

We profiles a group that includes the speaker. Though its minimal size is two, as in (20a), there is no intrinsic upper limit. In (20b), a sentence just employed, *we* referred to a group including myself and a presumed reading audience. In (20c), a statement of official American economic policy, *we* subsumes the entire US population. And in (20d) it is coextensive with the entire human race.

- (20) a. *We just had a nice one-on-one conversation.*
- b. *We can now understand the impersonal use of plural pronouns.*
- c. *We have the right to exploit the world's resources at the expense of everybody else.*
- d. *We are not alone.* [I.e., there is other intelligent life in the universe.]

You poses special problems, not only because it neutralizes the singular/plural distinction, but also because its impersonal use involves factors beyond those I am prepared to consider here. Clearly, though, it can designate a group of any size, even everyone in the world other than the speaker. Thus *you* in (21a) refers to either a single reader or an open-ended set of potential readers. In (21b), a statement of official American foreign policy, *you* refers to all Europeans. Sentence (21c) might conceivably be produced by an individual fugitive terrorist as a threat to everybody else in the world.

- (21) a. *You should now be looking at example (21a).*
- b. *Why don't you Europeans acknowledge our right to rule the world?*
- c. *You'll never catch me and you'll never be safe.*

They excludes both the speaker and the addressee. Obviously it can designate a group of two individuals or any larger size. At one extreme, *they* can refer to two specific individuals, as in (22a). At the opposite extreme, it can be interpreted as referring to everybody in the world except the speaker and addressee – thus (22d) is the plural counterpart of (21c), the case of two fugitive terrorists alone against the rest of the world. In terms of size, the groups profiled by *they* in (22b–c) are intermediate. In fact, these uses are impersonal in the sense that no specific individuals are identified. The likely import of (22b) is that the grant was denied by whoever is responsible for such matters, the faceless individuals with the power to decide. In (22c), the claim is not attributed to any specific people, but to generative grammarians collectively (implying that most or all subscribe to it).

- (22) a. *They met in Istanbul.*
- b. *They didn't fund my grant.*
- c. *In generative grammar, they claim that syntax is autonomous.*
- d. *They'll never catch us and they'll never be safe.*

The plural pronouns have various uses that would traditionally be considered impersonal. In (23), for instance, no specific individuals are singled out as those who experience the earthquakes, hurricanes, or tornadoes. Instead, the potential for such experience is attributed to “people in general” within the areas mentioned. The subject pronouns

do still single out a deictically anchored discourse referent: from (23a) we deduce that the speaker is one of those who live in California; from (23b) we learn that the addressee (but not the speaker) is one of those who live in Florida; and from (23c) we infer that neither lives in Kansas. Still, the only significant delimitation of the nominal referent, serving to distinguish it from the set of all humans, comes from the locative.

- (23) a. *We have a lot of earthquakes in California.*
- b. *You have a lot of hurricanes in Florida.*
- c. *They have a lot of tornadoes in Kansas.*

These sentences refer collectively to the inhabitants of California, Florida, and Kansas, and do not imply that every inhabitant, or any particular inhabitant, has the experience in question. Within the confines of the state, they invoke a generalized experienter: anyone living there might experience the phenomenon. Hence the only reason for employing a pronominal subject is to indicate whether this undifferentiated mass of people includes the speaker or the hearer. If person is deemed irrelevant – if it is simply desired to make a general comment about natural disasters in these states – we thus have the option of a setting-subject construction, as in (24). These sentences are impersonal in the sense that direct reference to people is totally absent.

- (24) a. *California has a lot of earthquakes.*
- b. *Florida has a lot of hurricanes.*
- c. *Kansas has a lot of tornadoes.*

The plural pronouns *we* and *they* are also used in “full” impersonals, which lack the kind of delimitation imposed by locatives in (23). The pronouns in (25) are definite in the sense that they single out a unique discourse referent, one instance of the type ‘people’, which could in principle be of any size, representing any proportion of the maximal extension. But since the discourse referent is only characterized intrinsically as a group that includes the speaker (for *we*), or one that excludes the speaker and hearer (for *they*), it is vague in regard to delimitation (how the profiled instance maps onto the world). It is identified by its status vis-à-vis the ground (i.e. person – an essential identification for discourse purposes) independently of the clausal content. At the same time, its identification vis-à-vis the range of eligible candidates in the world is flexibly interpreted. The examples in (25) illustrate two kinds of impersonal interpretations. On the one hand, *we* and *they* refer in generalized fashion to all mankind. Thus (25a) assesses the current state of human knowledge, and (25b) is an item of general human wisdom. On the other hand, (25c–d) pertain to specific events, effected by particular individuals. However, it is not known or not indicated who those individuals might be. One can only surmise that the actions were carried out by relevant authorities or those with the proper expertise, on behalf of the population at large. Note, for example, that (25c) does not imply that the speaker had any personal role in mapping the genome.

- (25) a. *We know the average global temperature is rising.*
 b. *They say it's never too late to learn new skills.*
 c. *We've mapped the entire human genome.*
 d. *They found her body last night.*

When used impersonally, English *you* is singular rather than plural, as witnessed by the reflexive in (26a). Nevertheless it is fully general in reference, not even excluding the speaker. In fact, (26c) would be a perfectly normal way for the speaker to describe what just happened to him. It is not however a direct description – *you* does not mean *I*. Instead, the statement is given as a general characterization of what can happen, thus portraying the speaker's recent experience as a prime example of the general human condition. While I have not carried out an in-depth analysis, I suspect that singular impersonal *you* involves an elaborate mental construction one component of which is a *virtual dialog*, where the speaker is presenting the facts of life to an imagined interlocutor (Langacker 1999c). As a special case, the speaker is talking to himself.

- (26) a. *You should never underestimate yourself.*
 b. *You can never be too rich or too thin.*
 c. *You work hard for years and you get rewarded by being fired.*

3.5 Vagueness

We are nearing the end of this long avenue of approach to impersonal *it*. As a final point of interest along the way, we can briefly consider some quasi-pronominal uses of *this* and *that*, where they stand alone as full nominals.

Suppose we take quasi-seriously the notion that a demonstrative singles out its referent by pointing, sometimes physically and always mentally. Even in the case of physical pointing, there is often a certain degree of vagueness in regard to what is being singled out. Imagine that my finger is pointed at a particular rose within a particular bouquet within a larger floral display. If I utter the sentence *I think that [□] is beautiful*, what does *that* [□] refer to? Am I pointing to the rose, to the bouquet, or to the overall display? Or perhaps to a single petal of the rose? The gesture and the sentence are vague in reference. Pointing singles out a target only at a certain level of *granularity*. Moreover, pointing instruments vary as to how fine-grained a specification they can make. A finger is a fairly sharp instrument, so under the right circumstances I can use it to pick out something very small. But if my arm has been amputated and I can only point with the stump that remains, it can only effect a coarse-grained specification – I can indicate the bouquet, but not a particular rose or petal. If I point with a nod of my head, there is less precision still.

When the pointing is only mental, the instrument is blunt indeed. We then rely on just the proximal/distal distinction, by means of which we can only direct attention to one of two broad ranges within the immediate scope. Under appropriate circumstances, a two-way distinction may suffice. If there are just two roses in the room, one near me

and one far away, I can single out one or the other by saying *this rose* vs. *that rose*. If it is clear from the discourse context that we are only discussing roses, I can do this with the demonstrative alone, e.g. *This is beautiful*. But if I enter a room filled with diverse objects and merely say *That is beautiful* – with no prior context and without a pointing gesture – my interlocutor can only guess at my intended referent. I am indeed referring to a specific entity, a particular instance of the schematic type ‘thing’. Yet, from the listener’s standpoint, the expression fails to impose any significant or sufficient delimitation on the range of possible referents. Specific, definite reference does not itself entail actual identifiability in practical terms. Definiteness does not guarantee non-vagueness.

It is not just a matter of uncertainty about which particular referent the speaker intends. One can choose to use a blunt pointing instrument precisely because, within a scene, it may be impossible to delineate precisely what one is pointing to. Years ago, Gensler (1977) called attention to the vagueness of many demonstrative uses, where the reference might be anything within the current discourse frame. In (27a), *this* refers to some aspect of the current activity, but is vague about which one – it may be the strategy, the manner of execution, the activity itself, the very fact that we are engaging in it, the last few steps, etc. If (27b) is uttered after a carefully reasoned intellectual presentation, neither the speaker nor the academic may be able to say precisely what *that* refers to; the sentence may just register general displeasure with the academic enterprise. In (27c), *this* alludes quite vaguely to prior information concerning the marriage. Sentence (27d) might be uttered in frustration by somebody losing a game, receiving an order, or learning of an unfortunate development. The speaker may not be able to point to any specific source of the unfairness. It could just be that the situation as a whole, through some unidentifiable convergence of circumstances, is one that the speaker has trouble dealing with. In cases like these, the speaker is verbally and mentally making a referential gesture – it’s just that the referent is not a clearly or uniquely delineated entity in the world of discourse. The vagueness is especially great in reference to abstract circumstances.

- (27) a. *This is getting us nowhere.*
 b. *That’s the trouble with you academics.*
 c. *What’s this about your getting married?*
 d. *That’s not fair!*

That brings us to impersonal *it*,⁵ which Gensler treats alongside *this* and *that*. Note that *it* alternates with *that* in (27d): *It’s not fair!* At this juncture I will merely suggest that impersonal *it* represents the extreme case of vagueness and non-delimitation. It (or *it*) is not only definite but also referential, given that our mental world includes highly abstract entities. What makes it special, compared to straightforward cases of anaphoric *it*, is that its referent is maximally diffuse, being wholly undelimited within the

5. What does *that* refer to, precisely? My last statement? The last paragraph? The last set of examples? Something more abstract, like the flow of ideas?

immediate scope of discourse. Its impersonal uses stem directly from its properties and place in the system of English definites. Of all the English definite nominals, it does the least by way of singling out and identifying a particular, well-delimited referent. As a pronoun it does not occur with a lexical noun providing a type specification. Its own type specification, something like 'neuter' or 'non-human thing', is highly schematic and applicable to the widest possible array of entities. Moreover, it represents an extremely blunt pointing instrument. Neutralizing the proximal/distal distinction, it only points through its person specification, and in this regard third person is maximally general and unmarked (anything other than speaker and hearer). Still, its vagueness or generality of meaning is not the same as meaninglessness.

4. The control cycle

4.1 The general model

The final avenue of approach to impersonal *it* is a general cognitive model applicable to many aspects of human experience. The *control cycle* (Langacker 2002a, 2004b) has the basic form sketched in Figure 5. In the static baseline phase, an actor (A) (in a broad sense of the term) controls an array of entities (small circles) that collectively constitute its *dominion* (D). In the next phase, some *target* (T) enters the actor's *field* (F), or scope of potential interaction. This creates a state of tension, for the actor has to deal with the target in some manner. The typical means of dealing with it is by somehow bringing it under the actor's control, i.e. exerting force (double arrow) resulting in its incorporation in the actor's dominion. The result of this action is a modified situation that is once more static (a state of relaxation).

Manifestations of the control cycle continuously unfold at the physical, perceptual, mental, and social levels. At the physical level, for instance, a cat (A) catches and controls a mouse (T) that happens to come within reach (F). Seeing or hearing something is a matter of bringing it under perceptual control. Mentally, we formulate and evaluate propositions, and in some cases we accept them as part of the dominion comprising our view of reality. At the level of social interaction, we encounter new individuals and achieve a kind of social control by establishing stable relationships entailing definite expectations and obligations.

Predicates can be partially characterized semantically in terms of how the profiled relationship maps onto the control cycle. Four typical mappings are shown in Figure 6. Some predicates profile bounded actions in which the actor establishes control over the target. Others profile stable situations that result from such actions. Other predicates designate the activity of maintaining control once it has been achieved. Still others indicate preparatory activities that can lead to the act of acquisition.

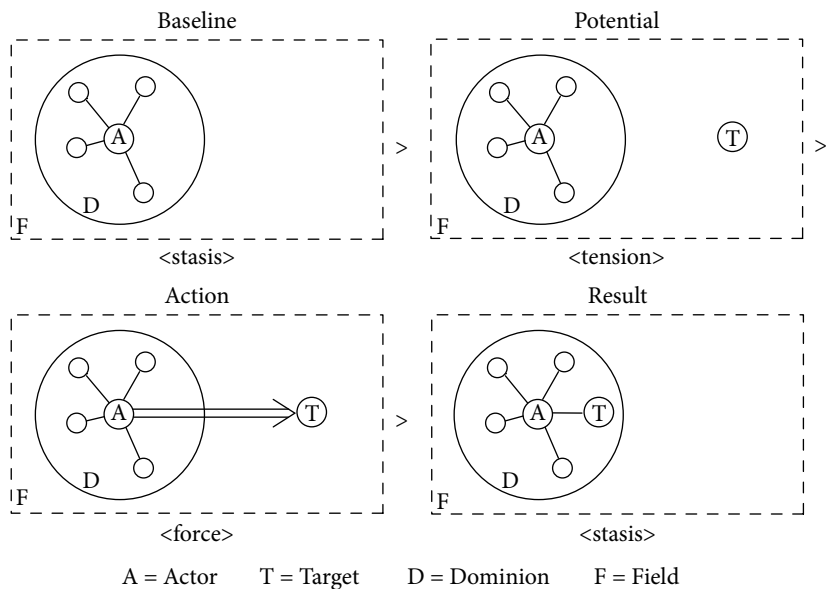


Figure 5.

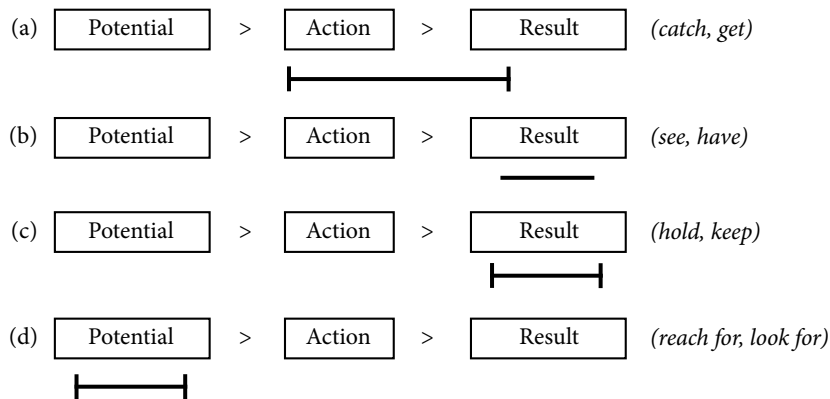


Figure 6.

4.2 Epistemic level

Our main concern here is with predicates pertaining to the acquisition of propositional knowledge. At this level, the actor is a *conceptualizer*, the target is a *proposition*, and the dominion is the conceptualizer's view of reality (or *epistemic dominion*), i.e. the set of propositions the conceptualizer currently holds to be valid. This level turns out

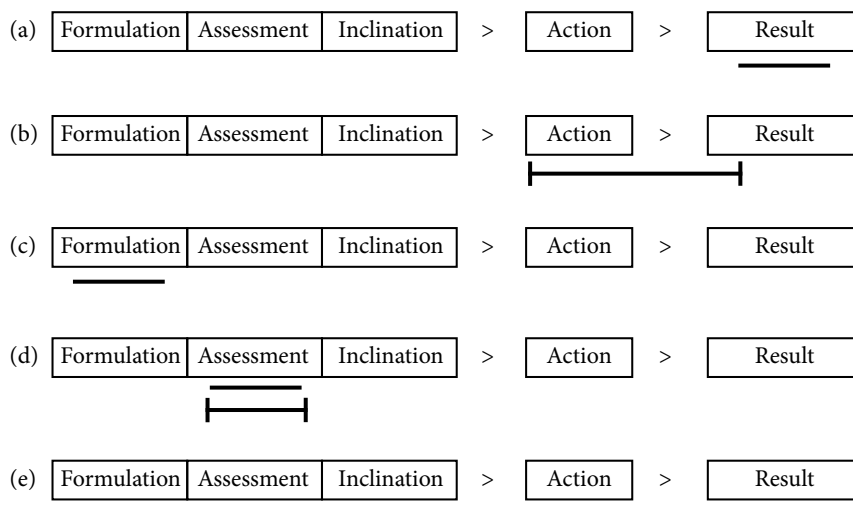


Figure 7.

to be extremely rich in terms of lexical coding, even confining our attention to predicates taking finite clauses as complements. There is in fact good reason to break down the potential phase into three successive stages, as shown in Figure 7 (Sumnicht 2001; Langacker 2004b).

These predicate types are respectively exemplified in (28). Result predicates indicate that the proposition is already established in the conceptualizer's epistemic dominion (reality conception).⁶ By contrast, action predicates profile the event of accepting it, so that it comes to be established there. The result predicates are analogous to *have*, the action predicates to *get*.

- (28) a. Result: He {*knows/believes/thinks/realizes/accepts/is sure/is certain/is convinced*} that Bush is a pacifist.
 b. Action: She {*learned/discovered/decided/concluded/realized/determined/found out/figured out*} that his whole story was a pack of lies.
 c. Formulation: It is {*possible/conceivable/plausible/feasible/imaginable*} that they could be of some use to us.
 d. Assessment: He {*wondered/considered/asked/was unsure/was undecided/was unclear*} whether the effort was worth the bother.
 e. Inclination: I {*suspect/believe/suppose/think/figure/reckon*} they will never agree to my offer.

The potential phase, preparatory to the action of accepting or rejecting a proposition, breaks down into three successive stages: *formulation*, *assessment*, and *inclination*. We

6. Note that some predicates, e.g. *believe*, have multiple senses distinguished by their position vis-à-vis this model.

can speak of formulation when a proposition merely enters the conceptualizer's field of awareness as something that cannot be rejected outright, thus has to be dealt with in some fashion. This can lead to active assessment, signaled grammatically by the use of *whether* in the subordinate clause. Assessment may lead to some preliminary inclination to accept the proposition (or else to reject it). Sumnicht (2001) has shown that so-called "negative raising" pertains to the inclination stage, as seen by the rough equivalence of the expressions in (29) to those in (28e).

- (29) *I don't {suspect/believe/suppose/think/figure/reckon} they will ever agree to my offer.*

Let me focus on three kinds of predicates representing stable situations: formulation, inclination, and result. Assessment and action can be thought of as transitions between these steady states. I will adopt the notations in Figure 8, where C is the conceptualizer (actor), P is the target proposition, and D is the conceptualizer's current view of reality (his epistemic dominion). In the *formulation* phase, P is merely present in C's field of awareness, as something that needs to be dealt with. Through assessment, C arrives at some sort of *inclination* in regard to P, as represented by the dashed arrow. With varying degrees of force, C inclines either toward accepting P as part of C's view of reality, or else rejecting it (e.g. with *doubt*). Still, no definite decision has been made. I would characterize epistemic modals (*may*, *will*, *should*, *must*, etc.) in this fashion, but cannot examine them here. In the *result* phase, a state of relaxation, P is already established in C's dominion.

Predicates pertaining to epistemic control can either be *personal* or *impersonal*. That is, the trajector (coded as grammatical subject) can either designate the conceptualizer who entertains the proposition expressed by the complement clause, or alternatively, impersonal *it* can fill the subject role.⁷ Some predicates allow both options, others just one. The distribution is skewed in interesting ways, reflecting the meanings of the predicates in question. For instance, predicates that profile *actions* (including specific acts of assessment) require personal subjects.⁸

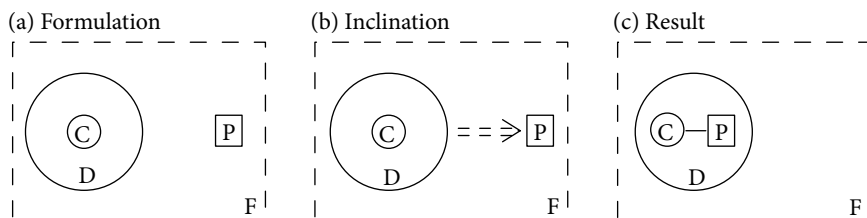


Figure 8.

7. I ignore for now the third possibility, quite rare in normal conversation, where the complement clause itself functions as grammatical subject.

8. The *it* in (30c–d) is of course to be taken as impersonal.

- (30) a. *Albert* {learned/decided/discovered} that aliens had stolen his shoes.
 b. *Albert* {wondered/considered/asked} whether aliens had stolen his shoes.
 c. **It* {learned/decided/discovered} that aliens had stolen Albert's shoes.
 d. **It* {wondered/considered/asked} whether aliens had stolen Albert's shoes.

This makes perfect sense in that mental actions require sentient actors. Conversely, *formulation* predicates seem always to be impersonal, as in (28c). We do not find corresponding expressions like (31):

- (31) **We are* {possible/conceivable/plausible/feasible/imaginable} that they could be of some use to us.

This too makes sense, for a sentence like this would imply that a conceptualizer consciously entertains a proposition without doing anything by way of initiating its assessment. Though not impossible, merely registering a proposition in consciousness, without any movement toward assessing its possible validity, is not the sort of thing we tend to do or that it is terribly useful to have a lexical item to describe.

Some impersonal predicates allow the option of specifying the conceptualizer by means of a *to*-phrase. Others do not:

- (32) a. Formulation: It is {conceivable/plausible/*possible/*feasible/*imaginable} to me that we could do it without getting caught.
 b. Assessment: It is {unclear/*arguable/*uncertain/*unsure/*undecided} to me whether mosquitoes have souls.
 c. Inclination: It {seems/appears/*is doubtful/*is likely/*is dubious} to me that she has enough money to buy Microsoft.
 d. Result: It is {apparent/evident/obvious/*certain/*definite/*true/*undeniable} to me that Croatia is destined to be the world's next superpower.

When possible, however, the *to*-phrase is always optional, and when it occurs, the prepositional object usually refers to the speaker, who is ultimately responsible for the judgment expressed in any case. What this indicates, unsurprisingly, is that impersonal sentences of this sort allow one to characterize the epistemic status of the complement proposition without however attributing the judgment in question to any particular conceptualizer. They instead invoke a *generalized conceptualizer*, implying that the same assessment would be made by anyone in a position to judge. This is not inconsistent with a periphrastic specification, by means of a *to*-phrase, that the speaker (or someone else) identifies with this generalized conceptualizer as one individual – maybe even the primary or the only one – who does in fact view things in this manner. The expressions in (33) support the suggestion that these sentences both evoke a conceptualizer in generalized fashion and also situate the speaker with respect to this general viewpoint.

- (33) *It is apparent – {at least to me/if only to me/to me and doubtless to others} – that the president has been lying to us about his motivations.*

Consider, then, a minimal contrast like (34), where the same predicate takes either a personal subject or impersonal *it*:

- (34) a. *I am certain that formalists will someday discover the meaningfulness of grammar.*
 b. *It is certain that formalists will someday discover the meaningfulness of grammar.*

Choosing *I* as subject highlights the speaker's own responsibility for the epistemic judgment. By using impersonal *it*, the speaker avoids the spotlight, shifting responsibility to the unspecified circumstances on the basis of which *any* conceptualizer would arrive at the same assessment. While it is true that the speaker retains ultimate responsibility, and could not plausibly deny the validity of the proposition said to be *certain*, the speaker's role is nonetheless defocused. The speaker remains offstage, only by implication subscribing to the view claimed to be evident to anyone who might consider the matter.

5. What does *it* mean?

That brings us to our central issues: the meaning of impersonal *it*, and the grammatical structure of expressions that employ it. I have approached these issues from three directions, each providing some important clues about the nature of *it* and *it*-constructions. I will now attempt to fit all the pieces together into a coherent account of the core phenomena.

5.1 Putting the pieces together

I propose that *it* is always meaningful and always referential in the linguistically relevant sense of that term. Its meaning is just as expected given its status as a third person singular neuter definite pronoun. As a pronoun, it profiles a thing characterized schematically in regard to type. Being third person singular neuter, it specifies this type as just non-human and non-plural. As a definite nominal, it singles out a unique instance of that type whose identity is supposedly evident in the discourse context. In anaphoric uses, the referent is identified by virtue of being coreferential to the antecedent nominal. In other cases, its identity may be evident from the non-linguistic context.

Intrinsically, however, *it* imposes few limitations on what it might designate. From the range of possible candidates – everything we might have occasion to refer to – its minimal type specification excludes only those that are human or plural. Since *it* can refer to everything else, it represents a kind of default, employed for anything not covered by other pronouns, which have smaller pools of eligible candidates. In terms of size (the number of eligible candidates), *it* does less to delimit this pool than any other pronoun.

The number of eligible candidates is however only one aspect of delimitation. Other factors include the size or extension of the referent and the possibility of vagueness – imprecision or uncertainty about just what is being singled out. The meaning of *it* is such that these two factors can be exploited to the full extent. For one thing, *it* can be used in reference to certain kinds of entities, such as masses and locations, which can be of any size, and can even be all-encompassing. This is not the case with a pronoun like *he* or *she*, which designates a person. Also, if it is known that the speaker is referring to some facet of a complex situation, *he* or *she* tells the listener just what to look for as its referent – a salient male or female individual. On the other hand, *it* affords no precise guidance concerning what kind of entity to look for – whether it is physical or abstract, discrete or mass-like, etc. The listener cannot even assume that the speaker would be capable of isolating or precisely delineating the intended referent.

The pronoun *it* has numerous non-anaphoric uses where it clearly refers to something but it is hard to say just what. As pointed out by Bolinger (1973), in such uses it sometimes alternates with forms like *things* or *everything*, without however being precisely equivalent to them. In (35a), *it* is something like the course of one's life, recent experience, or progress toward some goal. In (35b), *it* can perhaps be identified with a particular social relationship, but may go beyond this to include any potential for association or interaction. In (35c), *it* might be interpreted as referring to the reason for terminating a conversation, yet it is hardly certain that anything so specific is intended. And in (35d), I would speculate that *it* alludes to some unidentified entity appearing on the scene, referring either to this entity itself (which turns out to be Harry) or else, more abstractly, to the “path” representing its selection from a range of conceivable alternatives (Langacker 2001c).

- (35) a. *How's it going?* [cf. *How are things going?*]
 b. *It's all finished between us.* [cf. *Everything is finished between us.*]
 c. *I don't want to be rude – it's just that I have to go cook dinner.*
 d. *Look, it's Harry!*

In such uses, the referent of *it* is abstract yet something we feel we can almost identify. Almost, for it is hard to pin down its referent precisely or with full confidence, due to vagueness or its all-encompassing nature. Owing to these properties, the *it* in such expressions resembles impersonal *it* – indeed, many linguists would deny its meaningfulness. My own position is that impersonal *it* represents the extreme case of vagueness and non-delimitation, the endpoint on the scale, which the examples in (35) approximate but do not quite reach. Within the situation evoked, impersonal *it* is maximally vague and all-encompassing.

Chafe (1970: 101–102) said something similar in describing a sentence like *It's hot* or *It's late* as referring to an “all-encompassing state”, and to a sentence like *It's snowing* as referring to an “all-encompassing event”. He used the term *ambient* to indicate their maximally inclusive nature. Curiously, however, he ascribed this feature to the verb, treating the pronoun *it* as meaningless. Bolinger (1973) corrected this mistake and

demonstrated the continuum between “ambient *it*” and impersonal uses. The notion “ambience” cannot of course be interpreted as referring just to the atmosphere or the physical surroundings. Rather, “it embraces weather, time, circumstance, whatever is obvious by the nature of reality or the implications of context”. This characterization is perfectly consistent with the one offered here in terms of extreme non-delimitation within the scene described. It can further be reconciled with the other descriptions that have been offered, in terms of mental space, abstract setting, immediate scope, field, and “mere sceneness”/“general presence or availability”.

A key point in coming to grips with impersonal *it* is that it does not refer to a single kind of entity, even if all its instantiations are susceptible to schematic characterization based on maximal non-delimitation within a situation. We can speak of many kinds of situations, both physical and abstract, so the referent of *it* varies accordingly.⁹

The most obvious interpretations arise with “weather” verbs like *rain*, *snow*, *be foggy*, *be cold*, etc. In expressions like (36), one is tempted to interpret *it* as referring to the surrounding atmosphere that manifests the meteorological phenomenon. While I do not specifically rule this out, in view of the vagueness of *it* we must also consider other possibilities. Instead of the atmosphere per se, we might identify *it* as referring to the atmospheric conditions that generate the phenomenon. It could also be the expanse of space and time encompassing it, i.e. the spatial and temporal setting. More abstractly, *it* might be interpreted as indicating the relevant scope of awareness, i.e. everything evoked in apprehending the situation described. Here too there are alternate possibilities. In particular, who is the relevant conceptualizer? It might the speaker, who reports on a past situation from the more global perspective available at the time of speaking. Alternatively, it might be some implicit viewer observing the scene at the time indicated (*last night*).

(36) *It was {raining/snowing/foggy/cold} last night.*

Which of these options is the right one? I suspect that none of them is valid to the exclusion of the others. My claim is that the referent of impersonal *it* is maximally vague and undelimited within the situation described. Since the entities mentioned are roughly coextensive with that situation, *it* could be interpreted as referring to any of them, to any combination, or as simply being indeterminate as to which facet(s) of the scene it designates. This does not imply that it is meaningless or that it refers to nothing at all.

To the extent that we identify *it* with the global, all-encompassing surroundings, these surroundings are not always physical, and if physical are not always atmospheric. In (37a) the relevant spatial expanse is the ground. And while the surroundings in

9. To what extent a particular interpretation of *it* constitutes an actual, established meaning – not just a possible way of construing its schematic import – is a matter I will not address, nor is it terribly important from the CG standpoint.

(37b–f) have a spatial and/or temporal component, space and time per se do not seem crucial. The emphasis instead is on experiential factors. The experience can occur at the perceptual, mental, emotive, or social level, or any combination of these. The relevant global circumstances are those in which the experience is manifested and which make it possible, whatever their nature: concrete or abstract; physical, psychological, or social. They include the very notion of an experiencer – if only a generalized experiencer – able to apprehend the situation and have the experience in question.

- (37) a. *We can't walk through this field – it's oozing oil all over.*
 b. *It's our wedding anniversary.*
 c. *It's quiet in the countryside.*
 d. *It's chaotic in the Middle East.*
 e. *It's fun when old friends get together.*
 f. *It's awkward when your wife meets your lover.*

One kind of mental experience consists in making propositional judgments and constructing an ever-evolving conception of reality. This is the level invoked by classic examples of impersonal *it* supposedly involving “extraposition” of a subject complement clause:

- (38) a. *It's conceivable that we'll have to buy a new mattress.*
 b. *It's uncertain whether he can finish the race.*
 c. *It appears that the epidemic was caused by a virus.*
 d. *It's very clear that our leaders cannot be trusted.*

What constitutes the relevant circumstances or the total situation at this abstract level? It cannot be limited to a spatio-temporal expanse, or even to any particular domain of experience. What counts as the overall situation for purposes of making an epistemic judgment has to subsume everything evoked by the conceptualizer as the basis for making it. Thus included is any sort of general and particular knowledge required to formulate the proposition as well as any sort of information brought to bear in assessing it. Though it may seem circular, the relevant circumstances can be identified as everything falling within the conceptualizer's scope of awareness for purposes of apprehending the target proposition and dealing with it.

This scope of awareness is what I referred to earlier as the *field*. In general terms, the field was defined as the scope of potential interaction. This can be characterized with respect to different levels of interaction, e.g. physically as the extent of our reach, or perceptually as the maximal field of view. At higher levels of cognition, the field is much harder to delineate, given our extraordinary mental capabilities. But by analogy to the physical and perceptual levels, we can describe the field for higher-level cognitive processes as comprising everything a conceptualizer is capable of apprehending at a given moment, or everything apprehended for a given purpose. Metaphorically, it is the conceptualizer's “mental reach”.

I thus propose, as a general characterization, that impersonal *it* profiles the relevant field, i.e. the conceptualizer's scope of awareness for the issue at hand. The conceptualizer may be identified as the speaker or some other specific individual, but – not surprisingly for impersonal constructions – it tends to be a generalized conceptualizer. What constitutes the relevant field varies with purpose and level of experience (e.g. physical, perceptual, social, epistemic), and while *it* evokes the field as an undifferentiated whole, certain facets of it may stand out as being especially relevant or most centrally and directly involved in the relationship profiled by the clause.¹⁰ Such entities offer themselves as specific interpretations for the referent of *it*. I suspect, however, that the most schematic value predominates, such that *it* is maximally vague in reference. Imposing no delimitation on the field, in effect its referent is coextensive with it, or at least non-distinct.

5.2 Reconciliation

Highly general notions tend to be the hardest to characterize, and *it* is perhaps the most general of all. To what extent the present effort improves on previous ones is certainly debatable. It seems clear, however, that the various attempts listed earlier are very much in the same spirit, and given our current level of understanding, they are not so precisely formulated that there is any intrinsic conflict among them.

My characterization of impersonal *it* most obviously parallels Bolinger's. First, I emphasize that impersonal *it* represents the limiting case in the range of values consistent with the status of *it* as a third person singular neuter definite pronoun. My statement that it represents the extreme case of non-delimitation mirrors Bolinger's statement that *it* has "the greatest possible generality of meaning, limited only in the sense that it is 'neuter'". I further say that, while impersonal *it* evokes the field as an undifferentiated whole, the reference is vague, and certain facets may stand out as being especially relevant or most saliently and directly involved in the clausal relationship. This mirrors Bolinger's statement that *it* "embraces weather, time, circumstance, whatever is obvious by the nature of reality or the implications of context". What I have added to Bolinger's account is: (i) a more extensive discussion of nominal reference, including the notion of delimitation; (ii) more explicit invocation of a conceptualizer and the conceptualizer's scope of awareness; and (iii) identification of *it*'s referent with a specific construct (the field) central to a basic cognitive model (the control cycle) shown to be important for semantic and grammatical description.

Citing Bolinger and Gensler, Lakoff (1987: 542) mentions *it* in conjunction with existential *there*, proposing that the latter "designates a mental space in which a conceptual entity is to be located". Smith (2000) uses similar language in regard to German

10. These can thus be seen as the *active zone* of *it* with respect to the clausal relationship (Langacker 1993a).

es, further identifying the mental space as the one introduced by a “space-building” verb like ‘know’:

- (39) a. *Ich weiss es sicher, dass er morgen kommt.* [German]
 ‘I know for sure that he’s coming tomorrow’
 b. *Es ist sicher, dass Inge morgen ankommt.*
 ‘It’s certain that Inge will arrive tomorrow’

He suggests that explicit mention of this space prefigures the introduction of a proposition within it and accentuates its “mental distance” from the conceptualizer. Given how broadly and vaguely the notion *mental space* is defined (Fauconnier 1985), a field or “scope of awareness” certainly qualifies. Beyond this, Lakoff and Smith indicate that the pronoun prefigures the introduction of an element and establishes the context in which appears. This discourse function, which I have not sufficiently emphasized, is quite compatible with the description of a field, which, as the relevant scope of awareness, provides both the basis for entertaining a proposition and the context in which it emerges.

A space in which a proposition is introduced, or a context in which it emerges, is also reasonably described as an *abstract setting*. A typical setting is an encompassing expanse of space, or analogously an expanse of time, within which the process profiled by a clause unfolds. A setting of this sort is thus the relevant scope of awareness in space, or in time, for apprehending the clausal process. And indeed, for certain instances of impersonal *it*, notably with meteorological predicates, it might indeed be interpreted as referring to the spatio-temporal setting. While this is hardly sufficient for more abstract uses involving the assessment of propositions, there is no inherent reason for limiting the notion of a setting to space and time. A more abstract formulation of this construct along the lines of “scope of awareness” will accommodate both spatio-temporal settings and the epistemic field as special cases.

In CG, an expression’s *immediate scope* is defined as the general locus of viewing attention, those facets of the overall situation put “onstage” as being immediately relevant at a given level of organization for a particular purpose. In his analysis of impersonal constructions, Achard (1998: ch. 7) proposes that French *il* profiles the immediate scope for existential predications, with respect to which expressions of propositional judgment represent a natural extension. Thus *il* in (40a) designates the region attended to by the conceptualizer within which the tires are observable. It is not, however, just a spatial region but further subsumes, for instance, knowledge of the state of the art of tire production. Similarly, in (40b) *il* refers to the range of considerations brought to bear in assessing the complement proposition. This is clearly consistent with my characterization of impersonal *it* as indicating the relevant scope of awareness.

- (40) a. *Il existe des pneus qu’on a pas besoin de gonfler.* [French]
 ‘There exist tires that don’t need inflating’
 b. *Il est vrai que Jean ne la connaît pas.*
 ‘It’s true that John doesn’t know her’

Finally, Kirsner's description of Dutch *er* in terms of "low situational deixis" corresponds to my notions of weak pointing (via person only) and minimal delimitation. He further speaks of "general presence or availability", an entity being "on the scene" even though "the identity of that scene is immaterial". These notions can plausibly be equated with vagueness of reference within the scope of awareness.

Is there any conflict between the vagueness and non-delimitation ascribed to impersonal subjects and the CG characterization of subjects in terms of primary focal prominence (trajector status)? I think not. For one thing, this prominence is conferred on some element in a scene by virtue of how one chooses to express it linguistically; it is not a matter of intrinsic cognitive salience. Additionally, focal prominence can itself be characterized in such a way that conferring it on the field (or scope of awareness) seems quite natural.

The characterization I suggest for trajector and landmark is based on *dynamicity*, the notion that the *time course* of a conceptualization – how it develops and unfolds through processing time – is an important dimension of semantic structure (Langacker 2001a, 2005). A special case of dynamicity is *reference point organization*. This refers to a kind of sequenced mental access, in which one entity – the *reference point* – is invoked as a way of mentally "reaching" a *target* associated with it (Langacker, 1993c). Trajector and landmark can then be characterized as the *first* and *second reference points* accessed in building up to the full conception of a profiled relationship, which constitutes the target (Langacker 1999b, 2001b).

On this account, the grammatical subject is a *starting point* vis-à-vis the profiled clausal process, i.e. the initial reference point that anchors its conception (cf. Chafe 1994). Choosing impersonal *it* as subject makes very good sense from this perspective. The immediate scope of awareness is indeed a kind of starting point and point of access for apprehending what is manifested within it. Coding it as the grammatical subject – starting point for apprehending the clausal process – thus conforms to a general strategy of linguistic presentation observed in many other phenomena: that of starting with something large or inclusive, then "zooming in" to something smaller contained in it. Setting-subject constructions, illustrated in (9), are one case. A few others, of diverse sorts, are exemplified in (41): locative inversion, nested locatives, biblical citations, and whole-part compounds.

- (41) a. *In the driveway sat a brand new luxury car.*
 b. *He's staying in La Jolla, at La Valencia Hotel, on the sixth floor, in room 619.*
 c. *the book of Job, Chapter 28, verse 17*
 d. *fingernail, door handle, tire tread, tree root, jar lid, table leg, mountain top*

6. Impersonal constructions

Determining the meaning of impersonal *it* is only one facet of the overall problem of describing impersonal constructions. Here I can briefly examine only a small number of such constructions, hopefully diverse enough to be representative.

Let me first consider predicates like *hot*, *cold*, *freezing*, and *miserable*, which can take as their subject either an experiencer, impersonal *it*, or a locational expression like *Chicago*:¹¹

- (42) a. *I'm {hot/cold/freezing/miserable} here in Chicago.*
 b. *It's {hot/cold/freezing/miserable} in Chicago.*
 c. *Chicago is {hot/cold/freezing/miserable}.*

As shown in Figure 9, all three constructions involve the same elements: an experienced sensation (dashed arrow), which implies an experiencer (E); by nature the experiencer has a certain scope of awareness (F), including the ambient environment; something non-specific within this field induces (double arrow) the sensation; and all this occurs in a spatial setting, identified here as Chicago. In each case, the trajector is specified by a nominal that thereby functions as grammatical subject, and a non-trajector setting is specified adverbially in the usual way.

The constructions differ primarily in which facets of this situation they highlight through profiling and choice of trajector. The construction in (42a) highlights the experiencer and the experience itself, leaving its cause implicit. Indeed, it does not necessarily imply that the weather in Chicago is responsible – it merely says that the speaker has the sensation, conceivably due to psychosis or other reasons unrelated to atmospheric conditions. The other constructions shift the primary focus away from the experiencer and place it on either the global field, expressed by *it*, or on the spatial setting, Chicago. Both constructions favor a generalized experiencer, implicit and unidentified. In each case the focus shifts, as expected, to the trajector's role in hosting and possibly being responsible for inducing the experience. The contrast between (42b) and (42c) is a matter of whether the trajector is identified as the experiential field per se or as the spatial setting with which it is largely co-extensive. Because it highlights the scope of awareness, (42b) places slightly more emphasis on subjective experience than does (42c). Of the two, the latter more easily lends itself to interpretation as an objective statement of scientific fact.

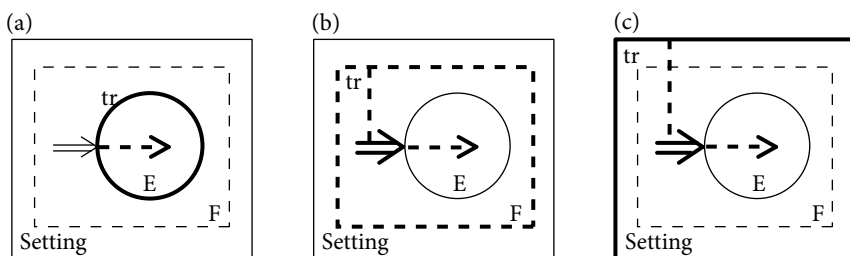


Figure 9.

11. Of course, not every predicate that can be used in one pattern can be used in the others, e.g. *It's windy in Chicago*, *Chicago is windy*, but **I'm windy in Chicago*; or *I'm happy in Chicago*, but **It's happy in Chicago*, **Chicago is happy*.

Whereas the predicates in (42) are primarily experiential and only secondarily meteorological, the opposite is true for predicates like *rain*, *snow*, *be foggy*, *be windy*, etc. I suggest, however, that a sentence like *It's raining* does pertain to the nature of environmental experience and thus does invoke an experiencer, albeit one who remains off-stage and tends to be construed in generalized fashion. A diagrammatic representation would be analogous to Figure 9 (b), except that the profiled relationship would be that of water descending through the atmosphere, its apprehension by the experiencer being implicit and unprofiled.

Let us next consider predicates of propositional attitude, which I will exemplify by means of inclination predicates. Once more there are three basic patterns, as seen in (43): a personal subject, impersonal *it* as subject, and a clausal subject.¹² These are respectively diagrammed in Figure 10.

- (43) a. *I {suspect/believe/imagine} that she will be elected.*
 b. *It {appears/seems/is likely} that she will be elected.*
 c. *That she will be elected is {likely/probable/doubtful}.*

The epistemic control cycle is in each case an important aspect of their meaning. In the personal construction, the conceptualizer functions as trajector, and the target proposition as landmark. These are respectively spelled out by the subject nominal and the complement clause, in accordance with the regular subject and object constructions.

The other two patterns defocus the conceptualizer, which tends to be construed in generalized fashion. *It*-impersonals shift primary focal prominence to the field and therefore highlight the role of the relevant scope of awareness – notably the range of considerations that can be brought to bear for P's assessment – in bringing about the inclination toward accepting P as real. The proposition still functions as landmark. Note, however, that this is not a transitive construction, as it does not profile the interaction between two participants, the trajector being more setting-like. The expressions in (43b) thus cannot be passivized (cf. (11c–d)).

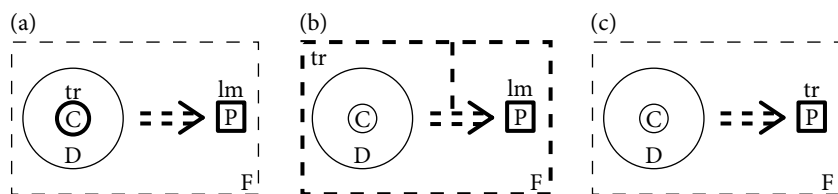


Figure 10.

12. For so-called "raising" constructions, see Langacker (1995).

Given that the conceptualizer is not in focus, and that English requires an overt clausal subject, there is one other option besides the field: the complement proposition itself. This results in pattern (c). It simply highlights the role of P as target of inclination, i.e. as something whose validity anybody would incline to (or incline away from, in the case of *doubtful*) under the circumstances (F).

For a final example, consider predicates of emotional reaction, as in (44):

- (44) a. *His crude jokes {embarrassed/surprised/amused} me.*
- b. *His crude jokes are {embarrassing/surprising/amusing}.*
- c. *It's {embarrassing/surprising/amusing} that he tells crude jokes.*
- d. *It's {embarrassing/surprising/amusing} when he tells crude jokes.*

Lexical verbs like *embarrass*, *surprise*, and *amuse* profile the process of the trajector inducing this reaction in the experiencer, focused as landmark. This is sketched in Figure 11 (a). The trajector can be a proposition (e.g. *That he told so many crude jokes embarrassed me*) or some kind of activity or event, but in any case it is something accepted as real, thus included in E's epistemic dominion (D). The field (F) is more inclusive, subsuming such factors as E's sense of propriety, emotional dispositions, and appreciation of social expectations, all relevant to the emotional reaction's emergence. The adjectival predicates in (44b) are parallel to the verbs in (44a). The difference is that in (44b) the conceptualizer is generalized, hence defocused and usually left implicit. As generalized statements, these sentences ascribe a property to the subject rather than describing specific events of emotional instigation.

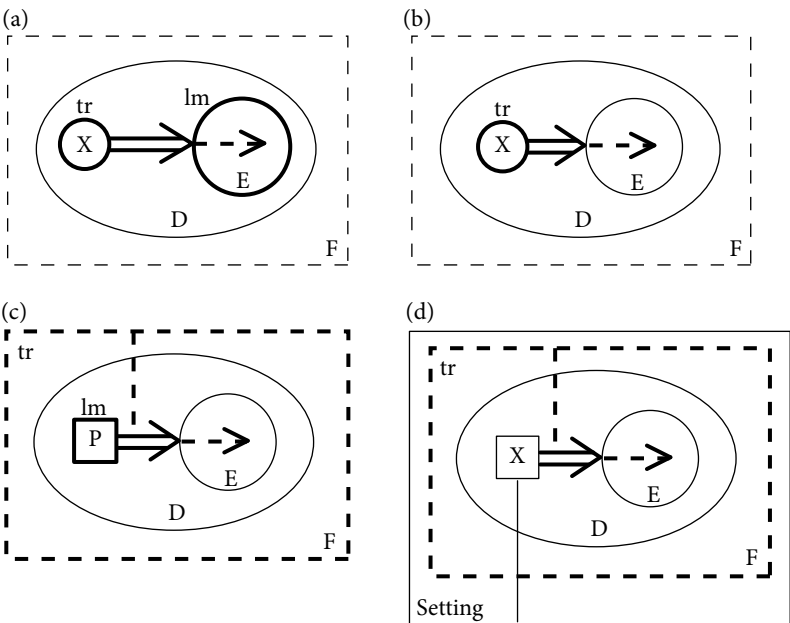


Figure 11.

In (44c–d), trajector status shifts to the field, coded by impersonal *it*. In Figure 11 (c), the instigating factor is a proposition accepted as real, while in (d) it is an occurrence. This contrast shows up formally in the use of a *that*-clause vs. a *when*-clause. In the former case, with the field focused as trajector, P has only secondary focal prominence, i.e. landmark status, just as in Figure 10 (b). This is not a transitive construction (and does not passivize) because it does not profile the interaction of participants. In pattern (d), on the other hand, the instigating occurrence is construed as defining a temporal setting, consisting of the span of time during which the occurrence is manifested. It is thus expressed by means of a *when*-clause, as is usual for temporal settings. The import of (44d) is that, during the time span characterized by his telling jokes, anyone apprehending the total circumstances (F) – including social expectations, a sense of propriety, etc. – would experience embarrassment induced by that occurrence.¹³

7. Further prospects

Numerous topics cry out for further investigation. Let me conclude by mentioning just a few.

First, I have not considered “existential” *there* and how it relates to impersonal *it*. In other languages, the distinction made in English is neutralized, e.g., French *il* translates as *there* in (40a). At present I can offer only the vague suggestion that *it* tends to be more abstract and more inclusive than *there*.

A second major problem is the analysis of comparable expressions in “pro drop” languages like Spanish and Russian. In particular, how should sentences like (3c), *Parece que es muy inteligente* ‘It seems that she is very intelligent’, or those in (45), be analyzed? Is it reasonable to claim, as suggested by the present account, that such sentences have an unexpressed trajector identifiable as the relevant scope of awareness? Smith (1994) has proposed an analysis along these lines for Russian, observing that it neatly accounts for various grammatical properties of these constructions (notably a verb’s inflection as third person singular).

- | | | |
|---------|---|-----------|
| (45) a. | <i>Llueve</i> . ‘It’s raining’ | [Spanish] |
| b. | <i>Mne xolodno</i> . ‘It’s cold to me’/‘I’m cold’ | [Russian] |

Another matter is the occurrence of *it* in “clefting”, e.g. (1e) *It’s in April that we go to Japan*. Here I suspect that *it* is more specific than just the relevant scope of awareness. I speculate that *it* designates an abstract “path of selection”, whereby one option is

13. Since the occurrence has the dual role of both defining the temporal setting and also instigating the emotional reaction, it would be just a short step for this to be reanalyzed as a complement clause construction with *when* as complementizer (analogous to a *that*-clause), rather than an adverbial clause. I would predict that this would show up as an attested path of grammaticization.

chosen from a range of conceivable alternatives. I have previously characterized this notion in the analysis of English WH (Langacker 2001c).

A final problem worth mentioning is the occurrence of *it* in object position, as in (46):

- (46) a. *She resents it very much that she hasn't been promoted.*
 b. *I love it when you do that.*

Smith 2000 was primarily concerned with the occurrence of German *es* in object position, as in (39a). Consistent with Smith's analysis, it strikes me as reasonable to say that the attitude (resentment, love, etc.) is directed at the overall situation (scope of awareness), within which the specific occurrence expressed by the subordinate clause stands out as the instigating factor, in the manner of Figure 11 (c)–(d).

Obviously, all these issues (and many more besides) require extensive investigation, both individually and in relation to one another. I believe, however, that the semantic characterization proposed for *it* and impersonal constructions offers a promising basis for a unified and linguistically revealing account.

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PART 3

Expanding the paradigm

Do people infer the entailments of conceptual metaphors during verbal metaphor understanding?

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One of the central claims of conceptual metaphor theory is that metaphorical mappings from source to target domains express a rich set of correspondences or entailments. We present the results of a psychological experiment that suggests people can recognize certain metaphorical inferences about a target domain as being appropriate when they read metaphorical statements. Moreover, when people read verbal metaphors about a target domain, they see other metaphorical entailments from different conceptual metaphors as being less appropriate. These data are reasonably consistent with certain claims of conceptual metaphor theory, yet more empirical studies are needed to examine the conditions under which people actually generate entailments motivated by underlying conceptual metaphors during ordinary language use.

Keywords: metaphorical inference, psychological experiment, target domain

1. Introduction

Consider the following narrative published in *The New York Times* under the title “Politics makes estranged bedfellows” that shows how embodied experience helps the speaker to structure the description of what happened to his relationship:

Mr. McAllister, who runs a digital media company in New York, said conversations about politics and their divergent views made for more passionate evenings with his new date, a marketing executive. “It was an enhancement to our chemistry and sexual energy,” he said.

But then the fantasized ideal began to crack. When Mr. McAllister went to a casting call for a commercial for the left-leaning group MoveOn.org and got a part, his girlfriend was dismayed. “Having a spirited debate is one thing, but being part of a political machine that opposes her candidate is another,” he said.

She broke their next date, and soon the relationship ended. “The temperature went from boiling to subzero after I did something to get people to support my candidate,” Mr. McAllister said.

For most couples with differing political views, constant fighting is no way to live. (*New York Times*, 31.10.2004)

McAllister’s description of the relationship in terms of “The temperature went from boiling to subzero”, reveals how two different domains of experience, that is the spatial domain of motion and the perceptual domain of heat, serve as a source for the metaphorical conceptualization of the abstract target concept of change, reflecting the primary metaphor EMOTION IS HEAT. But do people infer this conceptual metaphor when understanding an expression like *The temperature went from boiling to subzero* in this context? Do people also infer some of the various entailments arising from the metaphorical mapping of motion onto change, such as things that do not move do not change, and the faster the motion the greater the change? Our purpose in this chapter is to examine these questions from the overlapping, but not identical, perspective of research in cognitive linguistics and psycholinguistics.

2. Evidence supporting the reality of conceptual metaphors

Over the past 30 years, there has accumulated an enormous body of empirical evidence from cognitive linguistics, and related disciplines, suggesting how hypothetical conceptual metaphors provide part of the underlying cognitive motivation for the systematic analyses of conventional expressions across a number of domains and languages (both spoken and signed), lexical generalizations, generalizations across novel cases (e.g. creative metaphorical expressions), historical change, gesture, child language acquisition, metaphorical discourse, psycholinguistic findings, and computational/neural models of metaphor (Lakoff and Johnson 1999, 2002). This research on conceptual metaphor has led to a virtual paradigm shift in the study of metaphor as many scholars now maintain that metaphors are indeed part of human thought, and not just one-shot, creative mappings that do not endure as part of people’s underlying conceptual systems (Gibbs 1994, 2006).

Some of the reason for their belief in the importance of metaphor in human thought comes from significant experimental research in cognitive psychology and psycholinguistics. For instance, there exists a large body of research suggesting that conceptual metaphors have psychological reality and shape aspects of verbal metaphor use. Gibbs (1994) distinguished between several possible hypotheses on conceptual metaphor and linguistic processing, and insisted that scholars carefully differentiate the claim that conceptual metaphor influences people’s tacit understandings of why many words and phrases have the metaphoric meaning they do, and the possibility that conceptual metaphors are automatically accessed during immediate, online verbal metaphor understanding.

Indeed, psychological research provides some evidence to support both of these different hypotheses. In the context of the above example, research suggests that people tacitly recognize that the *CHANGE IS MOTION* metaphor partly motivates the statement *The temperature went from boiling to subzero*, when used to speak about changes in a relationship (Gibbs 1992; Gibbs and O'Brien 1990; Nayak and Gibbs 1990). Moreover, studies also show that people may automatically access this conceptual metaphor during their immediate processing of this sort of linguistic expression (Gibbs, Bogdanovich, Sykes, and Barr 1997). More recent empirical research suggests that embodied conceptual metaphors motivate people's use and understanding of different metaphoric language (Boroditsky and Ramscar 2002; Gibbs 2006; Gibbs and Franks 2002; Gibbs, Lima, and Francuzo 2004; Gibbs, Gould, and Andric 2005–6; McGlone and Harding 1997). These experimental studies indicate that people's recurring embodied experiences often play a role in how they tacitly make sense of why many words and expressions have the specific meanings they do, and in their immediate processing of many verbal metaphors. People may, for instance, be creating embodied simulations of speakers' messages that involve moment-by-moment "what must it be like" processes that make use of ongoing tactile-kinesthetic experiences (Gibbs 2006b). Understanding abstract events, such as "grasping the concept", is constrained by people's embodied experience as if they are immersed in the discourse situation, even when these events can only be metaphorically realized. This empirical work provides evidence that conceptual metaphors are psychologically-real entities and play at least some role in people's comprehension.

3. Skeptical questions about conceptual metaphor theory

Not surprisingly, there are psychologists who expressed great skepticism about the very idea of conceptual metaphor, based on linguistic evidence alone, and some of the claims of conceptual metaphor theory. Some psychologists, however, acknowledge that people may have enduring metaphorical concepts, or concepts that are partially structured in terms of metaphor, but still question whether conceptual metaphors are recruited as part of people's understanding of language (Glucksberg 2001; Glucksberg and Keysar 1990; Honeck and Temple 1996; McGlone 2007). These researchers argue that even though pre-stored metaphorical mappings may be available, such knowledge may not always be accessible and ordinarily used in any given context.

Psychologists, in particular, are concerned with the fact that most metaphor analyses come from individual linguists' intuitions without explicit criteria to support these judgments. For instance, Vervaeke and Kennedy (1993) argue that conceptual metaphor theory is unfalsifiable if the only data in its favor is the systematic grouping of metaphors linked by a common theme as identified by an individual linguist. Consider, for example, the widely discussed conceptual metaphor *ARGUMENT IS WAR* (Lakoff and Johnson 2002), which presumably motivates conventional expressions such as *He attacked my argument* and *He defended his position*. Lakoff and Johnson list several characteristics of

arguments that arise from the mapping of ideas about war onto the target domain of arguments, such as the following. One participant has a position while an opposing participant has a different position. Both positions matter because one must surrender for the other to achieve victory. Differences of opinion become a conflict. Both participants plan strategy, marshal their forces, attack the other's claims, defend their own, maneuver to achieve a stronger position, and occasionally retreat before a stronger argument.

However, Vervaeke and Kennedy argue that many of these elements and many of the conventional expressions consistent with the ARGUMENT IS WAR conceptual metaphor are also consistent with different possible conceptual metaphors such as ARGUMENT IS CHESS and ARGUMENT IS BOXING. The names of some chess pieces suggest a war metaphor (castle, knight), and war is frequently mentioned in the context of athletic and business competition. When terms such as *attack*, *defend*, or *strategy* appear in discussions of arguments, one cannot be sure whether any particular person will associate these words with chess, boxing, all-out war, or with nothing beyond some highly abstract concept. Likewise, other conventional expressions seen as support for ARGUMENT IS WAR such as *He demolished her argument* and *His criticisms were right on target* could just as reasonably be associated with the source domain of BUILDINGS or PLACEMENT (Haser 2005). In a similar vein, Haser (2005) notes that the level of generality for the source domain of a conceptual metaphor is often specified in an arbitrary manner. Thus, the ARGUMENT IS WAR metaphor might better be expressed using a more general source domain such as FIGHT, even though this level of abstraction makes it far less clear whether we are still speaking about arguments metaphorically. Many people would feel quite comfortable subcategorizing argument as literally a kind of fight.

4. Unexplored ambiguities in conceptual metaphor analyses

The debates over conceptual metaphor and its role in understanding metaphorical language will surely continue within psychology. But there are also other questions that can be raised about the conclusions of cognitive linguistic analyses on metaphor. Consider the conventional metaphoric expression *Our marriage has hit the rocks*. Cognitive linguistic analyses and some psychological research suggest that people's understanding of what this expression means is tied to their activating a conceptual metaphor that provide part of the motivation for why this phrase exists in the first place, namely LOVE RELATIONSHIPS ARE JOURNEYS (Gibbs 1994). But it is not clear from cognitive linguistic studies or the extant psychological experiments whether people merely access the conceptual metaphor LOVE RELATIONSHIPS ARE JOURNEYS as part of their comprehension of *Our marriage has hit the rocks* or whether people must first access the conceptual metaphor and use that information to infer the intended meaning of this expression. The difference between these two possibilities is very important. In the former possibility, people understand *My marriage has hit the rocks* and then access the motivating conceptual metaphor LOVE RELATIONSHIPS ARE JOURNEYS without necessarily

using this conceptual metaphor to compute what the conventional linguistic expression means. This possibility may seem especially likely given people's familiarity with highly frequent conventional expressions like *My marriage has hit the rocks*.

On the other hand, the latter possibility implies that conceptual metaphors are necessary to compute or infer that *My marriage has hit the rocks* means that my marriage is in trouble. Under this scene, people may recognize that *My marriage has hit the rocks* refers to some mappings of journeys onto marriages and specifically refers to one of the entailments of this conceptual metaphorical mapping, such that difficulties to travel are difficulties in the relationship. There may still be two further ways that this can be accomplished. People may access the relevant conceptual metaphor and then compute the source-to-target domain mappings, see what entailments or correspondences can be easily generated, and then determine if any of these entailments best explain what the linguistic expression likely means. For instance, people hearing *My marriage has hit the rocks* infer the conceptual metaphor LOVE RELATIONSHIPS ARE JOURNEYS, then begin to compute source-to-target domain mappings (e.g., difficulties in travel are difficulties in the relationship), and then stop doing so when one of these seems most consistent with the expression's contextual meaning. A similar possibility is that people hearing *My marriage has hit the rocks* access the conceptual metaphor LOVE RELATIONSHIPS ARE JOURNEYS, along with pre-existing lists of entailments, from which they select the one that appears to provide the best interpretative fit. The mentioned studies display that we often access conceptual metaphors in order to understand metaphorical expressions, however, these studies cannot make any statements about which elements from a source domain actually get mapped onto the target domain. A single metaphorical utterance does not exploit all the elements that could potentially be mapped from source to target domain. Lakoff and Johnson (1980) pointed out that conceptual metaphors are always only partial mappings. Speakers may only intend a small part of what a conceptual metaphor makes available.

We frankly do not know which of these different views makes the best sense, and cognitive linguists have simply not addressed any of these possibilities; although we guess that most cognitive linguists might assume that the entailments of the most common conceptual metaphors are pre-computed and exist with the conceptual metaphor en bloc. Thus, most cognitive linguists would assume that the entailments of conceptual metaphors are accessed rather than computed during ordinary language processing. One challenge for expanding the horizons of cognitive linguistic research is to suggest ways of distinguishing between these various possibilities for how people recruit conceptual metaphors during immediate linguistic interpretation.

5. The problem of metaphorical entailments

A different challenge for both cognitive linguists and psycholinguists is to explore how many of the entailments associated with a conceptual metaphor are recruited during

metaphor interpretation. For instance, when people hear the statement *My marriage is on the rocks* we may presume based on experimental findings, that a conceptual metaphor like RELATIONSHIPS ARE JOURNEYS, is activated or created, as part of listeners' understanding of the expression. From the activation of a relevant, motivating conceptual metaphor, we may also presume that the appropriate entailment is accessed from a pre-established store which allows people to understand what an expression like *My marriage is on the rocks* specifically means.

Cognitive linguistic analyses of conceptual metaphor, for instance, infer the presence of an underlying metaphorical mapping, or conceptual metaphor that presumably motivates the existence of different conventional expressions. Hundreds of articles on metaphor posit literally hundreds of different conceptual metaphors for dozens of target domains. Consider one classic example.

IDEAS ARE PEOPLE

He is the father of modern biology.

- the father corresponds to the person who had the idea/creative insight

Einstein gave birth to the theory of relativity.

- to originate an idea corresponds to give birth to a child

Those ideas died off in the Middle Ages.

- ideas correspond to the body alive

But how does an analyst infer the conceptual metaphor IDEAS ARE PEOPLE from seeing these three different conventional expressions? Thus, when saying *Those ideas died off in the Middle Ages*, why must we think of *those ideas* as people as opposed to some other biological entity? For the first expression, *He is the father of modern biology*, why is it that the idea of *modern biology* assumed to be a person, rather than the creator of modern biology being the only metaphorical element here, namely the *He* being referred to as *the father*?

A similar set of questions can be raised for a different set of conceptual metaphors. Consider the following metaphors related to the target domain of friendship:

FRIENDSHIP AS A LIVING ORGANISM

- 'The growth of the organism is slow' corresponds to 'the development of the friendship is slow'

Friendships take time to develop.

- 'An organism can grow out of another organism' corresponds to 'a friendship can develop from another relationship'

Friendships can grow out of colleague relationships.

- 'The organism needs to be nurtured' corresponds to 'the friendship needs to be nurtured'

Janet chose to foster friendship.

- ‘A strong organism may survive under extreme conditions’ corresponds to ‘the existence of a strong friendship that may continue under extreme conditions’
Pen pals prove that friendship can survive vast distance.

A couple of questions can also be raised about this analysis. First, must the idea of ‘develop’ be related to a biological process (e.g., *The man developed the photographs in the darkroom*)? Second, does the word *survive* always refer to a strictly biological entity or can it be used to refer to the existence of any physical entity (e.g., *The building did not survive the hurricane*)?

Problems like these arise for many classic cognitive linguistic analyses, which raise additional, general questions, about the specification of the source domain, how many individual expressions must systematically relate to one another to be sufficient to posit an individual conceptual metaphor, and how do other conceptual metaphors for IDEAS (e.g. IDEAS ARE PLANTS, IDEAS ARE OBJECTS) relate to one another.

Judging the empirical adequacy of any individual analysis is usually done as a matter of belief in one’s own intuition, something supported by counter-examples. Yet what is needed is a clearer description of how metaphor analysts came up with their classification. What were the criteria, beyond pure intuition, for determining what counts as a metaphorical expression in the language? Following this, what are the criteria for positing that a conceptual metaphor of some sort underlies the creation and use of a set of systematically related linguistic expressions?

One empirical case study raised similar questions with the possible entailments of conceptual metaphors and the consequences of deriving different interpretations. Based on a corpus of conversations about cancer, Semino, Haywood, and Crisp (2004) present two different possibilities of analytical routes to the same metaphor depending on if we take CANCER or CANCER BECOMING ACTIVE as the target domain. In both possibilities, cancer is conceptualized as a volcano:

- (1) *Something is gonna suddenly erupt and it’s all going to be all over*
- (2) *as far as cancer that was in the bones is concerned that is dormant*

In another example, cancer corresponds to a horse:

- (3) *so I mentioned this to him last time I went; I said come on that’s nearly double, galloping away; he said oh no it’s the way they measured it*

(Semino et al. 2004: 1281)

However, Semino et al. also pointed out that both volcanoes and certain types of animals can be associated literally with the (temporary) state of being dormant. The problems related to these examples concern what conceptual metaphors are involved, what conceptual metaphors might be conventional, and how exactly cancer itself is conceptualized. In the hypothesis the authors made about underlying conventional conceptual

metaphors if the conceptualization of cancer as a horse, derived from the GALOPWAY examples, is linked with the ANIMAL reading of the DORMANT metaphor, then they identify a superordinate conventional metaphor CANCER IS ANIMAL with the sub-mappings CANCER IS HORSE and CANCER IS HIBERNATING ANIMAL. Nevertheless, if we link the conceptualization of cancer as a volcano from the 'erupt' example with the VOLCANO reading of the DORMANT metaphor, then there is some evidence for the existence of a conceptual CANCER IS VOLCANO metaphor. As Semino et al. comment, "decisions about exactly what concepts are referred to by particular linguistic expressions and whether or not certain concepts apply literally to other concepts is not a straightforward matter" (2004: 1280).

One may also ask whether all of these correspondences are indeed understood whenever the conceptual metaphor is recruited during some act of language understanding. Again, the cognitive linguistic literature does not provide a straightforward answer to this question. We can learn to do cognitive linguistic analyses of language, posit the existence of conceptual metaphors, and then suggest possible entailments that arise from the source-to-target mappings that motivate the existence of particular conventional linguistic expressions. Although many of the examples in the literature seem plausible, at least some seem quite idiosyncratic and not well motivated.

There remains the major problem of determining what conceptual metaphor best explains some set of conventional expressions. But there is also the issue of figuring out how entailments of RELATIONSHIPS ARE JOURNEYS are actively created and then stored or computed on the fly. We do not question that conventional expressions like these seem alone are possibly systematic related from the point of view of the analyst. Our concern is with the psychological issue of whether people understand one, some, or all of the possible meaning entailments associated with a conceptual metaphor when they process conventional metaphorical expressions motivated by that conceptual metaphor. Once again, the cognitive linguistic literature does not offer an answer to this question, because the question has never really been asked before. From a psycholinguistic perspective, nonetheless, we can imagine several possible responses that primarily differ depending on the specific time course of understanding that is being examined and seen as most theoretically interesting.

6. Exploratory study on inferring entailment of conceptual metaphors

We systematically examined ordinary speakers' intuitions about whether individual metaphoric expressions implied certain inferences that are typically believed to arise from these statements' underlying conceptual metaphors. For instance, conceptual metaphor theory posits that we understand the conventional expression *I was given new strength by her love*, via the instantiation of an underlying conceptual metaphor LOVE IS NUTRIENT. This same conceptual metaphor motivates the conventional

expressions *I am starved for affection*, with the entailment in this case being that the hungry person is the person who desires love. *She is sustained by love*, which expresses the entailment that effects of nourishment correspond to the consequences of love, and *She is love-starved*, where the entailment expressed comes from the idea that hunger corresponds to the desire for love.

We attempt to demonstrate why a certain entailment corresponds to a certain metaphorical expression, but not to others, although some entailments can be more closely related than others. The question we asked is if a person read *I was given new strength by his love*, do they recognize that the various entailments associated with LOVE IS NUTRIENT are implied? On the other hand, if a person read *I was given new strength by his love*, do they see expressions such as *Their relationship is really going somewhere* or *They are making great progress in their marriage* as being unrelated, because these are motivated by different conceptual metaphor (e.g. LOVE IS JOURNEY)? Thus, they refer to the same target domain of LOVE RELATIONSHIPS but have a different source domain, which gives rise to a different set of meaning entailments, than is the case for LOVE RELATIONSHIP IS A NUTRIENT. We predicted that items with a consistent conceptual metaphor, linguistic metaphor and its entailment, for instance the metaphorical expression *The relationship is sustained by his love* matched to EFFECTS OF NOURISHMENT ARE EFFECTS OF LOVE, as well as items which have metaphorical expressions with a common Source Domain, such as NUTRIENT in *Their relationship is starved for love* and *Their relationship is sustained by his love* will receive higher scores. Those items that contain metaphorical expressions with a different Source Domain will receive lower scores.

Twenty-four undergraduate Psychology students at the University of California, Santa Cruz, participated as subjects to fulfill a course requirement. All participants were native English speakers.

We first selected four Target Domains, each of which had been widely discussed within the cognitive linguistic literature as being structured by at least two different source domains. This resulting set of eight conceptual metaphors each generated two different entailments that could be expressed by different linguistic expressions. Consider for instance the following example of a conceptual metaphor, two of its entailments, and corresponding linguistic expressions:

LOVE IS A JOURNEY

- people who experience impediments to travel are people who have difficulties in love relationships
Their relationship has been a bumpy road.
- the goals people have in love relationships correspond to the goal (s) people have in journeys
Their relationship is going nowhere.

A different conceptual metaphor using the same target domain but a different source domain, along with two of its entailments and corresponding linguistic metaphors, is seen in the following example:

LOVE IS A NUTRIENT

- the desire for nourishment that people have in life correspond to the desire for love that people experience in love relationships
Their relationship is starved for love.
- the effects that nourishment has in people's lives correspond to the effect that love has on people's relationships
Their relationship is sustained by his love.

Using these two conceptual metaphors for the same target domain, we can again state our research questions. Consider the verbal metaphor *The relationship has been a long bumpy road* that is motivated by the RELATIONSHIPS ARE JOURNEYS conceptual metaphor. First, do people reading the verbal metaphor *The relationship has been a long bumpy road* infer the consistent entailment that people who experience impediments to travel are people who have difficulties in love relationships (i.e. linguistic metaphor identical to same entailment in same conceptual metaphor)? Second, do people reading the verbal metaphor *The relationship has been a long bumpy road* infer the related entailment that the goals people have in love relationships correspond to the goal (s) people have in journeys (i.e., linguistic metaphor comes from related entailment in same conceptual metaphor)? Third, do people reading the verbal metaphor *The relationship has been a long bumpy road* infer the unrelated entailment that the desire for nourishment that people have in life correspond to the desire for love that people experience in love relationships (i.e., linguistic metaphor comes from unrelated entailment from a different conceptual metaphor)? Finally, do people reading the verbal metaphor *The relationship has been a long bumpy road* infer the unrelated entailment that the effects that nourishment has in people's lives correspond to the effect that love has on people's relationships (i.e., linguistic metaphor comes from another unrelated entailment from a different conceptual metaphor)?

These four possibilities can be explored in a different manner by presenting people with verbal metaphors motivated by a different conceptual metaphor such as *Their relationship is sustained by his love* from LOVE RELATIONSHIPS ARE NUTRIENTS. Overall, our study represented a 4 (target domains) x 2 (source domains) x 2 (entailments) x 2 (same vs. different entailment) experimental design, which generated 64 different stimuli items. A list of these stimuli is presented in Appendix A. To minimize how many judgments participants had to make, and to limit the length of the study, we broke these 64 items up into two groups of stimuli with 12 people receiving one group (32 items) and 12 participants receiving the other, counterbalanced group of items. Appendix B provides examples of the exact stimuli and the form of the questions given to participants.

For the experiment, each participant was given a booklet that contained the instructions and the experimental materials. Participants were specifically instructed as follows:

We are interested in your intuitions about what speakers imply when they make various linguistic statements. You will be presented with a statement and asked to judge if the speaker also implies something else by what he/she says. Circle your answer on a rating scale of 1–7 where 1 means NO, that is, the speaker DOES NOT IMPLY that thing, and 7 means YES, that is, the speaker IMPLIES that thing.

They were encouraged to use all portions of the rating scale in making their judgments, so that if a speaker sort of implied some meaning then the participant should circle 3, 4 or 5. The experiment took about 20 minutes to complete.

We analyzed the data by calculating participants' mean ratings for each type of stimuli, and then obtained mean ratings for the four main types of experimental stimuli. As noted above, there were two instances of unrelated entailments from different conceptual metaphors, and so for purposes of this presentation we have simply collapsed these into one category. The data, therefore, are simply the following:

Consistent	3.63	(same conceptual metaphor – same entailment)
Related	3.41	(same conceptual metaphor – different entailment)
Unrelated	2.92	(different conceptual metaphor)

Statistical comparison of these three means using planned t-tests revealed that people gave higher agreement ratings to the consistent and related entailment questions than to the unrelated ones (both contrasts $p < .05$), and that the difference between the mean ratings for the consistent and related questions was not reliable. These data suggest that people appear to recognize that a verbal metaphor implies certain meanings that are related to the underlying conceptual metaphor motivating the existence and continued use of that linguistic expression. On the other hand, understanding verbal metaphors does not appear to as directly imply entailments about the target domain that arise from different conceptual metaphors for that same topic.

In general, it appears that ordinary readers are sensitive to the possible meaning entailments that arise from verbal metaphors with some of these being predicted on the basis of whether they are motivated by a consistent underlying conceptual metaphor for that linguistic statement. This offers some preliminary evidence that people can infer at least a small range of entailments emerging from a motivating conceptual metaphor for a verbal metaphorical statement. Of course, this finding does not imply that people infer a wide range of meaning entailments from an underlying conceptual metaphor when reading conventional metaphoric statements as sometimes implicitly suggested by standard analyses of conceptual metaphors in the cognitive linguistic literature. There may be circumstances in which a wide range of metaphorical inferences are generated when people hear or read metaphorical language, such as when readers carefully analyze the meanings of poetic metaphors in texts. In some

case, a speaker or writer will state one metaphorical utterance reflecting one entailment from a conceptual metaphor, and then go on to refer to a different entailment from that same metaphorical mapping (e.g. *Our relationship has been a long bumpy road and is now going nowhere*). There are even circumstances in which a person may switch between conceptual metaphors in talking about a topic (e.g. *Our relationship has been a long bumpy road and I am feeling starved for love*), something that will require from listeners additional effort to understand over that needed to comprehend a statement that refers to two entailments from the same conceptual metaphor (Langston 2002). Finally, the data from our exploratory study does not imply that people necessarily always infer some related meaning entailments from underlying conceptual metaphors during real-time verbal metaphor understanding. Our experimental task asked participants to deliberately think about the relationships between verbal utterances and different sorts of meaning implications. People may not draw these constrained inferences during quick linguistic processing. To test this latter possibility, one must create a more sensitive experimental methodology to investigate whether some entailments, but not other, immediately come to mind during verbal metaphor understanding. We think that creating such an experiment may be difficult to do at the present time.

7. Conclusion

Our aim in this chapter has been to offer some skeptical comments on the status of some theoretical claims in cognitive linguistics regarding the role of conceptual metaphor in verbal metaphor understanding. As we have described, there is ample experimental evidence from psycholinguistics to support the claim that people have tacit knowledge of conceptual metaphors, which play a role in people's various interpretations of metaphoric language. Nonetheless, there remain a large number of more precise questions regarding the exact function that conceptual metaphors have in metaphoric language processing, and whether people actually infer rich meaning entailments from conceptual metaphors as part of their ordinary understanding of conventional metaphorical statements. We have reported the findings from a first study to explore the idea that people may indeed infer some related entailments from conceptual metaphors when they interpret verbal metaphors. But there is clearly a great deal of experimental work needed before more definitive conclusions can be offered about this possibility. In the meantime, cognitive linguistic research on conceptual metaphor should better acknowledge some of the psychological constraints in ordinary metaphor language use and not suppose that people necessarily infer all that a cognitive linguistic analysis implies about the relations between conventional metaphoric thoughts and verbal metaphors.

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Appendix A

LOVE IS A JOURNEY (Kövecses 2002: 5,7; Yu 1998: 18)

- people who experience impediments to travel are people who have difficulties in love relationships
Their relationship has been a bumpy road.
- the goals people have in love relationships correspond to the goal(s) people have in journeys
Their relationship is going nowhere.

LOVE IS A NUTRIENT (Kövecses 2002: 81)

- the desire for nourishment that people have in life correspond to the desire for love that people experience in love relationships
Their relationship is starved for love.
- the effects that nourishment has in people's lives correspond to the effect that love has on people's relationships
Their relationship is sustained by his love.

FRIENDSHIP AS A STRUCTURED OBJECT (Kövecses 2002: 100)

- people who build a house have difficulties as much as in order to make friends people experience difficulties
Friendships are hard to make.
- buildings that are strong or weak are friendships that are stable or unstable
Their friendship seems very shaky.

FRIENDSHIP IS A MACHINE (Kövecses 1995: 330)

- a machine that works is a friendship that functions
Their friendship with Joe was off and on.

- a machine which can be repaired after a breakdown is a relationship that can be repaired after a breakdown
*Friendship is something that **can be repaired**.*

THEORIES ARE BUILDINGS (Grady 1997: 39; Kövecses 2005: 72)

- the value of the theory is the strength and durability of the physical structure
*The theory is very well **constructed**.*
- a premise which has a foundation is a theory which basis lies on facts and assumptions
*The theory had a good **foundation**.*

THEORIES ARE FABRICS (Grady 1997: 43)

- a theory corresponds to many pieces of fabric
*The theory was **torn to shreds**.*
- the pieces of fabric are seamed together as well as the theory is put together
*The theory fell **apart at the seams**.*

ANGER IS A HEATED FLUID IN A CONTAINER (Kövecses 2005: 39)

- the substance or objects in a container are the anger inside the person
*She was **filled** with anger.*
- the substance or objects going out of a container are the expression of anger by people
*She **exploded** with anger.*

ANGER IS AN OPPONENT (in a struggle) (Lakoff 1987: 392)

- people's opponent in a fight is anger
*She **struggled** with her anger.*
- losing in an argument is having anger control you
*She was **controlled** by her anger.*

Appendix B

Examples of stimuli for the experiment

1. When the speaker says to somebody "*Friendships are hard to make*" does the speaker also imply that to build a house is difficult as much as to make friends is difficult?

1	2	3	4	5	6	7
NO						YES

2. When the speaker says to somebody “*Their relationship is sustained by his love*” does the speaker also imply that difficulties are impediments to travel?

1	2	3	4	5	6	7
NO						YES

3. When the speaker says to somebody “*She was controlled by her anger*” does the speaker also imply that losing in an argument is having anger control you?

1	2	3	4	5	6	7
NO						YES

Corpus data in usage-based linguistics

What's the right degree of granularity for the analysis of argument structure constructions?*

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The use of corpus data in cognitive linguistics brings with it a host of methodological problems. One concerns the degree of granularity that provides the most insightful results. The present study investigates two granularity issues – different inflectional forms and (register-)based corpus parts. First, I compare the results of a lemma-based corpus analysis of an English argument structure construction to an inflectional-form-based corpus analysis to determine whether the two approaches result in different suggestions concerning the semantics of the construction at issue. Second, I outline how to determine whether data from different corpus parts/registers result in different semantic generalizations of the same construction and how relevant corpus distinctions can be determined in an objective bottom-up manner.

Keywords: corpus data, granularity, lemmas, registers, ditransitive

1. Introduction

While cognitive linguistics has always been much more concerned with how speakers represent, process, and actually *use* language than many other frameworks in theoretical linguistics, this tendency has gained in importance only in the past few years when the notion of 'usage-based linguistics' has become increasingly frequent in papers and publications. As a result of this development, the number of studies which invoke evidence from actual language usage – corpora – has also increased substantially, a tendency which is not only obvious in cognitive linguistics but also more generally and even in parts of generative linguistics (cf., for a recent example, Kepser and Reis 2005).

* I thank the audiences at the Fourth International Conference on Construction Grammar and Conceptual Structure, Discourse, and Language 2006 for comments as well as John Newman for feedback and discussion. The usual disclaimers apply.

On the one hand, this increase is most welcome since it raises the methodological standards of the discipline of linguistics, which has all too long been plagued by an overly strong reliance on made-up data and judgments concerning these data. On the other hand, the fact that this development is so fairly recent is also responsible for the fact that methodological standards and procedures are still developed, evaluated, and negotiated among those practitioners of the field who apply corpus-based methods in their work. One of the from my point of view most central questions in this regard is concerned with the degree of granularity that provides the most insightful results. This is because corpora provide data on many different levels of hierarchical organization, and not all hierarchical levels are necessarily suited equally well to all tasks.

One case in point is the distinction between lemmas and inflectional word forms. It is probably fair to say that the emphasis of most lexicographers and semanticists has so far been, if only implicitly, on the level of the lemma. For example, in most cognitive-linguistic studies of the semantics of verbs, verbs were discussed by referring to their infinitive form and usually not by addressing the question of whether different inflectional forms exhibit (significantly) different behavior. Similarly, the discussion of how slots of argument structure constructions are filled with verbs and what the verbs filling these slots reveal about the constructions has largely been involving unspecified/infinitive forms. The assumption has been that the semantics of, say, the caused-motion construction is independent of whether the element inserted into the verb slot of the construction is *push* or *pushed*. In particular, the corpus-based methodology to investigate the semantics of argument structure constructions that is currently most fleshed out, collocation analysis, has so far also used the lemma as the basic unit of analysis, collapsing all the inflectional forms of the words whose occurrences in constructions were investigated (see e.g. Stefanowitsch and Gries 2003, Gries and Stefanowitsch 2004), and so far this approach has resulted in a multitude of findings in different languages (English, German, Dutch, Portuguese, and others) as well as concerning different phenomena (the semantics of constructions, second-language learning, syntactic priming, and others).

However, some recent work (e.g. Rice and Newman 2005; Newman and Rice 2006) has been diverging from this reliance on lemmas, which was rarely ever topicalized explicitly anyway. They argued that the finer resolution of actually inspecting inflectional forms may be more revealing. More specifically, Rice and Newman (2005) discuss how different inflectional forms of several lemmas (e.g. *to think*, *to allow*, and *to rain*) differ in their frequencies both (i) in a complete corpus and (ii) in register-based parts of corpora, concluding that “the frequencies of inflectional forms vary across different register-based parts of corpora and this should be taken into consideration in a corpus-based analyses of linguistic units” (Newman p.c.; cf. also Newman and Rice 2006 as well as Sinclair 1991 for a similar point). In addition, Newman and Rice’s (2006) investigation of a sample of the inflectional forms of *to eat* and *to drink* in the British National Corpus (BNC) systematically contrasts spoken and written data to uncover differences between the two modes and implications following from such differences.

Given that the upsurge of corpus-linguistic studies in cognitive linguistics is only a fairly recent development, it comes as no surprise that there are so far very few studies that directly compare the results of the two approaches – lemmas vs. inflectional word forms – in a wider variety of contexts. Also, there is little work that investigates the degree to which register-based parts of corpora result in different cognitive-linguistic analyses (rather than just variational patterns).¹ One obvious exception is the work by members of the research group Quantitative Lexicology and Variational Linguistics. However, as I see it, most of this work seems to be more interested in sociolinguistic and variational issues proper and the methodological implications these have for cognitive linguistics rather than in the conceptual integration of these issues into current cognitive-linguistic or construction grammar theorizing. For example, Heylen's (2004) analysis of word order variation in the German *Mittelfeld* includes 'cognitive-linguistic factors' such as animacy and givenness of referents as well as sociolinguistic variables, but the results are not in turn used to inform a cognitive-linguistic model.

The present study investigates these two granularity issues – lemmas vs inflectional forms and whole corpora vs. register-based corpus parts – on the basis of corpus data from the British Component of the International Corpus of English (ICE-GB). As to the former, I will compare the results of a lemma-based corpus analysis of an English argument structure construction to an inflectional-form-based corpus analysis to determine whether the two approaches result in different suggestions concerning the semantics of the construction in point. As to the latter, I will test whether data from different corpus registers invite different semantic generalizations of the same construction. Obviously, there are many different areas of investigation, of which the present one – the semantics of argument structure constructions – constitutes just one single example. The results of the present study are therefore not intended to once and for all resolve the issue of which levels of granularity to choose, which would require at least a monograph-length treatment in order to investigate the many issues other than argument structure construction semantics. Rather, the present results must therefore be understood as methodological suggestions for what a more comprehensive analysis may ultimately look like and for some initial results for parts of such an analysis.

2. Approximating the semantics of constructions: Collostructional analysis

The method that will be used here is that of collexeme analysis, one method of the family of methods of collostructional analysis mentioned above. Given space constraints, I will introduce the method here only briefly; for more detailed discussion and particularly exemplification the reader is referred to Stefanowitsch and Gries (2003).

1. Another exception is Stefanowitsch and Gries (2008), which will be mentioned briefly below.

Collexeme analysis allows to investigate the semantics of a construction by identifying the words that are associated to a syntactically-defined slot of a construction. It is similar to collocational studies and assumes a Goldbergian kind of Construction Grammar approach to language, according to which lexis and grammar form a continuum of elements. The idea underlying collexeme analysis is that linguistic elements tend to occur in or with other linguistic elements to the degree that they are similar to each other. To investigate the semantics of an argument structure construction, the following steps must be taken:

- i. one looks for all examples of the construction (which often involves semi-manual coding);
- ii. one retrieves all words/lemmas occurring in a particular syntactic slot of the construction (usually the main verbs) as well as their overall frequencies in the corpus to generate a 2×2 co-occurrence table of the kind represented in Table 1 for *each word* (which is referred to as a collexeme); in this table, $a + b$ is the overall frequency of the word/lemma W in the corpus, $a + c$ is the overall frequency of the construction C in the corpus, a is the frequency of co-occurrence of the word and the construction and N is the corpus size.
- iii. from each such 2×2 co-occurrence table, one computes a measure of association strength (called collostruction strength) to determine (a) the *direction* of the co-occurrence, i.e. whether the construction and the word co-occur more or less frequently than expected, and (b) the *strength* of the more-or-less-frequent-than-expected co-occurrence. In most previous studies, the measure of association computed was the logarithm of the p -value of a Fisher-Yates exact test to the base of 10, which was multiplied with -1 if the word occurs more often in the construction than expected. This procedure results in high positive values for strongly attracted words, values around 0 for verbs which occur in the construction with chance frequency, and negative values with words that are repelled by the construction. For the lemma *to tell* and the ditransitive in the ICE-GB, for example, Stefanowitsch and Gries obtained the 2×2 co-occurrence table represented as Table 2, the p -value for this distribution is $1.596257e-127$, and the resulting collostruction strength value of the kind that will be used here is accordingly 126.7969.²

Table 1. Schematic 2×2 co-occurrence table for the statistical analysis of collexemes

	Construction C	$\neg$ Construction C	Row totals
Word W	a	b	$a + b$
$\neg$ Word W	c	d	$c + d$
Column totals	$a + c$	$b + d$	$a + b + c + d = N$

2. All statistics and graphics were computed and generated with Coll.analysis 3.2a (Gries 2007), a script written in R, an open source programming language and environment for statistical computing (cf. R Development Core Team 2005).

Table 2. 2×2 co-occurrence table for the statistical analysis of *to tell* in ditransitives with object NPs in the ICE-GB

	ditransitive	other constructions	Row totals
<i>tell</i>	128 (exp.: 5.93)	666	794
other verbs	907	136,963	137,870
Column totals	1,035	137,629	138,664

Once the analysis of all tables for all the words has been completed, one can then rank the words according to the collostructional strength, and previous work has shown that the top-ranked words – i.e., the words most strongly attracted to a particular construction – provide a multitude of clues about semantic properties of the construction investigated. More specifically, often one can read the semantics of a construction fairly directly off the most strongly attracted collexemes of the construction under investigation. In the following sections, the results of several such analyses for different inflectional forms will be compared to each other.

3. Case study 1: Lemmas vs. inflectional forms in the English ditransitive construction

One of the most thoroughly studied argument structure constructions is the English ditransitive construction, which is exemplified in (1).

- (1) a. *He gave her the book.*
 b. *She told him a story.*
 c. SUBJ_{AGENT} V OBJ_{REC} OBJ_{THEME}

Given that much of the semantics of this construction is so well-known (cf. Goldberg 1995: ch. 6 for one authoritative account), it provides an ideal test case against which the results of different methodological procedures can be evaluated. One first and simple way of evaluating different levels of granularity would be to compare the results of a collexeme analysis based on verb lemmas occurring in the English ditransitive to those collexeme analyses based on individual inflectional forms of the verbs occurring in the English ditransitive. The central aspects to be singled out for comparison are the degrees to which

- the senses postulated in analyses of the ditransitive are reflected uniformly across the collexeme analyses;
- the ranking of the verbs in the lemma-based analysis is correlated with the ranking of the verbs if only particular inflectional forms are included into the analysis.

Results of a lemma-based collexeme analysis of the English ditransitive have already been published (cf. Stefanowitsch and Gries 2003: 229), but in this chapter I will use a more comprehensive data set. Stefanowitsch and Gries restricted their analysis to ditransitives with noun objects while I will use all ditransitives. The results, computed as discussed in more detail above are summarized in Table 3. It is easy to see that both the sense of transfer that is usually associated with this construction and the many semantic extensions the ditransitive is argued to have are strongly reflected in the top collexemes: transfer (*give*, *send*, *lend*, *award*), the satisfaction-condition-imply-transfer sense (*offer*, *promise*, *owe*, *guarantee*), the enabling-transfer sense (*allow*), the causing-not-to-receive sense (*deny*), the future-transfer sense (*grant*), the extended communication senses (*tell*, *ask*, *teach*) etc. The verbs that are most strongly repelled are the fairly high frequency verbs *make*, *do*, *find*, *call*, *get*, and *take*, whose semantic characteristics have little to do with what has usually been considered central to the ditransitive. (Note that while *get* in the ditransitive is of course associated with a ‘change of possession’ sense, it is much more strongly associated with transfer in the transitive construction with its different order of coarse semantic roles: In *I got some dried flowers in vases*, where the subject is the recipient and not the agent.³)

Table 3. Top thirty collexemes of the ditransitive construction in the ICE-GB

Verb	CollStr	Rank/no of types	Verb	CollStr	Rank/no of types
<i>give</i>	infinity	1	<i>grant</i>	10.59	0.82
<i>tell</i>	infinity	0.99	<i>warn</i>	10.24	0.81
<i>ask</i>	73.08	0.98	<i>award</i>	9.21	0.8
<i>send</i>	71.88	0.96	<i>persuade</i>	8.09	0.79
<i>show</i>	55.73	0.95	<i>allow</i>	7.7	0.78
<i>offer</i>	52.42	0.94	<i>guarantee</i>	7.37	0.76
<i>convince</i>	36.09	0.93	<i>deny</i>	6.52	0.75
<i>cost</i>	26.35	0.92	<i>earn</i>	6.2	0.74
<i>inform</i>	23.29	0.91	<i>pay</i>	4.85	0.73
<i>teach</i>	22.41	0.89	<i>allocate</i>	4.6	0.72
<i>assure</i>	20.16	0.88	<i>accord</i>	4.38	0.71
<i>remind</i>	19.36	0.87	<i>buy</i>	4.3	0.69
<i>lend</i>	14.62	0.86	<i>assign</i>	4.24	0.68
<i>promise</i>	12.65	0.85	<i>advise</i>	3.77	0.67
<i>owe</i>	10.77	0.84	<i>wish</i>	3.66	0.66

3. A look at WordNet 2.0 strongly supports this point: The transitive change-of-possession sense is by far the most frequent one of *get* while the ditransitive use is only the sixth most frequent one, with only 16 percent of the occurrences of the transitive one.

In order to compare these results to those of analyses based on inflectional forms, however, one intermediate step is necessary. The measure CollStr is influenced by the sample size. Thus, when different analyses are compared, one cannot directly compare the CollStr values since the differences one finds may just be a function of the different sample sizes. Also, while so far virtually all collexeme analyses have nearly always been based only on the ranks of the collexemes rather than on the absolute value of Collstr (i.e. 73.08 for *ask*), it would not be optimal to use the ranks of the verbs because differently sized samples will also result in different ranges of ranks, which make a straightforward comparison difficult. In this study, I will therefore use $\frac{\text{rank of type}}{\text{no of types}}$ of each verb (where ranks are assigned in ascending order, i.e., *give* gets the highest rank) since this way all ranks for verbs fall into the interval 0...1 with most strongly attracted verbs scoring near 1 and the least attracted and repelled near 0.

As the next step, I performed separate collexeme analyses for the following five (classes of) inflectional forms as annotated in the ICE-GB (infinitives, *ing*-participle, past participle, past tense, present tense). That is, in each of these analyses, the marginal totals accordingly only took verbs with the particular inflectional ending into consideration. I then ranked the verbs according to their CollStr values and computed rank of type/no of types. Finally, I plotted the ranks obtained for all inflectional verb forms against the ranks of all lemmas; if verbs did not occur in a particular verb form, their rank was set to 0 and they will be displayed rotated by 90° in the plots below. Finally, I added a linear regression line (dotted), the main diagonal (solid) and a locally weighted robust regression (curved solid) to determine which verbs deviate (how much) from the overall pattern. The logic of the approach is to determine on the basis of the graphs whether the analysis based on inflectional forms results in different semantic classes than the lemma-based analysis.

Beginning with some general results, it can be noted that the overall fit between the ranks of the verb lemmas and the ranks of the same verbs' inflectional forms is quite good: adjusted R^2 is always highly significant and with the exception of present tense always higher than 65%. Second, across all graphs there is a relatively clear pattern such that the fit of the linear regression lines is best at the extremes: the verbs in the bottom left corner and the top right corner usually appear linearly ordered whereas the fit is worse in the middle, mostly with a tendency for the lemma rank to be higher than the inflectional form's rank. Third, note that some graphs hardly feature any verbs above the main diagonal (esp., Figure 2 and Figure 4), indicating that the inflectional form-based analysis did not rank verbs highly, which the lemma analysis would not, too. Finally, note that the patterning of the verbs that occur in the lemma ranking but not in the inflectional ranking is largely unsystematic: They are from the whole range of ranks for the lemma so, unlike what one might have suspected, the verbs that are lacking particular tense forms do not form a homogeneous group on the level of the lemma, which is good since this could have indicated some bias (due to frequencies etc.).

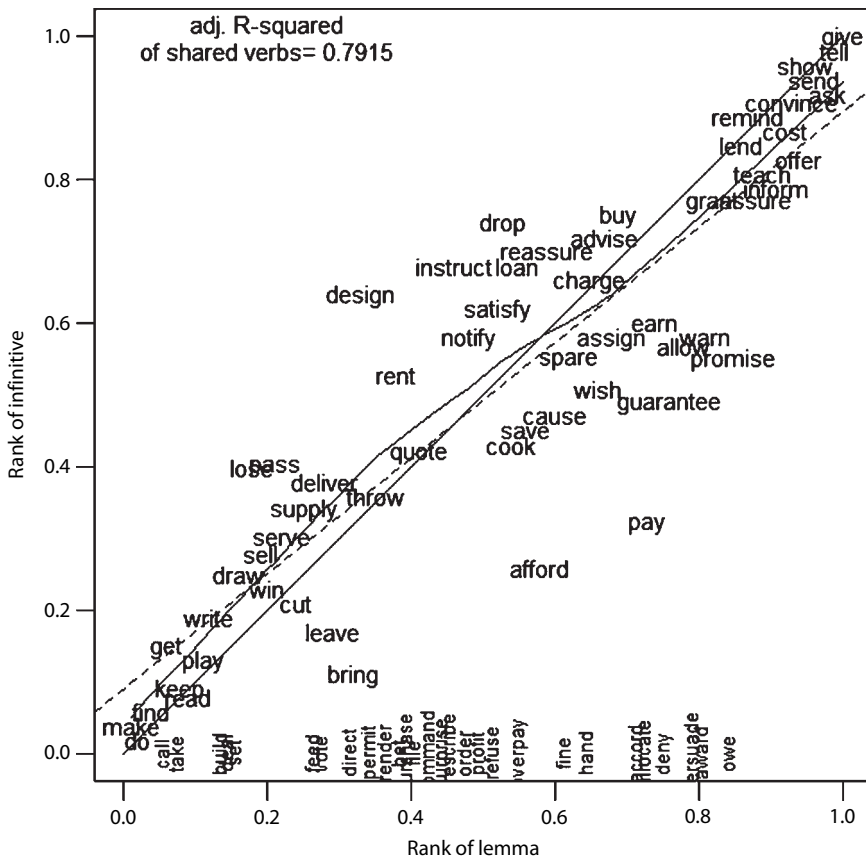


Figure 1. CollStr ranks of infinitives vs. CollStr ranks of lemmas in the English ditransitive

Looking more specifically at the individual graphs shows that the overall conclusions about the semantics of the ditransitive remain fairly constant across all analyses. The two verbs that are most strongly attracted to the ditransitive in the overall lemma analysis – *give* and *tell* – are also attracted most strongly in the case of the individual verb forms (their order changes twice, though). Also, even though there is some variation among the verbs that immediately follow these two in the list of highly attracted verbs, most of them fit the semantics of transfer and its metaphorical extensions (in particular communication) very well: *offer*, *show*, *send*, and *ask* are among the top ten in nearly every single collexeme analysis. In a similar vein, the verbs in the bottom left corner are also relatively homogeneous, comprising mostly high-frequency verbs that are much less specific and less revealing as far as the ditransitive’s semantics are concerned.

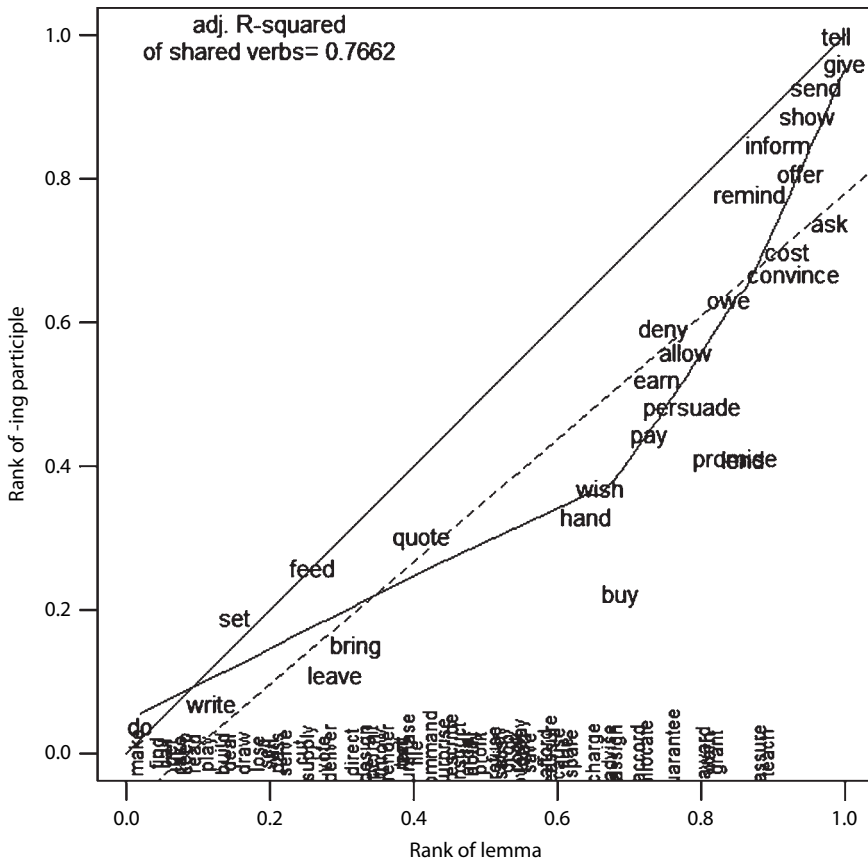


Figure 2. CollStr ranks of ing-participles vs. CollStr ranks of lemmas in the English ditransitive

If we now look at the graphs separately, we find much more variation. So for example, the regression lines for the infinitive and many of the verbs are extremely close to the main diagonal, indicating a particularly good fit. Some verbs which are fairly much below the regression lines are *afford*, *bring*, *guarantee*, *promise*, while verbs such as *design*, *drop*, *instruct*, and *reassure* are among the verbs that are highest above the regression lines and the main diagonal. On the one hand, these findings suggest that there are in fact differences between the distributions of the lemmas and the infinitive forms – otherwise all words and the regression lines would be on the main diagonal.

On the other hand, however, the most important thing to note is that this patterning does not at all change the semantic interpretation of the construction for two reasons: In most cases, the verbs exhibiting marked differences between the lemma-based analysis and the verb form-based analysis

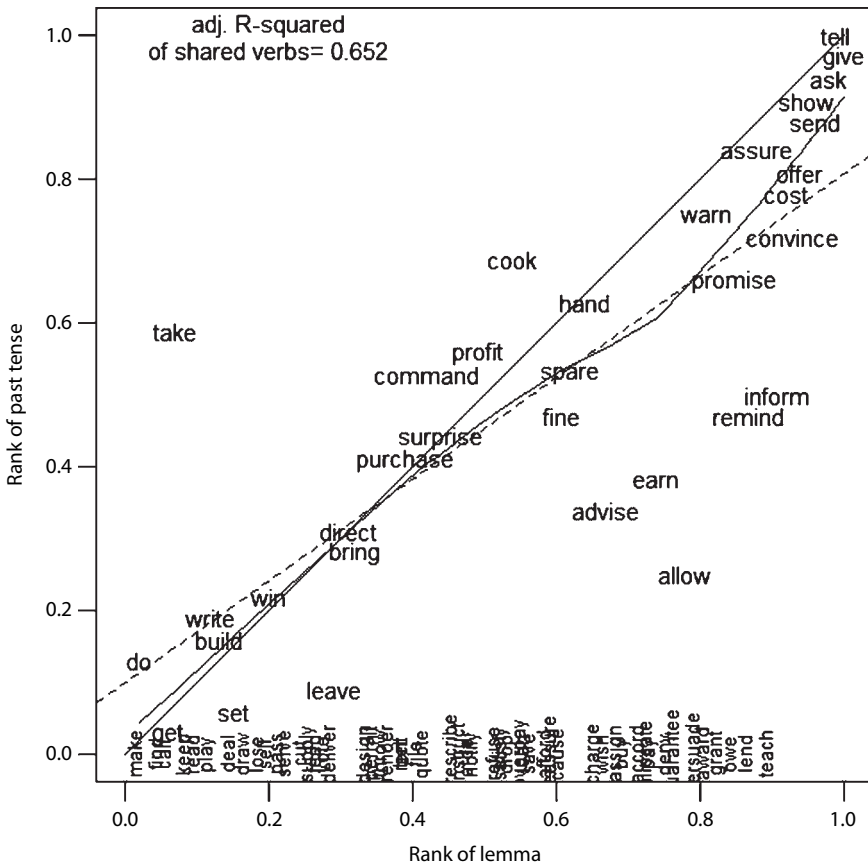


Figure 3. CollStr ranks of past tenses vs. CollStr ranks of lemmas in the English ditransitive

- are in fact not associated with the meaning of transfer at all, or
- represent semantic verb classes which are already represented by verbs which (i) behave identical in both analyses and (ii) are higher-ranking – i.e. more in the top right corner – anyway.⁴

As to the former, some of the outlier verbs whose infinitive distribution differs from the lemma distribution that only take a second object because that is contributed by the ditransitive construction are *design* and *drop*. As to the latter, outlier verbs such as *instruct* and *reassure*, by contrast, belong to semantic classes that are already represented by verbs that are even more strongly associated to the ditransitive anyway (such as, in this case, communication verbs like *tell*, *ask*, *convince*, and even *assure*). Also, the

4. This is of course only an argument if – as in this study – the main interest is on identifying constructional semantics. On other occasions, this kind of difference might be revealing.

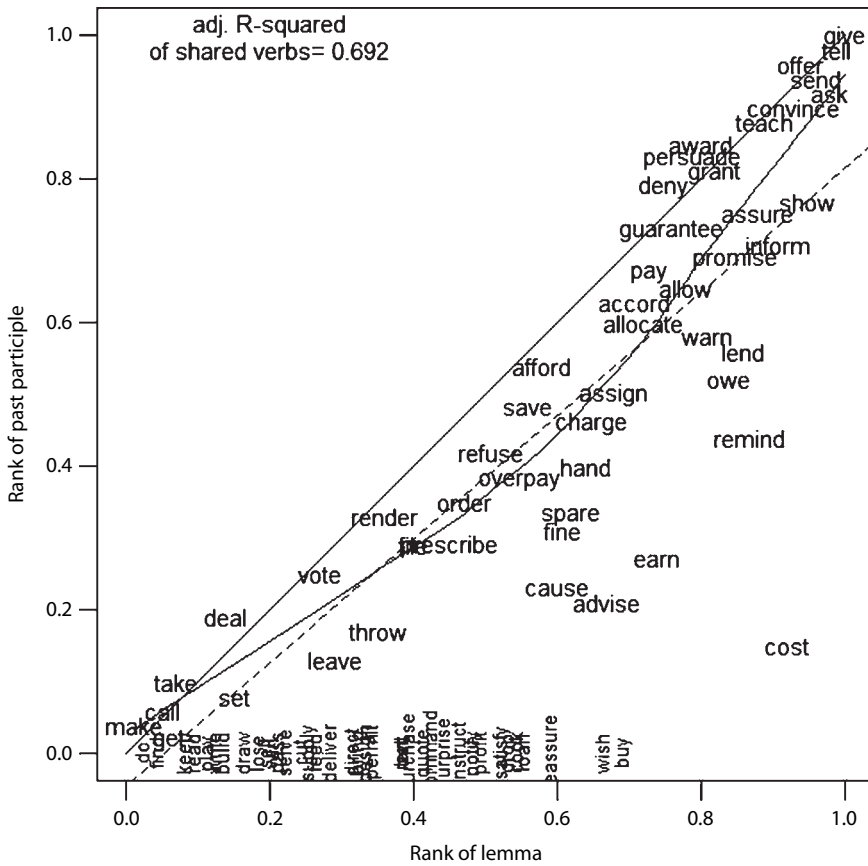


Figure 4. CollStr ranks of past participles vs. CollStr ranks of lemmas in the English ditransitive

satisfaction-condition class verb exemplified by the outlier verbs *promise* and *guarantee* is already represented by *owe* and *grant*, which score nearly identically on both axes. Even the commercial transaction frame represented by the outlier verbs *afford* and *pay* is already represented by higher-ranked verbs such as *buy*, *charge*, and maybe *cost*. All in all, there are differences between the number of verb lemmas and their rankings on the one hand and the number of infinitives and their rankings on the other hand, but these differences are practically meaningless since the semantic classes whose infinitives make a difference are either represented by higher-ranking collexemes of the same class anyway or are actually false hits, i.e. verbs outputted by the infinitive analysis but which in a semantic analysis would not rank equally highly in the first place.

again belong to groups represented by other verbs among the top ten (the class of *buy* is represented by *cost*, *pay*, and *earn*, *promise* by *owe*, and *lend* by *give* and *send*).

The only slightly more striking exception to the above clear patterning are the results for the present tense. While many verbs are perfectly on the main diagonal, the regressions' fits are bad, the curvature of the smoothed regression line is even more extreme than with the *-ing* participle and the verbs are much scattered in the graph. While the class of communication verbs instantiated by *persuade* and *remind* is represented by *tell*, *ask*, and *teach*, the latter verbs are different in their subcategorization behavior. Also, while the *pay* class is reflected by *buy* and *cost*, as is the *promise* class by *guarantee* and maybe *allow* by *permit*, the distances between the verbs and the rank of the verbs which do behave similarly in both analyses are just much larger than in all other graphs. Thus, most semantic relations are represented in both analyses, but the relation is more tenuous than in the results for the other inflectional forms.

All in all, however, the picture is fairly clear. The more fine-grained analysis of the ditransitive using inflectional forms changes some of the *quantitative* results, but the *qualitative* changes are usually minor in the sense that all regressions were highly significant and provided good fits, and the semantic conclusions invited by the most strongly represented collexemes are very much the same. On the basis of the present data, therefore, there is no need either for the finer resolution of an analysis based on inflectional forms or a more comprehensive lemma-based analysis. These results are compatible with studies in other areas. For example, Pickering and Branigan (1998) find that different morphological forms of verbs in syntactic priming studies do not result in differently strong priming effects.

The following section will discuss methods to whether a division of the corpus into different register-based parts yields results different from the overall analysis. While space precludes an actual, full-fledged analysis of the data, I will briefly outline a method of how these data could be utilized.

4. Case study 2: Registers and the English ditransitive construction

While the previous section has been concerned with a level of granularity that was defined on the basis of the actual linguistic forms that are being investigated, other levels of granularity – i.e. other ways of dividing up the data – are more concerned with quasi extra-linguistic aspects of the data. The probably most widespread division is that of spoken vs. written data, and this is also one which Newman and Rice consider in their work and to which they attribute some importance.

This is of course a laudable approach because it allows the researcher to inspect the data with a, as it were, higher resolution: For example, data that may seem overall heterogeneous may in fact be very homogeneous when the modes spoken and written are looked at individually. As a matter of fact, however, Stefanowitsch and Gries (2008) investigate to what degree the difference between speaking and writing influences

distributional patterns in active vs. passive voice, verb-particle constructions, and *will*-future vs. *going-to*-future. They conclude that

... there is no evidence so far to suggest that constructional semantics [...] interacts with register/channel [their term for the distinction of speaking vs. writing; STG] in such a way that there are differences in a construction's meaning across register classes. (149)

Thus, while making a distinction between speaking and writing is laudable in principle, there is as yet little support that this distinction yields more than just numerically different results. However, there is also a more fundamental problem: As Gries (2006) argues at length, investigating spoken vs. written data is in a way just a wild guess at the level where one hopes to find the truly revealing patterns or the largest and, therefore, most important differences in one's data. However, without a comparative investigation of (i) which levels of granularity exhibit the largest differences in their patterning and (ii) which effects at this particular level are largest, it remains unclear whether the effects found between spoken and written data are in fact as noteworthy as they seem. To give an example, Gries (2006) investigates the frequency of the present perfect in different corpora of English and contrasts the results with his own results concerning the present perfect in the ICE-GB. To exemplify exactly the problem just raised, he then goes on to compare the different frequencies of present perfects in spoken data and in written data with the different frequencies of present perfects in written printed data and in written nonprinted data. His most interesting finding in this connection, however, is that although the contrast 'spoken vs. written' may appear to be the more fundamental one – after all, 'written printed vs. written nonprinted' is 'only' a within-mode distinction and, thus, lower in a taxonomy of corpus distinctions – it turns out that the difference between the present perfect frequencies within writing is actually slightly larger than between speaking and writing, which is why on the basis of the data alone, an analyst should attend more to the latter contrast than the former. If we generalize from that one particular example (cf. Gries 2006 for more comprehensive discussion), it would be more useful to test several divisions of the corpus and then decide on the basis of the results – not on the basis of any researcher's preconceptions – which level and which effects to attend to. (This is by no means to imply that the distinction 'spoken vs. written' is an unreasonable one, quite the contrary. My point is just that one does not know *beforehand* whether it is the *most* useful one, the one to start with, or the one to focus on most, which is why the above kind of *bottom-up* identification of relevant distinctions is ultimately more rewarding.)

The present study will therefore test the relevance of the kind of *a priori* distinctions such as spoken vs. written just as Stefanowitsch and Gries (2008) but at the same time go beyond that study by also testing whether this distinction is in fact relevant. The overall logic underlying the present approach is similar to that of Gries (2006). As before, I extracted all ditransitives from the ICE-GB as well as the frequencies of all

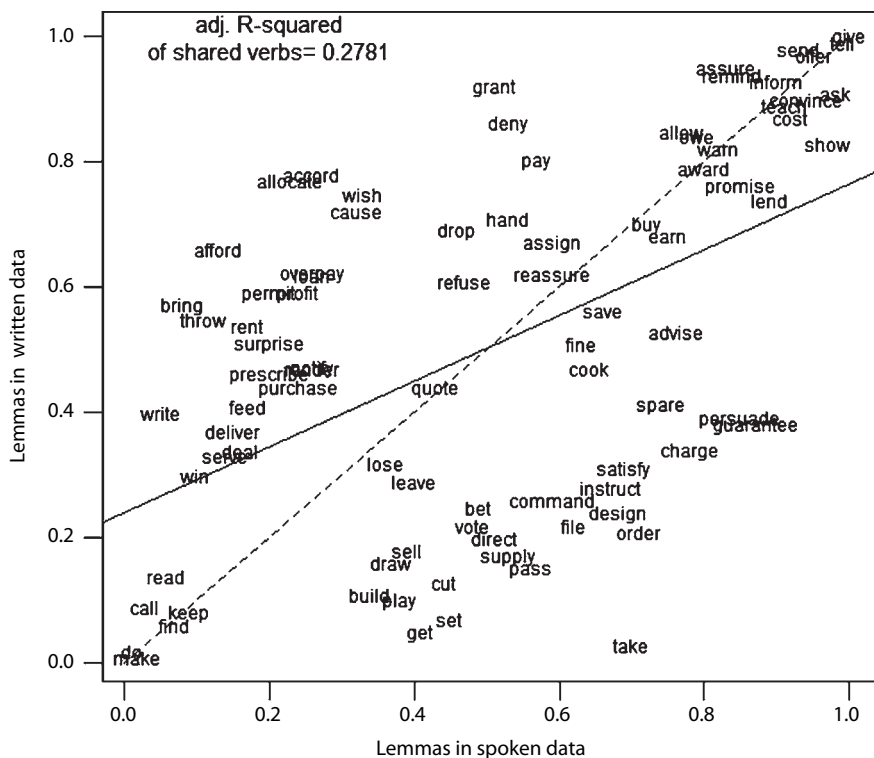
verbs that occur at least once in the ditransitive in the construction and in the corpus. In addition, for each ditransitive construction, I stored

- the mode in which it occurs: spoken vs. written;
- the register in which it occurs: {spoken dialog} vs. {spoken monolog} vs. {spoken mix} vs. {written printed} vs. {written nonprinted};
- the sub-register in which it occurs: {spoken dialog private} vs. {spoken dialog public} vs. {spoken monolog scripted} vs. {spoken monolog unscripted} vs. {spoken broadcast mix} vs. {written printed academic} vs. {written printed creative} vs. {written printed instructional} vs. {written printed nonacademic} vs. {written printed persuasive} vs. {written printed reportage} vs. {written nonprinted letters} vs. {nonprofessional}.

Then, I wrote R scripts that computed two collexeme analyses for the modes, five collexeme analyses for the registers, and thirteen collexeme analyses for the sub-registers; for ease of comparability, these were all lemma-based analyses. For each of these analyses, the resulting CollStr values were then transformed into the above kind of rank values ranging from 1 (for the most strongly attracted verb) to 0 (for the most strongly repelled verb).

The most straightforward way of using the data would be the same as above. One can plot different modes, registers, or sub-registers against each other to again determine whether all semantic classes obtained in one analysis are also represented in another analysis. As a first example, let us look here only at the distinction invoked by Newman and Rice, spoken vs. written. Figure 6 plots the ranks of the verb lemmas in speaking against the results of the analysis for the verb lemmas in writing.

As is obvious, the correlation between the spoken data and the written data is rather weak: Adjusted R^2 is fairly small especially when compared to the results reported above and the verbs are widely scattered throughout the graph rather than being close to either the main diagonal or the regression line. The main conclusion following from this result is somewhat ambiguous, though. On the one hand, it is obvious that, compared to different inflectional forms, the difference between speaking and writing is huge. Put differently, before an analyst devoted any time to exploring variability of inflectional forms of the verbs in the ditransitive, an analysis of the different modes offers much more variability to account for. On the other hand, however, it is equally obvious that in this case again the results do not change the overall interpretation of the analysis: As before, *give* and *tell* are at the top of the list (in both modes), underscoring the centrality of transfer and communication as transfer for this construction. Also, most major sense extensions are again represented by verbs that are ranked highly both in speaking and writing. Thus, a low correlation between the different kinds of corpus data is only a necessary, but not a sufficient, condition for distinctions that are worth exploring in more detail.



Unfortunately, this approach does not yet address the issue raised at the beginning of this section since again what is tested is just the preconception that spoken vs. written may be a relevant distinction, which it did not turn out to be. However, the discussion of the results already points to a strategy to overcome this shortcoming. If one is interested in the way different modes or registers influence your results, the natural extension of this method would be to test several potentially relevant distinctions at the same time and then check where the largest variation arises (i.e. small R^2 s). These cases with a lot of variation are then scrutinized using graphical displays like the above to determine whether they license varying semantic conclusions one would want to account for. An alternative, and probably even better, approach would be to combine the data of the separate collexeme analyses into one table and then let ‘the data decide’ which groups are manifested, which would render the choice of which distinctions to investigate objective. In this particular case, a technique that can be applied straightforwardly is a principal components analysis (PCA). A PCA is an exploratory data analysis technique which tries to compress the data in a table with n columns by grouping columns that behave highly similarly into mutually orthogonal (i.e. independent) principal components. The two theoretically possible extreme outcomes would be (i) a

compression into a single principal component because all n columns are very highly intercorrelated, or (ii) the columns are completely uncorrelated so that the data cannot be compressed at all. Thus, the number of principal components remains n and each of it can only represent what was one column before the analysis. From this latter extreme, one common criterion for deciding on the number of principal components follows: One usually retains those principal components that can account for more than one variable.⁵

To exemplify the approach, I will briefly report on the results of a PCA on the basis of the CollStr values for the lemma analyses of the whole corpus, of the five registers and of the twelve sub-registers.⁶ In this particular case, there is a relatively clear solution. The PCA identifies four principal components with *Eigenvalues* larger than 1; these four principal components can account for 72.35% of the variance of all 18 original variables. To determine, however, what the principal components mean, one can now turn to the corpus parts which load highest on them (I restrict myself to *Eigenvalues* larger than 0.55 because these allow for the most comprehensive and at the same time mutually most exclusive coverage of all columns):

- PC₁: {spoken monolog}, {spoken monolog scripted}, {spoken monolog unscripted}, {spoken dialog public}, {whole corpus};
- PC₂: {written printed}, {written printed persuasive}, {written printed nonacademic}, {written printed academic}, {written printed nonprofessional}, {written printed instructional};
- PC₃: {written nonprinted}, {written nonprinted letters}, {written printed creative};
- PC₄: {spoken dialog}, {spoken dialog private}.⁷

If one now tries to interpret the components on the basis of the corpus parts on which they load highly, then the first component reflects the spoken part of the corpus without private dialog. The second component comprises exclusively written printed data; the third component has the two written unprinted corpus parts plus creative writing; the final component is spoken private dialog. Now, if a linguist assumes a usage-based analysis of the ditransitive that should take into consideration different registers, then these are the register-defined corpus groupings that the linguist should investigate: This is because these four groups of corpus parts are exactly the parts which are most homogeneous internally and most heterogeneous externally with respect to how verbs are attracted to the ditransitive construction. Note also that this distinction is not

5. Technically, this criterion is represented using so-called *Eigenvalues*, which specify the amount of variables a principal component can explain. Cf. Gries (2006) for an alternative methodology using a hierarchical cluster analysis as well as an approach using PCA for measuring corpus homogeneity.

6. The sub-register {spoken mix broadcast} was omitted from analysis because it is the only sub-register within {spoken mix} and thus redundant.

7. The two sub-registers not covered in the above list, {written printed reportage} and {spoken mix broadcast}, load highest on PC₁ and PC₂.

simply the one between speaking and writing (as utilized by Newman and Rice), but also not one just within the five registers or within the thirteen sub-registers – rather, it cuts across *all three levels* of corpus categorization. The same conclusion may actually be arrived at for the difference between Belgian and Netherlandic Dutch that figures prominently in the work of the above-mentioned research unit QLVL. While the factor variety may yield significant results – as it does – it is unclear whether other divisions of the corpus may not result in much more pronounced differences: only an exploratory bottom-up analysis of the kind advocated here can answer this question. The most important lesson to learn from this is that the distinctions one brings to the data as an analyst *a priori* need not at all coincide with the largest differences in the data, those that are actually reflected in the data, or those that are most noteworthy or theoretically revealing. The following section will bring together all findings and conclude.

5. Conclusions

This study started out from the fact that different analyses in usage-based linguistics have been based on different levels of granularity: Some studies were based on complete corpora (or at least parts of corpora that were not further distinguished) while others emphasized a spoken-vs.-written distinction; some studies looked at lemmas whereas others focus on different inflectional forms.

On the basis of the present data, I hope to have shown two main things. First, not all distinctions that are meaningful from a linguistic point of view result in relevant meaningful differences. True, the distinctions tested here result in quantitative changes, but it was shown for both linguistic distinctions (inflectional forms) and situationally defined text types (registers) that these quantitative differences need not result in qualitative interpretive differences of interest. This finding supports the results by Stefanowitsch and Gries (2008) and is also reminiscent of the main lesson one could draw from the lively discussion of how to construct and constrain polysemy networks triggered by Sandra and Rice (1995), who argued – convincingly, I think – that analyses often tended to posit distinctions many of which made sense to linguists but may in fact not have been relevant to speakers' actual linguistic systems. Again, note that this does by no means imply that the distinctions made by other scholars (inflectional forms, registers, varieties, ...) are irrelevant – it just means that (i) they aim at only one level of granularity and (ii) only at one set of factor levels at that level of generality. All I am saying here is that a more comprehensive approach may often be more revealing.

Second, for those usage-based linguists who suspect that register or genre differences are relevant to one's phenomenon under investigation I introduced a method to infer in a bottom-up fashion the corpus parts that exhibit the most pronounced and thus probably most relevant differences in patterning; the major advantages of the method are that (i) it can cut across different levels of categorization – something linguists are often not willing to do – and (ii) the identification of the relevant corpus

parts is done completely objectively. Thus, since the method is based on detecting differences in a bottom-up manner, this method can narrow down the search space for relevant corpus distinctions considerably while at the same time avoiding an inflation of distinctions of dubious relevance to the actual speaker's linguistic system. Note in passing how this method is compatible with Langacker's concern with the "hierarchy of low-level structures [...] that specify the actual array of subcases and specific instances that support and give rise to the higher-level generalization" (Langacker 1991: 281f.). Given these characteristics, this method should actually be extremely relevant to all linguists who regard themselves as usage-based linguists – if the distinctions responsible for differences in one's analysis are directly derived from actual usage data, how much more usage-based can one get?

Of course, while I feel that the scope and applicability of the method as such is enormous, I am the first to admit that more extended testing of phenomena other than argument structure semantics is necessary, as may be refinements and extensions. In addition, given the growing recognition of the relevance of usage data, the exploration of how splitting corpus data along the above lines and/or resampling approaches may open up a variety of new perspectives on how usage data can be exploited fruitfully.

Finally, I should like to point out that the methods proposed above require neither much data beyond what most corpus-linguistic methods already provide nor a huge set of software applications. In fact, all of the above has been performed with data that are usually available anyway since, for example, when one retrieves all instances of the ditransitive from the ICE-GB, each hit comes with the file name, and thus the register etc., anyway. Also, the only software necessary to do the retrieval as well as all computations and graphics is R. I therefore hope that the present work will stimulate future studies exploring the largely uncharted issues of granularity and corpus parts in usage-based cognitive linguistics.

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Cognitive linguistics meets the corpus

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A first empirical turn in cognitive linguistics (CL) occurred in the mid-1990s, when researchers began to apply psycholinguistic methods to CL research questions, which quickly gained widespread acceptance in the field. More recently, a number of CL researchers have turned to corpus-linguistic methods, but these are not yet widely accepted. This is surprising, given the strong commitment in the CL community to 'usage-based' models of language. In this paper, I take up a number of ideas from construction grammar and cognitive linguistics and confront them with corpus data and corpus methods in order to show how such data may be used to address cognitive linguistic research issues that are difficult or impossible to address in other ways.

Keywords: construction grammar, corpus linguistics, usage-based model

1. Introduction

When the field of cognitive linguistics began to emerge during the 1980s, it differed radically from contemporary theories in terms of its theoretical foundations. However, in terms of methodology, it represented a continuation of traditional, rather loose approach to what counts as linguistic data. This is not to say that there were no differences, even then, between cognitive linguists and the more traditional generative linguists. Cognitive linguists were much more willing than their generative colleagues to consider a wide range of linguistic facts, including many that had previously been deemed too quirky or idiosyncratic to be useful in linguistic theorizing and that were routinely discarded as irrelevant, relegated to the 'periphery', or ignored completely. The reason for this more inclusive approach to linguistic facts can be traced back at least to the late 1960s and early 1970s, when writers like Langacker (1967), Ross (1968) and Lakoff (1970) began to notice the importance of seeming irregularities or marginalities to linguistic theorizing. The work of these and others (e.g. Fillmore 1968, 1971) led to a major rift in the field of theoretical linguistics and to a re-emergence of non-generative thinking. A vast number of alternative approaches to language emerged and

slowly began to consolidate into a functionalist family of frameworks of which cognitive linguistics is a prominent member.

However, despite its greater inclusiveness and its sensitivity to linguistic variability and creativity, the field of cognitive linguistics largely remained non-empirical in that most researchers continued to rely on introspective data, at best complemented by eclectically collected citations.¹ If we fix the origin of cognitive linguistics at the beginning of the 1980s (when Lakoff and Johnson's *Metaphors We Live By* was published and early drafts of chapters of Langacker's *Foundations of Cognitive Grammar* became available), it took more than a decade for the newly emerging field to advance methodologically beyond its precursors.

This advance came in two waves. The first wave was the experimental wave. From the mid-1990s onward, psycholinguistic methods began making their way into the methodological toolbox of the cognitive linguist. Work by researchers like Gibbs (1994) and Sandra and Rice (1995) demonstrated both the feasibility of and the need for psycholinguistic experiments in the context of cognitive linguistic research issues. While these studies were initially treated to a certain extent as discipline-external facts (much like the work by psychologists like Rosch e.g. 1973, 1975), cognitive linguists soon began to adopt the methods of these authors rather than simply incorporating their results. Thus, while conference presentations and publications based on experiments were still the exception at cognitive linguistics conferences in the mid-1990s, they are ubiquitous today. The International Cognitive Linguistics Conference nowadays features a large number of talks based on psycholinguistic experiments of various degrees of complexity and sophistication and this trend is also reflected in the flagship journal of the discipline, *Cognitive Linguistics*. It has also become quite normal for cognitive linguists to publish in journals dedicated to psycholinguistics and cognitive science in general.

The second wave was the corpus-linguistic wave. Although early pioneers of corpus linguistics within the cognitive framework started publishing their work around the same time as researchers employing psycholinguistic methods (cf. e.g. Barlow and Kemmer 1994; parts of Geeraerts 1997, and Bybee and Scheibman 1999), systematic corpus-linguistic studies only began to have a noticeable impact on the field around the early 2000s and corpus linguistic methods are still a long way from being a fully accepted method in the cognitive linguistic toolbox. Conference talks and publications

1. By classifying introspective data as "non-empirical" here and elsewhere, I do not mean to suggest that introspection has no place in linguistic research: introspection is a useful technique for arriving at hypotheses that can then be tested by experimental or corpus-linguistic methods. I also recognize that there are methods for collecting introspective data from linguistically naïve subjects under experimental conditions, and that such data may be categorized as "empirical" (cf. Schütze 1996 and the discussion it triggered), although I would still argue that their epistemological status is rather less clear than that of corpus data or experimental data resulting from behavioral tasks. However, data gathered by a researcher on the basis of their own introspection does not, in my view, count as empirical in any sense of the word, regardless of how much agreement there may be across researchers with respect to particular judgments.

based on systematic, quantitative corpus-linguistic research are still a relatively small minority at conferences and in journals dedicated to cognitive linguistics research (cf. Tummers et al. 2005; Geeraerts 2006: 17f, for discussions of the slow progress of quantitative corpus-linguistic methods in the field). This is all the more surprising, as there is a strong commitment in the cognitive linguistics community to 'usage-based' models of language.

In this chapter, I will take up a number of ideas from cognitive linguistics, more specifically, from Goldberg's (1995) cognitively-oriented version of construction grammar and from Langacker's (1987, 1990, 1991) usage-based model, and confront them with corpus data and corpus methods. In doing so, I will make a general distinction between corpus linguistics as a research tool and corpus linguistics as a linguistic model. To some extent, there is an overlap between this distinction and the distinction between 'corpus-based' and 'corpus-driven' approaches within traditional corpus linguistics, but I take a uniquely cognitive-linguistic perspective here.

2. Corpus linguistics as a research tool

2.1 Background

Corpus linguistics is characterized by different researchers in different ways, for example on the basis of the data used (large collections of authentic texts, cf. McEnery and Wilson 1996: 1), the technology to store and access these data (computers and concordancing software, cf. Partington 1998: 1; Kennedy 1998: 5) or specific techniques typically implemented in this technology (for example, frequency lists, kwik-concordances and collocation tables, cf. Kennedy 1998: 244f.). However, as I argue at length elsewhere (Stefanowitsch 2005), none of these characterizations captures the core of the corpus-linguistic method in an insightful way. Instead, I suggest the following definition:

Corpus linguistics is the investigation of linguistic research questions that have been formulated in terms of conditional frequencies of occurrence in a linguistic corpus.

According to this definition, the corpus linguist starts from a research question formulated within a linguistic theory ("linguistic research questions"), formulates this research question in terms of the frequency of occurrence of a particular linguistic feature or element under a particular linguistic or extra-linguistic condition, and then extracts the relevant frequencies of occurrence from a linguistic corpus (a large, balanced collection of authentic texts). The formulation of the research question in quantitative terms may take the form of an open question (e.g. "How often does α occur under condition X") or it may take the form of a hypothesis (e.g. " α occurs more often than β under condition X").

Let me emphasize that this definition does not make any assumptions about a particular theoretical perspective, nor does it make any claims whatsoever about the nature of the linguistic system. However, depending on your position on these issues, the scope of what can potentially be investigated may vary quite radically. For example, if you take the position that linguistic knowledge bears no relationship whatsoever to linguistic behavior, none of your research questions can be meaningfully formulated in terms of frequencies of occurrence (cf. Chomsky 1957). If, on the other hand, you believe in a very direct relationship between knowledge and behavior, your research questions can often be formulated *only* in terms of frequencies of occurrence (see further Section 3 below). Most theories probably occupy some middle ground between these two extremes and for these theories the scope of the corpus-linguistic method depends on the specifics of the theory and the ingenuity of the researcher in translating research questions into quantitative terms. In order to extract the relevant data, the features/elements and the conditions under investigation must be operationalized in a way that allows the researcher to identify them in the corpus in question, a process that may be more or less straightforward, depending on the research question.

2.2 Examples

Finding a meaningful way of translating theoretically motivated research questions into questions about frequency is the most important step in corpus-linguistic research design. In this section, I will look at three representative examples. I will first look at a simple case on occurrence vs. non-occurrence. Next, I will turn to what may be the most typical case, namely one where the frequencies of different values of a particular feature are compared across different conditions. Finally, I will discuss the role of counterexamples.

2.2.1 Occurrence and non-occurrence

Many research questions can be investigated simply on the basis of whether or not a particular feature or element occurs under a given condition, or, if your theory allows less absolute distinctions, on the basis of how frequently it occurs under this condition. As an example, consider Goldberg's (1995) discussion of lexical profiling.

In Goldberg's version of Construction Grammar, verbs are defined relative to frames (in the sense of Fillmore 1982): their meaning can be described in terms of a particular configuration of participants who play particular roles in a particular event. Crucially, verbs pick out some of these participants as "profiled", i.e. as having a "special degree of prominence" or "salience" (Goldberg 1995: 44; referring to Langacker 1987, Fillmore 1977). For example, *rob* and *steal* are semantically similar in that they both refer to a frame where X (the THIEF) wrongfully takes Y (the GOODS) away from Z (the TARGET). They differ, according to Goldberg, in which of these participants they profile (profiling is indicated by boldface):

- (1) a. *rob* ⟨thief target goods⟩
 b. *steal* ⟨thief target goods⟩

Goldberg's main evidence for this difference in profiling comes from the following constructed examples and acceptability judgments, which suggest that TARGET, but not GOODS, is an obligatory argument of *rob* while the reverse is true for *steal*.

- (2) a. *Jesse robbed the rich (of all their money).*
 b. **Jesse robbed a million dollars (from the rich).*
 (3) a. *Jesse stole money (from the rich).*
 b. **Jesse stole the rich (of money).*

I will return to these examples below. For now, note that Goldberg does not suggest that the differences in profiling are a *consequence* of the restrictions in (2)–(3). On the contrary, she argues that these grammatical restrictions *follow* from the differences in profiling. The profiling differences themselves are justified on semantic grounds. For example, Goldberg mentions the fact that *rob* entails a serious negative effect on a human TARGET, while *steal* focuses on the “fact that the stolen goods are not legitimately the thief's property” (Goldberg 1995: 46) so that its TARGET is not necessarily a person at all, but may be a LOCATION from which the thief removes the GOODS (Goldberg 1995: 48). Again, these claims rest on constructed examples and acceptability judgments. To give just one example, she presents the following examples and judgments in support of the claim concerning locations:

- (4) a. *He stole money from the safe.*
 b. **He robbed the safe of its contents.*

There are two problems with judgments like those in (2)–(4). First, no two people are likely to agree about them, and second, even if they did agree, the judgments may not be related to the claims derived from them. For example, while I do agree that (4b) sounds odd, it seems to me that this oddness disappears if the *of*-phrase is removed: *He robbed the safe* sounds fine, if a little marginal, to me. As I am not, strictly speaking, a native speaker of English, one could claim that my intuition does not count here. However, a quick web search for the pattern “(rob|robs|robbed|robbing) (a|the) safe” on *.us* websites yields a number of hits that were quite clearly produced by native speakers in carefully edited documents. For example, the following, from the proceedings of the Superior Court of Philadelphia:

- (5) *His intention was to rob a safe on the premises. He pushed one of the employees up against a wall and the other up to the safe, demanding its contents.* (Ref. 1)

Thus, while locations may be rare as targets of *rob*, they are certainly not impossible.

Clearly, a less subjective method for identifying profiled participant roles would be highly desirable. From a corpus-linguistic perspective, it seems plausible to posit

some relationship between the profiling status of a participant role and its frequency of occurrence. One might suggest something along the lines of (6):

- (6) Profiled participant roles should be linguistically encoded more frequently than non-profiled participant roles.

However, there is, in fact, no natural connection whatsoever between profiling and frequency. Profiling is a fact about frames and the perspectivization of these frames by particular verb meanings; in other words, it is largely a semantic (or even conceptual) phenomenon. The frequency with which something is encoded, in contrast, is a fact about linguistic usage, which may be influenced by a range of external factors that have no bearing on semantics (for example, people may simply talk more frequently about some participants as opposed to others because those participants happen to feature centrally in the events that they are recounting).

In order to base a corpus-linguistic investigation on (6), we must be able to justify this assumption *within the framework of construction grammar*. In this particular case, this is possible: according to the *Correspondence Principle* – one of the fundamental mechanisms of Goldbergian construction grammar – “each participant role that is lexically profiled and expressed, must be fused with a profiled argument role of the construction” (Goldberg 1995: 50), and lexically profiled participant roles *must* be expressed unless the verb occurs in a construction that is explicitly designed to suppress participants (Goldberg 1995: 56f.). Such a suppressing function is typical of what is traditionally called *voice*: for example, the passive and the middle voice suppress the agent (or, more generally, the logical subject) while the antipassive suppresses the patient (or, more generally, the logical object). The active voice, in contrast, does not suppress participant roles. From these theory-internal principles it follows, that lexically profiled participants must always be expressed in active main clauses, regardless of the specific argument structure construction they instantiate. Non-profiled participants *may* be expressed, but they need not be. Thus, within the framework of Goldbergian construction grammar, (6) is a valid assumption.² In fact, we can be stricter:

- (6') Profiled participant roles should **always** be linguistically encoded in active main clauses, non-profiled participant roles may be encoded with varying frequencies.

Given that nothing is ever categorical in actual language use, we might define ‘always’ as $\geq .95$ (an arbitrary number, but one with a certain tradition in statistics). Table 1 shows the frequencies with which the roles THIEF, TARGET and GOODS are linguistically encoded in a random selection of fifty occurrences of *rob* and *steal* in active clauses in the British National Corpus.

2. Or rather, it is valid to assume the following: “If there is a difference in the frequency of occurrence of participant roles with a given verb, the participant roles which are encoded more frequently are more strongly profiled”.

Table 1. Frequency of occurrence of the participant roles of *rob* and *steal*

	THIEF	TARGET	GOODS
<i>steal</i>	100% (50)	18% (9)	98% (49)
<i>rob</i>	100% (50)	98% (49)	48% (24)

Clearly, the facts about profiling that emerge from this analysis fit those posited by Goldberg. If we treat profiling as a matter of all-or-nothing, we can read the profiling shown in (1) straight off this table: the profiled roles are those with a frequency of occurrence of $\geq .95$, the non-profiled ones are those with a frequency of $< .95$. Actually, the results are much richer than the representations in (1) suggest: note that there is a substantial difference between the non-profiled roles of the two verbs: while a TARGET is mentioned in less than a fifth of the occurrences of *steal*, the GOODS are mentioned in almost half of the occurrences of *rob*. A version of construction grammar that allows for *degrees* of profiling could make use of this information.

For example, we might predict that, contrary to Goldberg's judgments in (2–3), the GOODS of *rob*, though not the TARGET of *steal*, should sometimes be realized as the direct object of a transitive clause. This prediction turns out to be true. A web search will turn up occasional native-speaker examples of *rob* with the goods as direct object:

- (7) a. *On September 5, 1995, Bowes robbed \$2,982 from a branch office of the Bank of New Mexico in Albuquerque.* (Ref. 2)
 b. *Conover worries that the species robs food from native fish, including game species such as walleye, catfish, and northern pike.* (Ref. 3)

In contrast, no amount of searching turns up examples like the following (where the direct object is interpreted as a target):

- (8) a. **Bowes stole the branch office (\$2,982/of \$2,982)*
 b. **The species stole native fish (food/of food)*

Thus, while examples like (7) are extremely rare, their existence is predicted by the medium-strength profiling of the GOODS of *rob* indicated in Table 1. The non-existence of examples like (8) is predicted by the extremely low degree of profiling of the TARGET of *steal*.

By looking in more detail at the kinds of targets that occur with both verbs, we can also generally confirm Goldberg's observation about the distinction between victims and locations: 88.9% (8/9) of the targets of *steal* in the sample are locations, while 91.8% (45/49) of the targets of *rob* are victims. Again, the corpus data are richer than the all-or-nothing statements typical for introspective data: in neither case does the dominant target type reach our threshold of .95, suggesting that these are gradual rather than categorical differences.

In closing, let me briefly comment on the absence of inferential statistics in this section: one could, of course, evaluate the results in Table 1 statistically if one felt the

need to do so. For example, instead of simply stating that a particular role occurs with less than 95% of the examples of a given verb, one could test whether its deviation from this threshold is statistically significant. Alternatively, one could first determine the base frequency with which a particular participant is mentioned when referring to a particular frame (regardless of the specific verb used); in a second step one could then determine its frequency with a particular verb and test whether it deviates significantly from this base frequency. Again, which of these methods (if any) one chooses depends on one's theoretical assumptions.

2.2.2 Simple distributions

Corpus-linguistic methods are generally applied in contexts that are slightly more complex than that discussed in the preceding section. What is at issue is typically not just the presence of absence of an element or feature under a given condition, but the frequency of occurrence of alternative values of a particular feature under two or more conditions. As an example, take the (partial) distributional and semantic overlap between the ditransitive construction and the so-called (prepositional) dative construction (or *to*-dative):

- (9) a. *Mr. Wrigley sent the President a check for \$100* (Brown G)
 b. *Pels also sent a check for \$100 to Russel's widow* (Brown J)

There is, by now, widespread agreement that in those cases where both constructions can be used to refer to the same event, the choice between them is influenced by their information-structural properties: in both constructions, the first post-verbal NP (the indirect object of the ditransitive and the direct object of the dative) requires a referent that is backgrounded and/or given while the second post-verbal NP (the direct object of the ditransitive and the prepositional object of the dative) requires a referent that is in focus and/or new (cf. e.g. Halliday 1967, Erteschik-Shir 1979, Thompson 1990, Goldberg 1995). Since the two constructions differ in their alignment of these post-verbal NPs with the semantic roles *THEME* and *RECIPIENT*, speakers can select the ditransitive in situations where the *RECIPIENT* is backgrounded and the *THEME* is in focus and the dative where the *THEME* is backgrounded and the *RECIPIENT* is in focus.

Clearly, such a selection is only possible where a verb can occur in both constructions. This is not always possible. First, there are specific verbs (such as *donate*, *explain*, etc.) that occur exclusively in one of the two constructions. Second, even with verbs that generally occur in both constructions, such as *send*, there are cases where only one of the alternatives is possible:

- (10) a. *I sent the walrus to Antarctica*
 b. **I sent Antarctica the walrus* (Langacker 1991: 360)

Third, even verbs that freely occur in both constructions may have a strong preference for one or the other. I will return to the first case in Section 1.2.3, to the second at the end of the present section, and to the third in Section 3.2.1. For now, note that these

restrictions on free ‘alternation’ between the two constructions shows that information-structural differences cannot be the only thing distinguishing them from each other.

Keeping this in mind, we might want to test whether information structure does, in fact, play a role as claimed in the literature. A very simple translation of this claim into quantitative terms would be the following:

For verbs that allow an alternation between the ditransitive and the dative, if there is a difference in givenness between THEME and RECIPIENT, then

- in the ditransitive, the majority of the cases should have a given RECIPIENT and a new THEME;
- in the prepositional dative, the majority of the cases should have a given THEME and a new RECIPIENT.

Note that this prediction mentions a ‘majority’ but does not posit a threshold (such as the one posited for the occurrence of lexically profiled roles in the preceding section). There are several reasons for this. First, ‘given’ and ‘new’ do not correspond directly to ‘backgrounded’ and ‘in focus’. Although there is a relationship between the two distinctions such that backgrounded information is typically given and focused information is typically new, there may be cases where this does not hold. Thus, if we attempt to measure background/focus via givenness, we should not expect a perfect correlation. Second, even if we were exclusively interested in givenness, we would have to measure this in some practical way. For example, we might look at (a particular stretch of) the preceding discourse and categorize to something as ‘given’ if it is mentioned there and as ‘new’ if it is not. However, this categorization will only roughly correspond to the actual givenness of the referents in question: we might categorize something as ‘new’ even though it does occur in the preceding discourse but happens to occur outside of the stretch of discourse we choose to look at; even if we looked at the whole preceding discourse, something may be ‘given’ in the environment or because the speakers have talked about it on previous occasions. Thus, again, we should not expect a perfect correlation between our operationalization of ‘given’ and ‘new’ and the speakers’ perception of what is given and new. Finally, as I have pointed out above, we know *a priori* that information structure cannot be the only factor involved in the selection of the two constructions. Even if we were able to capture information structure perfectly, there would still be interfering factors that would make the correlation less than perfect. The fact that we are making a prediction about tendencies rather than about an absolute distinction, then, does not mean that we can only make this prediction within a framework that views language as a probabilistic system. On the contrary, we could assume that language is fully categorical and still make probabilistic predictions for the reasons just mentioned.

Let us choose the verb *send* as an example, first, because it is often used in demonstrating the ‘alternation’ between ditransitive and dative, and second, because we know from previous studies (e.g. Gries and Stefanowitsch 2004) that it has no clear preference

for either of the two constructions. Let us limit the investigation to literal (i.e. spatial) uses of *send*, since we know that idiomatic uses of verbs are often limited to a single construction. Let us further limit the investigation to written language, taking advantage of the fact that written language tends to be less situated, which reduces the risk that referents could appear ‘new’ to the researcher even though they are given in the environment. I will use the 1960s Brown Corpus of American English and its 1990s counterpart, the Frown Corpus.

Together, these corpora contain 27 instances of literal *send* in the ditransitive and 45 in the prepositional dative. Note that this does not suggest that *send* is biased towards the prepositional dative: we know from previous work (Gries and Stefanowitsch 2004) that the prepositional dative is roughly 1.67 times more frequent than the ditransitive and the proportions found for *send* in the Brown/Frown corpora do not deviate from this distribution significantly (binomial test, $p=0.71$).

For each of these 72 examples, I coded the GOAL-NP and the RECIPIENT-NPs for their information-structural status. A noun-phrase was coded as ‘given’ if its referent occurred in the preceding span (70 words) and as ‘new’ if it did not). In 24 of the 72 cases, there was no difference in givenness between GOAL and THEME (5 ditransitives and 19 prepositional datives). Since our prediction has nothing to say about these cases, they were discarded. However, their existence again shows that the differences in the information-structural properties of THEME and GOAL cannot be the only differences between the two constructions. The remaining 48 cases were summarized as shown in Table 2 (with expected frequencies in parentheses).

The two constructions differ from each other exactly as predicted. This difference is statistically highly significant ($\chi^2=23.03$ (df=1), $p<0.001$) and the association between the construction type and the information-structural configuration of theme and goal is strong ($\Phi = 0.69$). Thus, whatever other differences there may be between the two constructions, information structure clearly plays a role (for more detailed empirical analyses of the ditransitive-dative alternation in information-structural terms, cf. Thompson 1990, and especially Gries 2003).

Table 2. Information-structural properties of THEMES and GOALS of *send* in the ditransitive and the dative (Brown/Frown)

	Theme Given & Goal New	Goal New & Theme Given	Total
Ditransitive	1 (9.17)	21 (12.83)	22
Dative	19 (10.83)	7 (15.17)	26
Total	20	28	48

Table 3. Types of GOAL of *send* in the ditransitive and the dative (Brown/Frown)

	Recipient	Location	Total
Ditransitive	27 (24)	0 (3)	27
Dative	37 (40)	8 (5)	45
Total	64	8	72

Let us briefly return to the examples in (10), which show that even verbs like *send* do not always allow both constructions. There is some agreement that this is due to the fact that the first object of the ditransitive must be a recipient in the strict sense of ‘someone who is capable of possessing the theme’, while the prepositional object of the dative construction can be any endpoint of a transfer event, whether this be a recipient or simply a location (e.g. Langacker 1991: 359ff; Goldberg 1995: 89ff). As in the case of the lexical profiling facts in the preceding section, corpus linguistics provides a way of testing claims like this without resorting to the kind of acceptability judgment shown in (10). A straightforward quantitative prediction following from this claim is the following:

The GOAL-NPs of ditransitive constructions should always refer to a RECIPIENT, while the GOAL-NPs of the dative construction should sometimes refer to RECIPIENTS and sometimes to LOCATIONS.

In order to test this, the GOAL-NPs of all 72 ditransitives and datives were coded as recipients if their referents were entities capable of accepting the referent of the THEME-NP, and as locations if they were not. The results are shown in Table 3.

We could now use the criterion we used in the preceding section and define ‘always’ as $x \geq .95$ and ‘sometimes’ as $0 < x < .95$; by this criterion, the prediction is confirmed by the data in Table 3: 100% of the ditransitive GOALS are recipients, while only 82% of the dative goals are recipients and the remaining 18% are LOCATIONS. However, since we are interested in the ‘alternation’ between the two constructions, we can compare the two constructions directly and evaluate this difference statistically. The difference is indeed significant ($\chi^2=5.4$ (df=1), $p<0.05$), but the association between construction and type of goal is only moderate ($\Phi = 0.27$). This shows that while differences between the type of GOAL permitted in these constructions do exist, these differences do not play a major role with respect to the verb *send*.

2.2.3 Counterexamples

Before we turn to a more general discussion of these case studies, let me briefly turn to a third use of corpus data within the methodological framework introduced in Section 1.1: counterexamples. Whenever we are confronted with a categorical statement about the ‘ungrammaticality’ and/or ‘unacceptability’ of a particular linguistic structure, this

statement can straightforwardly be translated into a quantitative prediction: discounting the possibility of performance errors, the structure in question should have a frequency of zero. Thus, if we find just one good example of the structure –‘good’ in the sense that it cannot be explained away as a ‘performance error’ –, we have disproved the original statement (note that I have resorted to this strategy at several points in Section 2.2.1 above).

Disproving existing hypotheses is one of the central tasks of any scientist; the corpus as a source of counterexamples should therefore have a central place in the linguist’s methodological toolbox. My personal impression is that even generative linguists have adopted the use of corpora for this purpose quite widely (an excellent demonstration and discussion of this method can be found, for example, in Meurers 2005). It should be all the more useful in cognitively-oriented theories of language, whose practitioners generally do not believe in categorical acceptability distinctions in the first place.

Interestingly, the disproving function of counterexamples is often not even their most productive aspect. In addition, such counterexamples typically provide us with additional information as to how the original statement may be amended to yield more precise predictions.

As an example, consider the verb *donate*, which is often claimed to be blocked from occurring in the ditransitive (cf. e.g. Goldberg 1995: 121), who provides the following constructed examples and judgments in support:

- (11) a. *Joe gave the earthquake relief fund \$5.*
- b. **Joe donated the earthquake relief fund \$5.*

There are many suggestions as to how this apparent restriction can be explained, ranging from purely formal explanations (e.g. a general ban against Latinate verbs, cf. Gropen et al. 1989) to purely semantic ones (e.g. narrow characterizations of verb classes that may occur in the ditransitive, cf., again, Gropen et al. 1989). In a Goldbergian construction grammar framework, we might attempt to explain the facts in (11) by appealing to profiling within the frame evoked by *donate*.

A rough characterization of the DONATION frame, arrived at by collating a number of dictionary entries for *donate* and *donation*, is shown in (12):

- (12) A GIVER transfers something (the THING-GIVEN) to a RECIPIENT. The thing-given is something (often an amount of money) that is of considerable value to the giver. The recipient is an organization who uses the thing-given to advance some charitable cause. The giver is an individual who gives the thing-given because s/he believes in the cause, and who does not expect to profit personally. There is no direct contact between the giver and the recipient (cf. Stefanowitsch 2007).

There are three participant roles in this frame: giver, thing-given, and recipient. It is difficult to decide, on the basis of this frame alone, which of these participants are profiled in Goldberg’s sense, but applying the simple method outlined in Section 1.2.1 yields the figures in Table 4 from which we can derive the formulas in (13) (the figures for *give* are shown for the purpose of comparison).

Table 4. Frequency of occurrence of the participant roles of *give* and *donate*

	giver	thing-given	recipient
<i>give</i>	100% (50)	98% (49)	96% (48)
<i>donate</i>	100% (50)	98% (49)	42% (21)

- (13) a. *give* ⟨giver thing.given recipient⟩
 b. *donate* ⟨giver thing.given recipient⟩

Clearly, the GIVER and the THING.GIVEN are profiled in the case of *donate*, while the recipient is not (or, assuming a model with degrees of profiling, the recipient has only medium-strength profiling). Thus, *donate* should occur in constructions that put the main emphasis on the thing-given, not on the recipient. In the ditransitive construction, the first object (the ‘indirect object’) carries the main emphasis (cf. Koide and Thompson 1986) and it encodes the recipient. This clash would predict that *donate* should not occur in the ditransitive, in line with the received wisdom in the field.

Let us put this prediction to the test by searching for counterexamples. A search for “donate (me|you|him|us|them) (a|an|the)” on ⟨.uk⟩ websites yields a substantial number of examples produced by native speakers of English. The following are a representative selection:

- (14) a. *If anyone can donate me a PHP script that can replace
 with “” (only in posts), I will love you forever.*
 b. *If anyone would like to donate me a couple of million pounds in order for me to do that, that'd be great.*
 c. *... achieve your target increases in walking and cycling by summer 2005, and we will donate you a free, high quality children's bike!*
 d. *... it is said that his mates in his “local” at Portrack ... used to donate him a new set of clothes now and again ...*
 e. *A few moments later we found a lovely old lady owning a flower stool to donate us a rose for our list.*

These counterexamples to our prediction quite clearly disprove the claim that *donate* is categorically blocked from occurring in the ditransitive. However, they also provide us with additional clues as to where the apparent restriction may come from in the first place. All of these counterexamples to our prediction have something in common: they do not conform to what we have posited as the default DONATE frame and the profiling of participants in that frame. Crucially to the present discussion, they all involve relatively trivial things-given (from the perspective of the giver) and they all involve direct contact between giver and recipient. These two facts reduce the profiling of the thing-given and increase the profiling of the recipient, which would then lead us to expect occasional ditransitive uses (for further discussion, see Stefanowitsch 2007: 65f.). In other words, the contexts in which the counterexamples occur provide

additional evidence for the role that profiling plays in the motivation of the original prediction. The counterexamples thus force us to include in our analysis the possibility of contextual effects on profiling, yielding a more comprehensive theory of argument structure that allows us to make more accurate predictions.

2.3 Discussion

This section has discussed three relatively straightforward applications of corpus methods within the context of relatively traditional linguistic argumentation. The theoretical context was provided by Goldbergian construction grammar, but it should be obvious that the principle by which the methods were applied to the research issues under discussion are not limited to this framework or even to cognitive grammar in general.

Crucially, my aim was to show that the use of corpus data as a research tool makes sense only in the context of theoretically motivated predictions about the distribution of a particular linguistic phenomenon in a particular corpus. For example, in the case of the identification of profiled participant roles, the insightful application of corpus-linguistic methods was due to the fact that we were able to formulate, *on theory-internal grounds*, a prediction about differences in frequency.

This is not always possible. Take, for example, the famous prepositional networks that characterized the early years of cognitive linguistics (e.g. Brugman 1981; Lakoff 1987). These networks attempted to capture all possible uses of a given preposition and then relate them in a network such that each meaning could be derived from at least one other meaning by means of an image-schematic transformation.³ Most of these network analyses are based on the assumption that words have a core sense (or central sense). As a corpus linguist, one might be tempted to approach the identification of such core senses along the lines of (15):

- (15) The central sense of a word should occur more frequently than less central senses.

However, there is nothing in the theory of polysemy networks that would justify this approach. The core sense is defined as that sense from which all others can be derived, directly or indirectly, by image-schematic transformations and which in turn, cannot itself be derived from another sense (Lakoff 1987: 419ff). As such, this definition says nothing about frequency and thus it cannot be operationalized in terms of frequency. In order to turn this definition into a prediction about frequencies, we would need to make additional assumptions. For example, we might assume that image-schema transformations come with a certain cognitive cost. We could then argue that speakers might try to avoid this cost whenever possible and thus the non-transformed senses would be

3. At least that was the original aim, as implemented masterfully in Lakoff (1987: 416ff.). In fact, many subsequent network analyses paid no attention whatsoever to justifying the links between different meanings by means of image-schema transformations or anything else.

used more frequently than the transformed ones. Note that this assumption would provide only marginal justification even if it were warranted. However, the assumption is not, in fact, warranted at all: polysemy network theory assumes a full-specification model in which all senses in the network are permanently stored so that no on-line derivation of senses actually takes place and hence there can be no cognitive cost.

This is not to say that it is in principle impossible to come up with a prediction about the frequency of core senses under particular conditions. For example, one might be justified in arguing that, if the structure of a polysemy network has any psychological plausibility, central senses would tend to be learned before non-central senses (cf. Rice 1996). Thus, one might posit the following prediction:

- (15') The central sense of a word will occur more frequently in the early phase of its acquisition than the non-central senses.

On the other hand, one might view polysemy networks as having no immediate psycholinguistic reality at all. For example, one might view them simply as internal reconstructions of historical processes of sense development. In this case, one might posit the following prediction:

- (15'') The central sense of a word will occur more frequently in the early phase of its linguistic history than the non-central senses.

Thus, which quantitative prediction – if any – is appropriate in the context of a particular research question depends on the theoretical model within which this question is asked.

3. Corpus linguistics as a linguistic model

3.1 Background

The preceding section exemplified ways in which usage data can be utilized in investigating properties of the linguistic system. These methods rest on the assumption that usage data *reflect*, in various theory-dependent ways, facts about the underlying system. Beyond this, no claims about any particular relationship, direct or indirect, between linguistic knowledge and linguistic behavior are necessary in order to apply these methods fruitfully.

Many cognitive linguists, however, claim a very direct relationship between linguistic usage and linguistic knowledge. Langacker (1990: ch. 10, cf. also 1987) develops an extended critique of “classic generative theory” with its view of the grammar as “a set of rules for constructing expressions”, that is maximally economic and reductionist, i.e. that aims to “account for the widest possible array of data with the fewest possible statements” and that does not contain linguistic expressions that are “computable by general rules” (Langacker 1990: 261). He suggests an alternative model of linguistic knowledge in which speakers initially learn language as a series of larger,

unanalyzed chunks (“established units”) from which they may then derive representations of varying degrees of schematicity by noting formal and semantic structures that recur across subsets of such established units (Langacker 1990: 266f.; similar ideas are found in earlier work by Hopper 1987).

From this perspective, the linguistic corpus gains a central place in linguistic theory: it becomes a model of linguistic usage (both the input and the output) of an ‘average’ speaker and the (quantitative) methods applied to it become a (partial) model of the way in which this average speaker derives linguistic knowledge from usage.

Surprisingly, proponents of the usage-based model within cognitive linguistics have largely failed to see this. There are a few exceptions on the margins of the field, notably researchers in language acquisition (such as Tomasello 2003; Diessel 2004, and Dąbrowska 2000), and the group of researchers around Joan Bybee (cf. e.g. the contributions in Bybee and Hopper 2001), who began to take the notion ‘usage-based’ serious fairly early on. However while the results of their research have been received quite favorably in the field of cognitive linguistics, their methods and the relationship between corpus data and linguistic knowledge that is more or less explicitly referred to in their work have had little impact so far, as has the work of corpus-oriented researchers more centrally associated with cognitive linguistics, such as Barlow and Kemmer (1994), Geeraerts (1997), Schmid (2000) and, more recently, Stefanowitsch and Gries (2003).

Langacker, who first proposed the usage-based model within a cognitive-linguistic context and who remains its main architect to this day, has not published even a single paper based on actual usage data (although he seems to be sympathetic towards researchers who have). Taylor, who has given a number of conference talks on what he calls the ‘Mental Corpus’ (cf. also Taylor 2007) and who actually makes use of corpus data in some of his work (e.g. Taylor 1996) seems to see a tenuous relationship at best between the mental corpus (by which he seems to refer to linguistic experience) and any actual corpus. If corpus data are used at all in cognitive linguistics, this typically takes the form of individual citations that are used to *illustrate* a point arrived at by other (typically introspective) methods (cf. Tummers et al. 2005 for discussion).

This non-empirical approach to usage is especially striking in light of the fact that a theoretical development has taken place in traditional corpus linguistics that is quite amenable to the usage-based model. Let me briefly mention just one very striking example, Michael Hoey’s (2005) theory of ‘Lexical Priming’ (although Hunston and Francis’s 2000 *Pattern Grammar* would also merit some discussion). It would lead us too far astray to discuss Hoey’s model in detail – roughly, lexical priming in Hoey’s model is a generalized version of lexical association at all levels of language, from words to grammatical categories and constructions to texts and extra-linguistic contexts. One of his expositions of this theory contains the following, remarkable passage:

The notion of priming as here outlined assumes that the mind has a mental concordance of every word it has encountered, a concordance that has been richly glossed for social, physical, discoursal, generic and interpersonal context. This

mental concordance is accessible and can be processed in much the same way that a computer concordance is, so that all kinds of patterns, including collocational patterns, are available for use. It simultaneously serves as a part, at least, of our knowledge base. (Hoey 2005: 11)

This is probably the most succinct characterization of the usage-based model that I have ever come across. First, it assumes that language learning proceeds on an item-by-item basis (the concordance contains every word the speaker has encountered). This fits in well with Langacker's argument that speakers store (knowledge about) specific linguistic items even if there are possible generalizations over these items (Langacker 1987: 29, 40ff.). Second, it assumes that speakers store rich co-textual and contextual information about the usage-events in which they encounter a particular linguistic item (the concordance is 'richly glossed'). This fits in with Langacker's conception of linguistic knowledge as contextualized and encyclopedic in nature (Langacker 1987: 155ff.). Finally, it assumes that speakers can summarize within and across contexts (the concordance can be accessed and processed like a computer concordance to yield information about recurrent patterns). This fits in with Langacker's notion of entrenchment, whereby recurrent structures may gain unit status and where those units may be fully specific (Hoey's 'collocations') or display various degrees of schematicity ('all kinds of patterns') (cf. Langacker 1987: 57ff). Hoey's characterization of linguistic knowledge as a concordance is a metaphor, of course, but it is a useful metaphor in that it provides a straightforward link between a particular model of (or way of thinking about) language and a specific method of investigating it.⁴

3.2 Examples

As an example of a quantitative corpus-linguistic method interpreted within a usage-based model, I will discuss collostructional analysis, as developed since 2003 by Gries and myself. It should be kept in mind that collostructional analysis, like other collocation-based methods, makes no specific claims about the relationship between system and usage; specifically, it does not rest on the assumptions of the usage-based model as described above. However, since it is essentially a particular way of processing concordance lines glossed in a particular way, it is very amenable to an interpretation within a usage-based model as discussed by Langacker (1987) and Hoey (2005).

4. Of course this should not be taken to mean that there is 'really' a concordance in our brains. A concordance is a symbolic knowledge structure and our brain does not contain symbols – it contains nodes and connections. However, I believe that in many research contexts it may be very useful to *think* about the part of our brain that contains language *as though it were* a concordance of the type that Hoey describes.

3.2.1 Associations between words and constructions

Current implementations of collostructional analysis are based on contingency tables like that seen in Section 2.2.2. In the basic version of collostructional analysis, *simple collexeme analysis*, one variable in this table is LEXEME with the values *Lexeme L* vs. *All other lexemes of the same word class*, and the other variable is CONSTRUCTION with the values *Construction C* vs. *All other constructions of the same construction type* (cf. Stefanowitsch and Gries 2003). This is shown schematically in Table 5 for verbs and argument structure constructions.

Given the frequencies of occurrence of each of the four intersections of these two variables, we can derive the expected frequency of occurrence of a given word in the construction in question, and we can determine whether and in what direction the observed frequency deviates from the expected frequency and whether this deviation is statistically significant. A combination of a particular word and a particular construction that is statistically more frequent than expected can then be regarded strongly entrenched and thus as a candidate for unit status.

As an example, consider Table 6, which shows the relevant contingency table for the verb *give* and the ditransitive construction in the British Component of the International Corpus of English (ICE-GB) (the expected frequencies are shown in parentheses).

Table 5. Schematic representation of a simple collexeme analysis

	Construction C	All other Constructions	Total
<i>Verb V</i>	Freq. of V in C	Freq. of V in other cx.	Total freq. of V
<i>All other verbs</i>	Freq. of other verbs in C	Freq. of other verbs in other cx.	Total frequency of other verbs
Total	Total freq. of C	Total freq. of other cx.	Total freq. of all V/all C

Table 6. *Give* and the ditransitive construction in the ICE-GB

	Ditransitive	¬Ditransitive	Total
<i>give</i>	560 (14.57)	531 (1,076.43)	1,091
¬ <i>give</i>	1264 (1,809.43)	134196 (133,650.57)	135,460
Total	1,824	134,727	136,551

Clearly, *give* occurs vastly more frequently than expected in the ditransitive; the Fisher-Yates exact test shows that this difference is highly significant ($p < 4.94\text{e-}324$, the smallest floating-point unit a typical modern home-issue computer can handle). We can then interpret this p-value as a measure of association strength, arguing that it reflects the degree to which the combination *give* + ditransitive stands out from the background noise of words and constructions in the corpus (cf. Pedersen 1996 for a more formal justification, cf. also Stefanowitsch and Gries 2003: 238f.). In other words, the extremely small p-value is taken to be an indication of an extremely strong association between *give* and the ditransitive complementation pattern.

A single result like this does not tell us anything beyond the fact that there is an association and that this association seems to be fairly strong. But when we repeat this procedure for all verbs occurring with ditransitive complementation in the ICE-GB, we can rank them, first, by whether they occur more or less frequently than expected, and second, by association strength. Words that occur more frequently than expected are referred to as *attracted collexemes* (the strength of their positive association can be referred to as *attraction strength*), words that occur less frequently are referred to as *repelled collexemes* (with a corresponding *repulsion strength*). For example, all verbs occurring significantly more frequently than expected are shown in Table 7.⁵

The ranking of verbs in this table can be straightforwardly interpreted, within the usage-based model, as reflecting the degree of entrenchment that each verb has in combination with the ditransitive construction. For example, the position of *give* at the top of the list can be taken as (initial) evidence of the strong entrenchment of the schema [SUBJ *give* OBJ1 OBJ2], both compared to other instantiations of *give* and to other instantiations of the schema [SUBJ V OBJ1 OBJ2]. As such, it can then be viewed from two perspectives: it can be taken either as something to be explained, or it can be used as an explanation itself.

From the first perspective, we can look at data such as those in Table 7 and ask about the factors that might be responsible for the differences in entrenchment. For example, we might note that the meaning of the verb *give* matches the meaning of the ditransitive construction (something like 'X causes Y to receive Z', cf. Pinker 1989, or Goldberg 1995) precisely. Similarly, we might note that most of the verbs at the top of the list can plausibly be assumed to have three profiled participant roles (we could easily check this by using the method introduced in Section 1.2.1). From this, we might conclude that the entrenchment of complex units is partially driven by a strong overlap in the meaning of their individual elements (cf. Stefanowitsch and Gries 2003 as well as Gries and Stefanowitsch 2004 for further discussion of ditransitive semantics

5. The significance level of 0.05 was corrected for multiple testing using a simple Bonferroni correction, whereby the significance level is divided by the number of tests. Since the ICE-GB contains 4,856 verb types, this gives us $0.05/4,856 = 1.03\text{E-}05$. The Bonferroni correction is meant to place stricter requirements on statistical significance in situations where multiple tests are performed on the same data set: the more tests you perform, the more chances there are that a seemingly significant result has come about by accident.

Table 7. Significantly attracted collexemes of the ditransitive in the ICE-GB

Collexeme	F(Corpus)	F _O (Ditr)	F _E (Ditr)	FYE p-value
<i>give</i>	1091	560	14.57	0.00E + 000
<i>tell</i>	792	493	10.58	0.00E + 000
<i>send</i>	295	78	3.94	4.13E – 076
<i>ask</i>	504	92	6.73	9.65E – 074
<i>show</i>	628	84	8.39	5.15E – 056
<i>offer</i>	196	54	2.62	3.73E – 054
<i>convince</i>	32	23	0.43	1.70E – 036
<i>cost</i>	65	23	0.87	9.04E – 027
<i>inform</i>	55	20	0.73	9.57E – 024
<i>teach</i>	92	23	1.23	7.94E – 023
<i>assure</i>	19	13	0.25	1.04E – 020
<i>remind</i>	41	16	0.55	7.25E – 020
<i>lend</i>	31	12	0.41	3.48E – 015
<i>promise</i>	43	12	0.57	3.26E – 013
<i>owe</i>	25	9	0.33	2.24E – 011
<i>grant</i>	26	9	0.35	3.38E – 011
<i>warn</i>	38	10	0.51	5.94E – 011
<i>award</i>	16	7	0.21	7.72E – 010
<i>persuade</i>	33	8	0.44	1.03E – 008
<i>allow</i>	326	20	4.35	2.59E – 008
<i>guarantee</i>	27	7	0.36	5.27E – 008
<i>deny</i>	51	8	0.68	3.82E – 007
<i>earn</i>	56	8	0.75	8.03E – 007
<i>hand</i>	16	5	0.21	1.63E – 006
<i>pay</i>	395	18	5.28	8.66E – 006
<i>give back</i>	4	3	0.05	9.42E – 006

from a collostructional perspective). Of course, we might also investigate each of the strongly associated verbs in more detail, by concordancing them and looking for recurrent semantic and collocational patterns in these concordances. This would help us gain a better understanding of the set of ‘established units’ in Langacker’s sense that contribute to the different degrees of entrenchment. In some cases, there may be very few, highly entrenched patterns that account for most of the association strength between a given Verb X and a given construction, such as the ditransitive. In this case, we would probably posit more specific schemas below the level of [SUBJ Verb-X OBJ1 OBJ2]. In other cases, the expressions that contribute to the association between a given Verb Y and the construction may be very diverse, with little recurrent material at the lexical and/or semantic level. In this case, we would probably posit a schema at

the level of [SUBJ *Verb*-Y OBJ1 OBJ2] (cf. Zeschel 2007 for initial attempts to implement this view of collostructional data).

On the other hand, we might note the relative semantic diversity of the verbs on this list, ranging from physical transfer verbs (like *give*) over verbs only marginally related to a transfer frame (like *promise* or *guarantee*) and communication verbs (like *tell* and *ask*), which may be analyzed as metaphorical transfer at best, to verbs that seem to be completely isolated semantically (like *cost* and *deny*). This suggests that there are several highly entrenched semantic subschemas of the form [SUBJ V OBJ1 OBJ2], that may or may not be related to each other sufficiently transparently to posit a superschema encompassing all of them (cf. in this context Goldberg's polysemy analysis of the ditransitive construction, 1995: 31ff.).

From the second perspective, we can look at data such as those in Table 7 and ask about linguistic phenomena that might be driven, to a greater or lesser extent, by the entrenchment facts that these data represent. For example, we might connect semantic match between the most highly entrenched verb and the construction itself to Goldberg's observation that all basic argument structure constructions seem to have semantically matching verbs that are very frequent and that are acquired early (Goldberg 1995: 41f.). Clearly, the strong association between the verb *give* and the ditransitive construction could plausibly guide a child acquiring English in discovering the meaning of the ditransitive construction in the first place. Likewise, changing associations between verbs and constructions, caused, for example, by shifts in the set of Langackerian established units that are responsible for these associations, can account for changes in the meaning of the construction; as each successive generation of speakers reconstructs the meaning of a given construction from the meaning of its most strongly associated verb(s), each change in the set of established units will lead to a slightly different result (see Hilpert 2007 for a first attempt to apply collostructional analysis to historical data).

We can also look at any of the wide range of linguistic phenomena that have been shown to display 'frequency' effects, such as speech errors, lexical access, priming, etc. In a usage-based model, these frequency effects naturally follow from entrenchment, and thus they may be used to test different models of entrenchment. More specifically, if the effects in question are best explained by raw frequencies of occurrence, this would lead to a relatively simple model of the relationship between usage and system. If, on the other hand, they are better explained by association strengths, they would suggest a model that is in line with current approaches to statistical learning. While nothing can be said with any finality on this issue, there is initial evidence that statistical associations are a better model of entrenchment than frequencies. For example, Gries et al. (2005) find that collostructional associations are a better predictor to subject's behavior than raw frequencies in a sentence completion task. Similarly, Wiechmann (2008) shows that reading times for local NP/S ambiguities correlate significantly with the collostructional association of the main verb with nominal or sentential complements.

Of course, collostructional analysis (and other collocation-based methods), as currently practiced, cannot claim to be an exhaustive operationalization of the usage-based model. They focus largely on statistical associations between linguistic forms, neglecting not just the “social, physical, discursal, generic and interpersonal context” that Hoey mentions in the quote above, but, in fact, even ignoring semantics beyond a few very general considerations. Thus, the results arrived at by these methods are still a far cry from Hoey’s ‘richly glossed concordance’ or summaries over such a concordance. However, this is mainly due to the fact that corpora that are both large enough and include a sufficient fine-grained annotation are only slowly becoming available. Nothing in the method itself precludes the inclusion of these parameters. In fact, some existing studies have begun to explore this possibility. For example, Wiechmann (2008) includes verb senses in his collostructional analysis of nominal and sentential complements, Stefanowitsch and Gries (2005) include aspects of genre/discourse type in their analysis of active and passive voice and Wulff et al. (2007) include dialectal variation. The method used in Stefanowitsch and Gries (2005) and Wulff et al. (2007) is simply a multivariate version of traditional collostructional analysis (using Configural Frequency Analysis, cf. e.g. von Eye 2002), and thus it can straightforwardly be extended to any imaginable parameter of language use.

3.2.2 A usage-based perspective on alternations

Let me briefly mention a second version of collostructional analysis that is amenable to a usage-based interpretation. This version compares two constructions directly, i.e., the variable CONSTRUCTION is given the values *Construction C* vs. *Construction D* (*distinctive collexeme analysis*, cf. Gries and Stefanowitsch 2004) instead of *Construction C* vs. *All other constructions*. Table 8 is a schematic representation, Table 9 gives the relevant figures for *give* in the ditransitive and the prepositional dative.⁶

Table 8. Schematic representation of a distinctive collexeme analysis

	Construction C	Constructions D	Total
<i>Verb V</i>	Freq. of V in C	Freq. of V in D	Total freq. of V
<i>All other verbs</i>	Freq. of other verbs in C	Freq. of other verbs in D.	Total frequency of other verbs
Total	Total freq. of C	Total freq. of D.	Total freq. of all Vin C and D

6. The overall frequency of the ditransitive differs from that in the preceding section because Table 9 contains only ditransitives with nominal direct objects while Table 6 also contains ditransitives with sentential direct objects. The reason that these were excluded from the present analysis is that the prepositional dative does not allow sentential direct objects.

Table 9. *Give* in the ditransitive and the prepositional dative

	Ditransitive	Prep. Dative	Total
<i>Give</i>	461 (213)	146 (394)	1,035
$\neg$ <i>Give</i>	574 (822)	1,773 (1,525)	1,919
Total	607	2,347	2,954

The difference between the observed and the expected frequencies is highly significant (1.84E-120), showing that although *give* occurs in both constructions, it is very strongly attracted to the ditransitive. In fact, it is the most strongly attracted verb in the ditransitive even when compared directly to the prepositional dative. Because the comparison here is only between these two constructions, this automatically means that it is the verb least strongly attracted to the prepositional dative.

Repeating this procedure for all verbs that occur in the ditransitive and the prepositional dative yields the results in Table 10.

The results in Table 10 can be interpreted in a usage-based model as reflecting the degree of entrenchment that each combination of verb and construction has within the semantic or functional space shared by the two constructions. That constructions may share semantic/functional space in the linguistic system seems to be relatively uncontroversial in cognitive linguistics: Goldberg (1995: 91) represents this situation in terms of synonymy links between constructions and Langacker captures the relationship by saying that constructions may present the same scene “through different images”

Table 10. Distinctive collexemes in the ditransitive and the prepositional dative in the ICE-GB

Ditransitive		Prep. Dative	
<i>Word</i>	<i>p</i>	<i>Word</i>	<i>p</i>
<i>give</i> (461:146)	1.84E-120	<i>bring</i> (7:82)	1.47E-09
<i>tell</i> (128:2)	8.77E-58	<i>play</i> (1:37)	1.46E-06
<i>show</i> (49:15)	8.32E-12	<i>take</i> (12:63)	2.00E-04
<i>offer</i> (43:15)	9.95E-10	<i>pass</i> (2:29)	2.00E-04
<i>cost</i> (20:1)	9.71E-09	<i>make</i> (3:23)	6.80E-03
<i>teach</i> (15:1)	1.49E-06	<i>sell</i> (1:14)	1.39E-02
<i>wish</i> (9:1)	5.00E-04	<i>do</i> (10:40)	1.51E-02
<i>ask</i> (12:4)	1.30E-03	<i>supply</i> (1:12)	2.91E-02
<i>promise</i> (7:1)	3.60E-03		
<i>deny</i> (8:3)	1.22E-02		
<i>award</i> (7:3)	2.60E-002		

(Langacker 1987: 39); more precisely, he posits slightly different construals of the scene in question, where one construal places more emphasis on the theme and one places more emphasis on the recipient/location (Langacker 1991: 357ff). In other words, it is assumed that speakers can (subconsciously) identify semantic/functional overlap between constructions. From a usage-based perspective, we could argue that this identification is triggered by a large number of words (here, verbs) that regularly occur in both constructions. Differences in the relative entrenchment of these verbs with one of the two alternatives will keep the constructions from merging and will provide clues to the speakers as to what semantic differences remain between the two constructions. In the case of the ditransitive and the prepositional dative, note that the verbs in the former tend to encode events that suggest a direct transfer, while those in the latter tend to encode events that suggest a transfer over some distance (cf. Gries and Stefanowitsch 2004), a semantic difference that has been observed in the literature previously (e.g. Koide and Thompson 1986) and that ties in with the profiling requirements of the ditransitive and the dative discussed in Section 2.

3.2.3 *Negative associations and negative evidence*

The statistical approach to usage sketched out in the preceding sections can be extended beyond the current notion of entrenchment to solve a problem that is not usually addressed in cognitive linguistics: that of negative evidence. Cognitive linguists seem to share, in general, the generative linguists' conception that there is no negative evidence in natural-language input. There seems to be a more or less explicit agreement that the lack of negative evidence in building up the linguistic system can be made up for by extreme conservatism (Tomasello 2003), by various kinds of indirect negative evidence (cf. e.g. Bowerman 1988, Goldberg 1995: 125ff.) or by particular ways of modeling the available positive evidence (Elman 1993). However, if we take a statistical approach to entrenchment, we actually get negative evidence for free.

Take again the ditransitive construction. In Section 2.2.3 I discussed the claim that *donate* generally cannot occur in the ditransitive construction. I sketched out a potential explanation in terms of profiling facts derived from corpus data and then showed how a search for counterexamples might illuminate the motivations for this restriction. However, I did not, in fact, establish empirically that such a restriction exists in the first place. I simply accepted Goldberg's acceptability judgment (which represents the majority opinion in linguistics). This would not have been necessary: I could have simply checked for the existence of such a restriction by recourse to corpus data.

Let me demonstrate this, first, with the verb *say*, which also famously avoids the ditransitive even though it occurs in the prepositional dative and even though other verbs of communication, such as *tell*, *ask*, *promise*, etc., occur freely in the ditransitive. The ICE-GB contains 3,333 cases of the verb *say*, but not a single one of these occurs in the ditransitive. There is wide-spread agreement that this does not, in itself, constitute negative evidence, as there is no way of telling whether this absence is systematic or just

Table 11. *Say* in the ditransitive (ICE-GB)

	Ditransitive	¬Ditransitive	Total
<i>say</i>	0	3333	3333
¬ <i>say</i>	1824	131394	133218
Total	1824	134727	136551

an accidental fact about the corpus (cf. Chomsky 1957, McEnery and Wilson 1996: 11–12). However, as I have argued in more detail in Stefanowitsch (2006), a frequency of zero can be submitted to a collostructional analysis and tested for significance just like any other frequency of occurrence. Table 11 shows the relevant information.

If we work out the expected frequency of the verb *say* in the ditransitive construction via the standard way of multiplying the marginal sums of the corresponding cell and dividing the product by the table sum, it turns out that, given the observed individual frequencies of *say* and the ditransitive, the combination of the two should have occurred 44.52 times. The difference between this expected frequency and the observed frequency of zero is highly significant ($p = 4.29\text{E}-165$). Repeating this procedure for all verbs that occur in the ICE-GB but do not occur in the ditransitive construction yields the results shown in Table 12 (ranked according to the strength of what we might call their ‘zero association’ to the ditransitive).

For many of these verbs, negative evidence may seem to be unnecessary if we assume that speakers can identify the meaning of a construction based on the verbs that *do* occur in it. Given the meaning ‘X causes Y to receive Z’ (and its metaphorical extensions), a speaker would not expect verbs like *be*, *have*, *think*, *know* or *see* to occur in the ditransitive.⁷ However, there are a number of verbs on this list that would be expected to occur on semantic grounds: transfer verbs like *put*, *provide* and *move*, communication verbs like *say*, *talk*, *speak*, *suggest*, and *describe*, cognition verbs like *believe* and verbs of making like *produce*. While it might be possible to exclude these verbs by constructing narrower semantic classes of permissible verbs on the basis of the positive evidence (cf. Gropen et al. 1989), the negative evidence inherent in the corpus data seems to be a much quicker and more straightforward way of excluding them.

Clearly, there are many more verbs that do not occur in the ditransitive than are shown in Table 12. The ICE-GB, with its mere one million words, is too small to yield negative evidence for verbs with low corpus frequencies (especially for a relatively rare pattern such as ditransitive complementation). However, this is a problem of the specific corpus used here, not of the concept of zero association in general. Increasing the corpus size also vastly increases the number of verbs for which negative evidence with respect to their occurrence in particular constructions can be uncovered. For example, *donate*

7. But of course the significant absence of these verbs from the ditransitive construction may help speakers to narrow down the meaning of the construction faster and more precisely than they would based on positive evidence alone.

Table 12. Significantly repelled zero collexemes of the ditransitive in the ICE-GB

Collexeme	F(Corpus)	F _O (Ditr)	F _E (Ditr)	FYE p-value
<i>be</i>	25416	0	340.00	4.29E – 165
<i>be have</i>	6261	0	83.63	3.66E – 038
<i>have</i>	4303	0	57.48	2.90E – 026
<i>think</i>	3335	0	44.55	1.90E – 020
<i>say</i>	3333	0	44.52	1.96E – 020
<i>know</i>	2120	0	28.32	3.32E – 013
<i>see</i>	1971	0	26.33	2.54E – 012
<i>go</i>	1900	0	25.38	6.69E – 012
<i>want</i>	1256	0	16.78	4.27E – 008
<i>use</i>	1222	0	16.32	6.77E – 008
<i>come</i>	1140	0	15.23	2.06E – 007
<i>look</i>	1099	0	14.68	3.59E – 007
SIGNIFICANT AT UNCORRECTED SIGNIFICANCE LEVELS:				
<i>try</i>	749	0	10.00	4.11E – 005
<i>mean</i>	669	0	8.94	1.21E – 004
<i>work</i>	646	0	8.63	1.65E – 004
<i>like</i>	600	0	8.01	3.08E – 004
<i>feel</i>	593	0	7.92	3.38E – 004
<i>become</i>	577	0	7.71	4.20E – 004
<i>happen</i>	523	0	6.99	8.70E – 004
<i>put</i>	513	0	6.85	9.96E – 004
<i>talk</i>	490	0	6.55	1.36E – 003
<i>hear</i>	483	0	6.45	1.49E – 003
<i>need</i>	420	0	5.61	3.49E – 003
<i>believe</i>	397	0	5.30	4.76E – 003
<i>provide</i>	380	0	5.08	5.99E – 003
<i>live</i>	378	0	5.05	6.16E – 003
<i>remember</i>	373	0	4.98	6.59E – 003
<i>produce</i>	328	0	4.38	1.21E – 002
<i>speak</i>	323	0	4.31	1.29E – 002
<i>hope</i>	316	0	4.22	1.42E – 002
<i>run</i>	309	0	4.13	1.56E – 002
<i>change</i>	306	0	4.09	1.63E – 002
<i>meet</i>	303	0	4.05	1.69E – 002
<i>help</i>	301	0	4.02	1.74E – 002
<i>start</i>	294	0	3.93	1.91E – 002
<i>move</i>	291	0	3.89	1.99E – 002
<i>seem</i>	285	0	3.81	2.16E – 002

Collexeme	F(Corpus)	F _O (Ditr)	F _E (Ditr)	FYE p-value
<i>agree</i>	279	0	3.73	2.34E – 002
<i>lead</i>	271	0	3.62	2.60E – 002
<i>expect</i>	265	0	3.54	2.82E – 002
<i>consider</i>	264	0	3.53	2.86E – 002
<i>suggest</i>	259	0	3.46	3.06E – 002
<i>describe</i>	259	0	3.46	3.06E – 002
<i>decide</i>	259	0	3.46	3.06E – 002
<i>understand</i>	250	0	3.34	3.46E – 002
<i>hold</i>	249	0	3.33	3.50E – 002
<i>require</i>	244	0	3.26	3.75E – 002
<i>involve</i>	242	0	3.23	3.85E – 002
<i>suppose</i>	241	0	3.22	3.90E – 002
<i>include</i>	236	0	3.15	4.17E – 002
<i>occur</i>	233	0	3.11	4.35E – 002
<i>develop</i>	233	0	3.11	4.35E – 002
<i>go on</i>	231	0	3.09	4.46E – 002
<i>follow</i>	227	0	3.03	4.71E – 002

occurs only five times in the entire corpus and so its expected frequency in any construction is so low that an observed frequency of zero cannot reach significance. However, it occurs 916 times in the 100-million word *British National Corpus*, with not a single clear ditransitive use. Table 13 contains the information required to test this non-occurrence for significance (the number of ditransitive constructions and the total number of constructions in the BNC are based on estimates described in Stefanowitsch 2006).

Given these frequencies, *donate* should have occurred 12.24 times in the ditransitive construction. The fact that it did not is highly significant ($p = 4.467859e-06$).

Note, incidentally, that this kind of statistical evidence of absence is much more solid than a grammaticality judgment: the latter is invalidated by even one good counterexample, the former is not. Even in light of the counterexamples adduced in Section 2.2.3, the data in Table 13 clearly show that *donate* does not, generally, occur in the ditransitive and that the counterexamples must therefore be exceptional in some way (which, as discussed above, they are).

Table 13. *Donate* and the ditransitive construction in the British National Corpus

	Ditransitive	¬Ditransitive	Total
<i>donate</i>	0	916	916
Other verbs	136,332	10069052	10205384
Total	136,332	10069968	10206300

Thus, negative corpus evidence can be extremely useful even in a context where corpus methods are used simply as a research tool. However, its existence is even more intriguing in the context of a usage-based model: if we assume that speakers can discover significant positive statistical associations in the input, then it is plausible to assume that they can also discover significant zero associations. From this perspective, negative evidence is simply complementary to the notion of entrenchment.

3.3 Discussion

This section has discussed three applications of collostructional analysis from previous research (Stefanowitsch and Gries 2003; Gries and Stefanowitsch, 2004; and Stefanowitsch 2006) in terms of the usage-based model. My main aim was to show how a statistical approach to entrenchment relates to the theoretical framework in which this notion was first formulated.

In doing so, I attempted to draw connections to semantic motivations for the entrenchment facts observed. However, note that the usage-based model could be interpreted as a radical departure from ‘cognitively’ motivated theories of language, and the methods outlined here are relevant in this respect, too. Under this radical usage-based interpretation, the usage patterns themselves, independent of any other internal or external motivations become a major shaping force for the linguistic system. Verbs may develop positive associations or negative associations with a range of constructions for a variety of reasons that may include, among other things, semantic (in)compatibilities, phonological and morphological constraints, and accidents of linguistic history. These reasons may be accessible to the speakers of the language to varying degrees, ranging from fully transparent facts like the one that verbs of transfer and communication generally occur in the ditransitive construction to relatively opaque facts like the one that individual verbs from these semantic classes simply do not occur in the ditransitive construction.

From the perspective of a radical usage-based model, the degree of motivation for any given linguistic fact no longer plays a primary role in shaping the speaker’s linguistic system: instead, the statistical associations themselves take over both as a motivation for the representations in individual speakers’ minds and for historical processes of language change. Quantitative corpus linguistics does not force such an interpretation any more than it relies on any of the assumptions of cognitive linguistics, but its methods are highly amenable to investigating it further.

4. General discussion

In its early phase (during the 1980s), cognitive linguistics was concerned almost exclusively with the way in which the linguistic system is motivated by the conceptual

system, which in turn is shaped and structured by general cognitive processes and principles. Linguistic behavior was discussed only as far as it was assumed to reflect properties of the underlying system.

If this early focus had been maintained exclusively, cognitive linguists could conceivably get by without corpus-linguistic methods. Not that there is any reason why a cognitive linguist should want to do so: corpus linguistics as a research tool provides insights that are very hard – and in some cases impossible – to come by reliably by any other method. To a certain extent, corpus-linguistic analyses have been an integral part of psycholinguistic research since long before the advent of cognitive linguistics and be it only to construct natural-sounding stimuli for experimental studies. Section 1 should have made clear how such a conceptually-focused version of cognitive linguistics, like any other theory of language, could profit from corpus-linguistic methods. Still, if one really wanted to, one could, in such a theory, rely exclusively on psycholinguistic experiments and ignore corpus-data altogether.

However, cognitive linguistics did *not*, in fact, maintain an exclusive focus on the conceptual system and the general cognitive processes that shape it. By bringing the usage-based model into the framework, it has become inextricably tied up with quantitative corpus-linguistic methods. There is no way to study usage other than by looking at usage data. And there is no way of making sense of usage data other than by the tools of (quantitative) corpus linguistics.

As a quantitative corpus linguist who has, as a researcher, grown up in the field of cognitive linguistics, I would like to close my contribution to this volume on a personal note with a simple piece of advice to all my cognitively-minded colleagues who have not yet discovered the joy of getting their hands dirty with authentic, richly structured and inescapably messy usage data: Quantitative corpus linguistics is here to stay. Don't run from it. Embrace it. Make it your own.

Recommended reading

There is not, as yet, a cognitively-oriented introduction to corpus linguistics. There are efforts underway in several places to remedy this situation, but until these efforts bear fruit, I would recommend McEnery and Wilson's *Corpus Linguistics: An Introduction* (1996 [2nd ed. 2002]), Biber et al.'s *Corpus Linguistics: Investigating Structure and Use* (1998) or Meyer's *English Corpus Linguistics: An Introduction* (2002). There are also two recent collections, edited by Stefan Gries and myself, of papers that apply corpus-linguistic methods to research issues in cognitive grammar (Gries and Stefanowitsch 2006) and in metaphor and metonymy theory (Stefanowitsch and Gries 2006). The journal *Corpus Linguistics and Linguistic Theory*, published by Mouton de Gruyter, while not dedicated exclusively to cognitive linguistics, contains a large proportion of papers directly or indirectly related to the field.

Data sources

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Individual examples

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Oops blush!

Beyond metaphors of emotion

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In this chapter I relate the metonymic, embodied basis of emotion metaphors, illustrated, for example, by Zoltán Kövecses's research in the 1980s and 1990s, to the concept of affect as discussed in a tradition founded by Silvan Tomkins. I focus on Tomkins's claim that the responses of the body to stimulation constitute the affect itself. This can be seen as a challenge to the theory of conceptual metaphor: to what extent are emotion metaphors actually metaphorical, or is Tomkin's claim itself a metaphor? Instead of attempting to resolve this puzzle, attention is given to shame in particular, in order to illustrate how work on conceptual metaphors and an understanding of affect as a fundamentally embodied phenomenon might cross-fertilize each other.

Keywords: affect, embodiment, shame

1. Introduction

Whether it is by accident that the title of this chapter resembles that of Probyn's book, *Blush: Faces of Shame* (2005), is a question of interpretation. It is quite likely that I had come across her title before originally drafting this chapter, but I only became aware of the coincidence later when I read her book. The coincidence testifies to at least two things. One is that shame has been a fairly popular object of study in the past ten or twenty years. Another is that it tends to be associated with the blushing of the human face.

The passage of text that inspired this chapter appears in Nathanson's *Shame and Pride: Affect, Sex, and the Birth of the Self*, in which he discusses the "affect system" of an infant:

Again, observe the infant, who is not merely "somewhat" stirred by affect. The entire infant, suddenly alert and visibly more alive, is *taken over* by affect. Affective responses are immensely important events in the life of an infant, whose entire being is now under the control of the affect. (1994 [1992]: 61, emphasis in the original)

Note that to describe the affect system of the infant, Nathanson resorts to the conceptual metaphor AN AFFECT/EMOTION IS A FORCE. Moreover, he is making the claim that the whole body is involved in the affect and that the response of the body *is* the affect. Compare with Demos:

[Tomkins] expands on the expressive patterns described by Darwin and argues that affects are comprised of correlated sets of responses involving the facial muscles, the viscera, the respiratory system, the skeleton, autonomic blood flow changes, and vocalizations that act together to produce an analogue of the particular gradient or intensity of stimulation impinging on the organism. For Tomkins, these correlated responses *are* the affect, not the expression of something else. (1995: 19, emphasis in the original)

It is not my aim to either validate or refute this claim in the present chapter. Rather, I wish to point out some of the ways in which the claim relates to the theory of conceptual metaphor. If accepted, such a claim has immediate relevance to the theory of conceptual metaphor, since it suggests that a metaphor such as AN AFFECT/EMOTION IS A FORCE is not a metaphor at all, but a literal fact, at least in a very fundamental, ontogenetic sense, and even after a person has learned to (literally) control his or her emotions. If we do not accept the claim, we can certainly regard it as fundamentally metaphorical in itself, since it equates the responses of the body with what can also be regarded as highly abstract concepts, i.e. emotions.

As regards the terms *affect* and *emotion*, Probyn points out that the former is mainly used by biologically oriented, and the latter by socially oriented research, nevertheless suggesting that boundaries between disciplines should be crossed for the advancement of our mutual understanding of affect/emotion (2005: xv, 25–27). I will not distinguish between these two in this chapter, although it is clear that any biological understanding of affect is going to differ from a view of emotion informed by social constructionism, for example. In the following, I will first discuss Kövecses's work on the metonymies and metaphors of emotion (e.g. 1986, 1990, and 2000) in order to consider shame and metaphor, and then continue to deal with the embodiment of shame, and more generally, with shame and language, keeping in mind that the main purpose of this chapter is to weigh Tomkins's suggestion that the body's responses to stimulation are the affect against familiar notions of the conceptual metaphor theory fathered by Lakoff and Johnson (1980).

2. Shame and metaphor

Discussing the embodiment of anger, Lakoff refers to Ekman et al.'s results on pulse rate and skin temperature. Although he dismisses the value of conceptual metaphors as medical evidence, Lakoff nevertheless believes that the metaphors make sense exactly because they match people's physiological experience and that this is the reason

why we are likely to detect common features in emotion metaphors across cultures (1987: 406–408).

2.1 Kövecses on emotion concepts

Kövecses, who has worked extensively on metaphor and emotion concepts (e.g. 1986, 1990, and 2000), continues to pay particular attention to the physiological effects of each emotion, and he also discusses behavioral reactions associated with each of them. These he mainly calls “metonymies”, and they are seen as being more basic than the metaphors that they help to constitute. For example, the physiological effects of fear include physical agitation such as shaking, trembling, shivering, and quivering, which can help us understand the metaphor *FEAR IS AN ILLNESS* (Kövecses 1990: 70–79). For each emotion, Kövecses also lists what he calls “related concepts”. For *ROMANTIC LOVE*, these include *SEXUAL DESIRE*, *RESPECT*, *SELF-SACRIFICE*, *ENTHUSIASM*, and *CARING* (Kövecses 1986: 74).

The idea that *THE EMOTIONS ARE (NATURAL) FORCES* is central to Kövecses’s thinking. He regards this metaphor as one among the major metaphors of emotion, but the role of emotion as a force is even more prominent in his “cognitive model of emotion”. In this model, there is a cause of emotion that calls the emotion into existence, which means that the person experiences what Kövecses calls “physical sensations (inside the body)”, “physiological responses”, and “behavioral responses”, such as crying. In addition, the emotion “involves a desire which *forces* [the person] to perform an action (X)” (emphasis added). In a typical scenario, the person attempts to control this desire, but fails (Kövecses 1990: 162, 184–185).

Another metaphor that plays an important role in Kövecses’s description of metaphors is the container metaphor. There exists a metaphor parallel to *EVENTS ARE CONTAINERS*, i.e. *EMOTIONAL STATES ARE CONTAINERS* (being *in* love), but alongside these, both the body and the mind can be seen as containers for the emotions. More specifically, the emotions can be metaphorically understood as fluids in a container that is the body (Kövecses 1990: 144–159).

When assessing Kövecses’s model of emotion one should always keep in mind that the theory of conceptual metaphors was designed to reflect folk theory rather than biology (Lakoff 1987: 407). It is nevertheless relevant here to notice that Kövecses’s description of emotion agrees with the idea that an emotion consists of a series of responses to something, as Tomkins suggests. However, while Tomkins emphasizes the complete involvement of the person in an affect, Kövecses suggests that “emotion is an entity separate from the self”, and that it makes the self nonrational (Kövecses 1990: 185). Tomkins could not agree less on the latter point, since he writes: “Affect is the bottom line for thought as well as perception and behavior” (1995: 51).

2.2 Metonymies and metaphors of shame

Ekman, whose definition of emotion requires that each emotion attest distinctive physiology, i.e. a separate signal, such as the smile of enjoyment, hesitates about including shame among his set of universal emotions (1994: 18, 2003: xx). The physiological reaction often associated with shame, the blush, cannot be considered such a signal, since it can also occur with pride. Even Tomkins, whose ideas on shame have been very influential, says that he does not believe that shame is an innate affect in the same sense as startle, fear, interest, distress, anger, and joy. He calls it “an affect auxiliary to the affect of interest-excitement” (1995: 84–85). Probyn explains this as follows: “... whatever it is that shames you will be something important to you ... [Shame] reveals with precision our values, hopes, and aspirations” (2005: x).

My own research on the metonymies and metaphors of shame nevertheless suggests that it would be possible to uncover a rich system of metaphors and metonymies for shame. Text extracts discussing shame mention a number of physiological and behavioral responses to shame, such as INTERFERENCE WITH NORMAL MENTAL FUNCTIONING, REDNESS IN THE FACE, SHRINKING, and HIDING. The metaphors of shame include, among others, SHAME IS A CONTAINER, SHAME IS FIRE, SHAME IS AN ILLNESS, SHAME IS A NUISANCE, SHAME IS A PHYSICAL INJURY, and SHAME IS A VALUABLE COMMODITY. In addition, shame is nested in an intricate network of related concepts such as other ‘NEGATIVE’ EMOTIONS, MISFORTUNES, PERSONAL AND MORAL CHARACTERISTICS, and RELIGIOUS REPENTANCE. What makes shame especially interesting is precisely this connection between the physiological experience of shame, on the one hand, and the “cultural load” it carries, on the other.

Some of the metaphors of shame are discussed by Pattison in his study on shame in the Christian church. In general, he places shame in the “metaphorical world of pollution, stain and defilement” (2000: 89). In his view, the church basically trades in human ideas that are transmitted from one generation, location or person to another. When discussing these ideas, instead of focusing on the images of shame per se, he identifies what he thinks generates shame in Christians, primarily images of God and the self (ibid: 232–257). This testifies to how large the network of related concepts possibly is and how easily it could lead into dispute between, for example, representatives of different theological schools.

In Tomkins’s view, “Beneath the surface of any domain of knowledge one finds ideology. But if one goes deeper and higher, below and above ideology is always theology” (1995: 28). However, Tomkins does not consider shame as bad as contempt. He even regards shame and the desire for positive identification as ingredients of democracy, as against contempt and hierarchy (1963: 140–141).

It is a possible asset of the theory of conceptual metaphor that a linguistic analysis of the metaphors of shame need not involve the linguist as a person to the extent that Pattison as a theologian is involved in his church, or Tomkins in his theory of affect. While it may be sometimes tempting and even necessary to evaluate the

conceptualization of shame from a linguist's point of view as well, it is nevertheless possible to do a listing of the metonymies, metaphors, and related concepts of shame which is primarily based on multi-range textual data, rather than the linguist's own beliefs concerning shame.

3. The embodiment of shame

Engdahl relates a somewhat violent episode in her childhood, when she was allowed to take her favorite chair to her grandparent's place and someone else sat on it:

I felt the mortification of my lost power over the chair. I could not stand the feeling. I could not let part of *me* be part of her. I ran towards what was *mine* and crushed it with my bare hands. They were, I was told many years later, bleeding. (Engdahl 2004: 45, emphasis in the original)

Engdahl's budding consciousness of her separate self was challenged by that somebody who sat on her chair. She says that our "primitive sense of self or self-feeling arises through problems encountered when interacting with the outer world or the other" (2004: 46). In this she, despite representing a rather different school of thought from Tomkins's theory of affect, nevertheless agrees with him, and with Kaufman's influential, "developmental theory of shame, identity, and the self" (1996 [1989]: 1–151). Nathanson emphasizes that shame accompanies what he calls "growth and development". This includes the physical growth of the human body from a tiny infant to the size of an adult (1994: 159).

Cognitive linguists have shown considerable interest in figuring out ontological tendencies in the acquisition of language and metaphors, but less if any interest in the development of emotions, or even of the self (Lakoff and Johnson 1999: 45–59, 267–289). These kinds of notions concerning the development of identity and the self could therefore provide a fruitful starting-point for further research, especially as concerns metaphors of emotion.

3.1 Shame and the infant

A mother herself, Engdahl pays particular attention to how babies gaze at their surroundings, and especially at their mothers, suggesting that if we wish to understand where emotions come from, we need to start from there (2004: 118–121). Tomkins describes lovers as returning to "baby looking" (1963: 182). On a more abstract, indeed metaphorical level, Pattison, referring to the work of Donald Capps, describes how Christian adults can be solaced by "divine mirroring", in which God's gaze on them is experienced as profoundly beneficial (2000: 204).

Kaufman assigns profound importance to facial gazing between the mother and the baby (note the metaphors LOVE IS A CONTAINER/SEA and LOVE IS A UNITY):

It is that universal scene of communion between mother and infant, accomplished through facial gazing in the midst of holding and rocking during breast or bottle feedings, that creates the infant's sense of oceanic oneness or union. *That* is basic security. (Kaufman 1996: 31, emphasis in the original)

Kaufman uses the metaphorical term "interpersonal bridge" to describe "human bonding" and the "reciprocal interest and shared experiences of trust" which the baby needs: "The earliest scene of mutual facial gazing must be continually reconfirmed. The child needs to *feel convinced* that each parent truly wants their individual relationship" (ibid: 32, emphasis in the original). Shame can be activated when the parent fails to respond to this or any other need communicated by the child (ibid: 33).

Of particular interest as regards metaphors of emotion is that these discussions of infant shame actually emphasize the infant's experience of his or her loving parents, and consequently, employ metaphors of love to describe the ideal relationship between the parent and the child. A study of the conceptualization of shame in terms of metaphors should then not only concern metaphors of shame per se, but metaphors of love as well. The latter are, so to say, the positive side of the issue. Even more specifically, the metaphors of love that are employed in discussions of shame seem to specialize in pointing out what is missing if shame occurs. They may not fully overlap with a hypothesized total of metaphors for the concept of love per se, but it is more likely that they cover what could be called a love-shame area among the metaphors of emotion. A full-fledged analysis of these metaphors should also take into account that the love between infants and their parents is different from romantic love, and its metaphors are probably also different from those discussed by Kövecses (1988).

3.2 Shame and the growing/maturing body

Both Nathanson and Pattison write about the shame of becoming a man, challenging the view that it is especially female sexuality that tends to be considered shameful, or that women are more prone to shame (Pattison 2000: 97). "No matter what else it may be, the penis is a source of great embarrassment throughout development", according to Nathanson (1994: 292). Pattison says that one of his "own paradigmatic shame experiences" occurred towards the end of a confession he made at the age of sixteen, when he was asked about his sexual thoughts (2000: 71).

However, according to Nathanson and Kaufman, children experience shame simply for being smaller than adults. Nathanson writes: "To the child, growing bigger means becoming less helpless and dependent, even though these concepts are not strictly the same. But in the mind of the child they become inextricably linked" (1994: 163). Nussbaum calls children's experience of weakness and helplessness "primitive shame" (2001: 197). Kaufman considers powerlessness a main cause even of adult shame, describing it "as the state of helplessness into which all individuals are thrust at birth". He says that "[p]owerlessness experienced anew during adulthood reactivates

that earlier governing scene of initial primary helplessness”, in spite of the fact that growing up normally means that children experience themselves as being more powerful and more in control of themselves and their lives (1996: 47).

The issue of being small and helpless or big and powerful reminds one of the conceptual metaphor *SIGNIFICANT IS BIG* (Lakoff and Johnson, 1980: 50), which seems to have strong ontogenic roots. The discussion suggests that in a child’s world, this is not a mere metaphor, but a fact of life. If one wishes to alleviate the claim, one may resort to the metonymy *SIZE STANDS FOR IMPORTANCE* to explain the child’s experience.

This is intriguing from the point of view of researching the metaphors and metonymies of shame, which can be seen to include *SIGNIFICANT IS BIG*, and *SIZE STANDS FOR IMPORTANCE*. This leads the researcher away from metaphors that explicitly concern shame, to another network of expressions that concern size and importance. What is intriguing about this network is that it is so closely tied to actual physical experience: Our world teems with physical manifestations of size as a sign of importance, which are by no means restricted to the experience of the child. Consider advertising, architecture, history of dress with all its royal pomp, political arguments, psychological warfare, and so on (even lists of publications could be included, to transfer this idea to the academic world). It is not always shameful to be small, but size can also be manipulated to create shame in people who will then experience themselves as being small and of minor importance.

To return to the human body, even if sexuality is the primary source of shame for teenagers, focusing on a few members of the body as especially shameful may restrict our understanding of shame. A further possibility is that any part or attribute of the body can be experienced as a source of shame, although some parts or attributes of the body are certainly more prototypical sources of shame than others. As regards teenagers, the latter include the pimpled face.

Tomkins claims that one way of shaming children is to restrict their free movement, and that this source of shame can persist into the adulthood, in which it creates a desire for freedom from physical boundaries (1963: 195–201). In the conceptual metaphor theory, such boundaries are usually treated in terms of containment, but this claim could possibly be rephrased as the metonymy *RESTRICTED MOVEMENT STANDS FOR SHAME*, which would allow for any kind of disability as a possible source of shame.

3.3 Shame as an embodied adult emotion

Apart from powerlessness, Kaufman’s adult causes of shame include vocation, relationships, and aging (1996: 46–54). Of these, the most inevitable and most inevitably body-related is the process of aging, and finally death. There is circularity as well: aging is so difficult, because it renders one powerless again (ibid: 53–54).

Many of the causes of adult shame are the same as causes of shame in children. If children become ashamed when their desire for love remains unrequited, certainly

the same holds for adults. If children are ashamed because they are small, adults can also be ashamed if they remain short despite growing up, not to mention all the further links between size and importance. Moreover, not only teenagers experience shame concerning their bodies and sexuality, but certainly this can occur to adults as well, for example if they are overweight, and even if they look just fine or stunningly beautiful.

Kaufman's theory of shame holds that shame can be internalized. This means that people can carry over shame experienced in their childhood onto their adult lives and continue experiencing shame in the kinds of contexts which typically produced shame when they were still growing up (1996: 57–84). Tomkins is very interested in the relationship between shame and other emotions. He asks which other emotions can become sources of shame to people, and how the experience of shame can occur together or in sequence with the experience of other emotions (1963: 184–260). This will naturally influence the way shame is internalized. Each individual will have their own history of shame.

To generalize, we might say that adult shame is potentially even more complex than shame experienced by children, since it has had more time to evolve. In the light of Tomkins's theory of affect, it can nevertheless be seen as fundamentally embodied. It is not only the mind's but also the body's response to past and present life. Probyn would like to see this turned into a "shame-induced ethics of writing" which would involve a "body grappling with interests, hoping to engage others" (2005: 162). She is interested in describing how the body experiences shame and how this can influence people's identity and authorship. She begins her book by recounting how she blushed in front of her computer on receiving some angry e-mail from a respected colleague (*ibid*: 1).

Tomkins claims that affect, as described in his works, "works' biologically, psychologically, and socially" (1995: 52). Probyn is inspired by this and emphasizes the "physiological-psychological-sociological intersection" in understanding shame, detecting similar ideas in, for example, Mauss's work on sociology (2005: 71). We can also detect a similarity between these ideas and Lakoff and Johnson's *Philosophy in the Flesh*:

Reason is not disembodied, as the tradition has largely held, but arises from the nature of our brains, bodies, and bodily experience ... The mind is not merely embodied, but embodied in such a way that our conceptual systems draw largely upon the commonalities of our bodies and of the environments we live in.

(Lakoff and Johnson 1999: 4, 6)

Consider also Lakoff and Johnson's insistence on "neural modeling as an existence proof for the embodiment of mind" (1999: 38–39) with Tomkins's description of his model of affect: "Increase, decrease, or level of neural firing are in this model the sufficient conditions for activating specific affects" (1995: 89).

4. Shame and language: Prospects for study

It is suggested that marrying the two theoretical approaches, the conceptual metaphor theory, and Tomkins's theory of affect, might result in fruitful new avenues of research, both on shame in particular and on emotion in general. One could also combine these with further linguistic knowledge in order to develop the linguistic study of emotion. This section will present more ideas concerning the study of shame, while some ideas concerning the study of emotion in general will be saved for the conclusions.

4.1 Shame and the face

Quoting <http://en.wikipedia.org/wiki/User_talk:Nephron 20 August 2005> on the topic of *mammary gland*:

Oops. Deep blush. So sorry ...

No worries. Your edit made the article better ... I didn't think of the fact that *mamma* might be mistaken for slang.

It seems that Probyn is not the only person who has blushed in front of her computer (2005: 1). It is interesting that the computer can even be the medium that transmits the blush from the actual physical face that blushes to the knowledge of the person who reads his screen completely elsewhere, or it can be the medium of pretending a blush. It thus becomes an extension of the blushing face.

One way to study shame further would be to consider such blushes in the Internet: When do they occur? How frequent are they? Are there other means of using the computer as an extension of the body that is ashamed? What kind of references can be made to shame and the body in online writing? What is the role of metonymy and metaphor?

Love, shame and the face attract many kinds of authors. The following extract is from a Swedish Christmas sermon (the translation by the author is followed by the original text):

Christmas night is cosmic, existential forces turning to us ... Everything that fills up the universe turns into faces, angel faces surrounded by light, and their voices sing about peace on earth ... There is something unique that we look for and that can make us feel safe, a certainty that someone sees us — in a manner one who loves regards the object of love ... It is not by accident that God chooses to come to us as a baby, without any acquired roles, without any expectations. We only see a baby, who looks at us, looks into our eyes in a manner in which only a baby can look, without any disappointment or bitterness.

I julnatten vänder sig tillvarons kosmiska krafter till oss ... Allt detta som rymderna är uppfyllda av, blir plötsligt ansikten, änglars ansikten kring vilka det strålar av ljus och vars röster sjunger om frid på jorden ... Det vi söker och det enda som kan ge oss trygghet är vissheten om att någon ser oss – såsom den älskande ser den

älskade ... Det är ingen tillfällighet att Gud vill komma till oss såsom ett barn, utan roller, utan förväntningar. Bara ett barn, som ser på oss, ser oss in ansiktet såsom bara ett barn utan bitterhet och besvikelser kan se. (Jönsson 1979: 39, 41)

It would be of interest to study how descriptions of looking at other people's faces convey a sense of being either accepted or rejected, and how such descriptions intertwine into larger arguments about the deep meaningfulness of human life, or lack of it. Is there any way to consider how consciously such themes are used by authors to evoke what Kaufman calls "basic security" (1996: 31)? This sermon, for example, is certainly well planned and even included in a collection of sermons by the same preacher. The book as a whole suggests that the preacher has thought very much about Christ's embodiment and that his favorite method is what one might call a metonymic transfer of the holy to the ordinary and profane body. In his sermons, God assumes human shame in order to free humans from it.

A third, rather different way of looking at shame and the face would be to consider politeness theory, which uses the metaphorical term 'face' to represent people's need for mutual social acceptance and protection. Understood in this manner, face again relates to shame. Consider what can threaten the hearer's positive face: disapproval, criticism, contempt, ridicule, accusations, insults, expressions of violent emotion, taboo topics, dangerously emotional topics, blatant non-cooperation, and misidentifying the hearer's status in an offensive or embarrassing way. Threats to the speaker's positive face include breakdown of physical control over body, self-humiliation, acting stupid, admissions of guilt, ignorance, emotion leakage, and non-control of laughter or tears (Brown and Levinson 1990 [1978]: 66–68). This is very much about shame, and could be compared with Tomkins and his followers' descriptions of shame, and included in a broad cognitive linguistic understanding of aspects of shame that (have been and) could be studied in themselves.

4.2 Shame and the body

An acquaintance of mine told me that her little sister, a few years younger than herself, was exceptionally cute as a child. When her sister was four, she had large blue eyes and golden curly hair. My friend remembers a party during which everyone wanted to have a look at her sister and completely lost their hearts to her, because the child was so beautiful. The following day their mother cut away her sister's long curly hair, so that she would not become proud. (Translated by the author)

(The original reads in [dialectal] Finnish:) Yks tuttav mamma kerros, et hänt muutama vuore nuaremp vähäflikkas ol ollu piänen oike harvinaise su-lone. Suursinisilmäne ja kultakiharaine nelivuotias. Jossa juhliis kaik ol ollu iha syrämespurottane, ko see lapsi ol niin kaunis, ja kävelevä hänt ihastelemas. Seura-van päivän äit leikkas flikan pitkän kiahkuraissen tukan poies. Ete tul ylppiäks.

(Laaksonen 2004: 20)

This passage reminds us of the link between shame and pride, but it also suggests that any aspect of the body can become a source of shame in a given context. The small girl would be likely to experience shame on account of losing her hair, while the mother's intention, in a sense, is to make her ashamed of being too beautiful and thereby transgressing an important rule.

There potentially exists a wealth of norms in each culture concerning how the body should look, considering that there are many kinds of people and situations in which these norms may apply. It is not simply that one should look a certain way, or not look another way, but one has to be careful of not being too much or too little of what is expected. Thus the importance of measurement and size comes in many variations, apart from the metaphor SIGNIFICANT IS BIG (Lakoff and Johnson 1980: 50), which could possibly be subsumed under a larger category of size and shape. Lakoff and Johnson discuss "how metaphor can give meaning to form", but pay attention to grammar and syntax rather than the shape of the body or other objects (1980: 126–138). These are discussed, for example, by Vogel who studied dimensional adjectives, but unfortunately, she focuses on non-metaphorical uses (2004).

It is the variation in the size and shape of the body and its relationship to shame and its metaphors that I suggest could be studied by cognitive linguists, perhaps together with biologists, psychologists and sociologists, to agree with Tomkins's claim that affect "works' biologically, psychologically, and socially" (1995: 52). How do metonymies and metaphors constitute building blocks for norms of the body, for body image, and perhaps even for the movements, gestures, and rites of the body discussed, for example, by Strathern (1999 [1996])? What is the role of the metaphors and metonymies of shame both in inhibiting certain manners of being and relating between people and in calling forth others?

A simpler way to approach shame and the body would be to conduct corpus searches for such words and expressions as *beautiful* and *ugly*, *big* and *small*, or, as regards reactions to shame, *look away*, *turn away*, *shrink* etc. in order to see how often these relate to shame, to what extent they are metaphorical, and what else they tell us about the experience and linguistic conceptualization of shame. Are such words also used for shaming? Can they be used to avoid shame? Is there anything to be learned from looking at texts from different perspectives, such as that of the experiencer of shame as against that of the reporter of shame? For example, in the extract above the columnist is telling us about this real or imagined incident in order to question the mother's aspiration to be overly humble, but if a little girl went through such an ordeal, she would certainly see it in a way different from that of an adult. It would concern her own body, rather than a relational or cultural issue in general.

Her experience could indeed be titled in similar fashion to Lewis's book, *The Exposed Self* (1992). From a sheer physical perspective, there would be less hair to cover her head, face, and body, but the little girl's treatment by her mother would also be likely to reveal some of the little girl's "values, hopes, and aspirations" (Probyn 2005: x). She would become more aware of not only how she looked and looks, but also how she

wanted and wants to look. Exposure, both physical, psychological, and religious (if one wishes to make a distinction between the latter two), is a precursor and companion to shame ever since the story of Adam and Eve, and to make a study of the embodiment of shame more complete, one should certainly also analyze texts which treat this particular theme. An example of such a study is Holland and Kipnis's research on "American cultural models of embarrassment", or "the not-so egocentric self laid bare", in which they treat people's accounts of how they became embarrassed of themselves (1994).

5. Conclusions

Many of the descriptions of emotion concepts by cognitive linguists so far could be loosely grouped under the category of social constructivism. One proof of affinities between cognitive linguists and social constructivists is that Holland and Kipnis, who emphasize their "constructivist view", suggest that they are methodologically more advanced than Lakoff and Kövecses, because they infer their metaphors and prototypes from stories by actual informants (1994: 181, 186). Although Lakoff and Johnson later began to call for a neurological approach to the emergence of concepts to supplement their previous analyses (1999), it has not been suggested that this should be widely applied to the description of emotion concepts as well. Combining insights of the conceptual metaphor theory with those of Tomkins's theory of affect would allow a coupling of an understanding of the body and its neurological mechanisms with a theory of the embodiment of language, and broaden our understanding of the body as the metaphorical container for emotions (Kövecses 1990: 144–159). There is a possible affinity even between Holland and Kipnis (1994) and Tomkins's understanding of affect (1995: 312–396), since both are interested in scripts.

An approach in the study of emotion concepts that would rely on Tomkins's theory of affect alongside the theory of conceptual metaphor would not require neurological measurements to begin with, because the concept of shame, for example, has already been analyzed from many different angles by Tomkins and his followers Kaufman and Nathanson. It would suffice to collect linguistic data which could shed more light on various aspects of shame, such as the metonymies and metaphors of shame, the metonymy *SIZE STANDS FOR IMPORTANCE* and the metaphor *SIGNIFICANT IS BIG*, the ontogeny of shame, shame and the face, and shame and the rest of the body. What remains to be done is to knit the two theories more closely together by spelling out in more detail what kind of links exist between the physiology and psychology of shame and its metonymies and metaphors, and to what extent the language of shame indeed is metaphorical. A similar project could be designed in terms of another affect as well, in order to eventually combine information concerning several affects.

Tomkins himself tells us of his linguistic ambitions, that he once set himself the aim of compiling an "affect dictionary", and is of the opinion that "the linguistic analysis of affect proved deeply revealing and should be pursued further" (1995: 60). The

project itself failed, because affects tend to go together and, according to Tomkins, “the number of distinctions one can draw between affect complexes is theoretically without limit” (ibid: 61). Tomkins’s description of shame nevertheless includes a long section on how shame goes together with other affects, aiming at fine psychological distinctions between sequences and complexes of emotions (1963: 184–260). This chapter suggests that it could be rewarding to look at the ways in which shame is understood in relation to love or pride, for example.

Finally, a question that potentially knits shame with many, if not most, of the other affects/emotions is how it is used to regulate their expression. If a child, or an adult, learns to be ashamed of expressing certain emotions s/he will probably attempt to avoid their expression (cf. Tomkins 1963: 228–230). Shame may thus also be seen to function as a nexus between emotions and their expression, although it must be acknowledged that how people express their emotions, whether consciously or without noticing it, is a vast area of research in itself.

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Conceptual construal and social construction

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This chapter focuses on what happens when “emerged” concepts acquire a role in the social process: where concepts go, rather than where they come from. Conceptual construal is seen as the mind-internal end of a process that also involves social ‘construction’. The relationship is discussed in relation to an evolutionary approach to language change (Croft 2000), and the discussion emphasizes the role of causal power as criterial for the distinction between conceptual and social constructions. The framework is contrasted with analysis in terms of ‘discourses’ and analysis in terms of ‘framing’ and is illustrated by an analysis of the so-called ‘cartoon crisis’, a salient example of how social processes involving contested concepts raise interesting conceptual as well as social-constructional issues.

Keywords: cartoon crisis, contested concepts, discourses, evolution, framing

1. Introduction: The social dimension of linguistic conceptualization

In the last decade, cognitive linguistics has been increasingly oriented towards the social dimension, see e.g. Verhagen (1997), Gibbs (1999), Barlow and Kemmer (2000), Hawkins (2001), Grondelaers and Geeraerts (2003), Croft (2005). What follows is an attempt to contribute to this process.¹

The foundational assumption below is that cognitive processes must be understood in a functional context, cf. Harder (1999). To conceptualize is a transitive verb; and the way conceptualization engages with its objects, i.e. the targets of conceptualization-in-action, is a crucial part of the life cycle of concepts. It is essential in understanding both how concepts ‘evolve’ – and also how conceptualizations of such targets achieve status as part of the furniture of the world. The standard approach in cognitive linguistics to understanding concepts is via their experiential and bodily grounding, i.e. in terms of the way they are embedded in and emerge from their pre-conceptual

1. A general account of this process and of the relation between the cognitive and social dimensions of language is presented in *Meaning in Mind and Society* (Harder 2010).

background in human life. What I discuss is the other end of the stick – the processes that are at work when ‘emerged’ concepts acquire a role in the social process.

There is, of course, no contradiction between being interested in conceptual grounding and in the way concepts function in social interaction. I hope to illustrate some ways in which the understanding of conceptualization in communication can be enriched if we view it from a perspective that includes both conceptual factors, including grounding, and factors associated with social processes. The role of concepts in human life has been on the agenda throughout the history of the humanities, from Plato’s Republic to discourse analysis; in this context the point is to focus on the interface between mental and social aspects in accounting for conceptualization-in-action.

The point of departure for investigating the issue is the basic event of a conceptualization being invoked as part of a linguistic utterance, as when someone asks *Is he guilty?* (e.g. about O. J. Simpson). Two kinds of thing need to happen if the utterance is to be successful, one having to do with conceptualization, the other with the interactive process: the concept ‘guilty’ needs to be successfully invoked, and it needs to be mapped on to the discourse target. The last element corresponds to what Austin calls ‘taking effect’ (Austin 1975: 117). Austin’s topic is the illocutionary act, and his example is that an act of naming such as *I name this ship the Queen Elizabeth* is not successful if the ship is subsequently referred to as *the generalissimo Stalin*. Similarly, invoking a conceptualization in communication is unsuccessful if the conceptualization is not mapped on to the discourse target as part of the process of understanding the utterance as a whole. The utterance *Is he guilty?* misfires unless the concept ‘guilty’ is successfully mapped on to the referent of ‘he’.

Mapping a concept onto a target is only a sub-act, not a whole illocutionary act; but like all other linguistic sub-acts it has to be carried out properly if the whole act is to be ‘felicitous’. Linguistic meanings may in general be understood as acts, or operations to be performed, rather than purely as conceptualizations (cf. Harder 1996: 101f): the special privilege of meaning as part of language is that it enables users to go beyond their own conceptual system and call on other people’s conceptualizations. ‘Taking effect’ is therefore an inherent success criterion for linguistic meaning, not an accidental social by-product.

As a success criterion, ‘taking effect’ is sufficient for the purely communicative intention. However, after the initial ‘taking effect’, achieving your intentions depends on what might, in continuing analogy with Austin, be called ‘per-conceptual effects’: unless the imposition of the concept on the target has further consequences for the way we deal with it, the conceptualization-in-action is a dead end.

‘Framing’ is an example of a concept that can be elucidated in terms of the interplay between concept and social process, with its key role in political and ideological conflict, cf. Lakoff (2004, 2006). ‘Framing’ involves the conceptual background against which we understand a given concept – but it also involves the status we give it in linguistic interaction. In the salient type of case, the direct object of framing is a discourse target, and the outcome of the conflict depends on what happens to the target rather

than the concept. I use the case of the ‘cartoon crisis’, in which concepts like ‘freedom of speech’ or the ‘tone of the debate’ were brought to bear on events associated with the publication of cartoons of Mohammad, as an illustration of how conceptualizations and social forces interacted in shaping the way the world works.

2. Conceptual construal and social construction: The difference and the link

The duality introduced above can be understood in terms of the distinction between *conceptual construal* and *social construction*. The conceptual side of what happens when a concept is invoked has been discussed extensively in cognitive linguistics, with the notion of construal in a central role (cf. Croft and Cruse 2004, Chapter 3). Construal is integral to the act of conceptualization itself, but emphasizes the human subject’s dynamic modulation of conceptual substance, in contrast to the classical assumption that a concept represents an invariant essence, or an objective state of the world. Staple examples of this modulation are the fact that the same stretch of road can be ‘construed’ as rising or descending, depending on the vantage point of the observer, and that the same person can be seen as ‘coming’ or ‘going’ to Paris (cf. Langacker 1987: 138f).

In understanding a linguistic utterance, construal is responsible for generating a precise utterance meaning. When the construal process operates on a linguistic input, it involves two aspects: it brings the actual context to bear on the linguistic input, adding the new ‘exemplar’ to the store of instances – and it imposes a selection process on the existing range of possible readings, generating a more well-defined contextually appropriate ‘output’ reading. The word thus pinpoints the situated nature of understanding, the process of adjusting the meaning potential so as to fit into the context of utterance – while staying within the conceptual universe: construal is a mental event, constituted by cognitive processes in the mind of the language user.

Social construction denotes the process whereby our understanding of the world emerges from the social, interactive processes we take part in. From its breakthrough, as launched by Berger and Luckmann (1966), this concept has a very rich history. In the context of the humanities and social science, a salient part of it (especially as influenced by the thinking of Foucault) has been focused on the role of power relations in determining the way human beings understand the world and themselves. In the scientific context, social constructionism has given rise to an intensive debate about the extent to which this entails that there is no reality behind whatever we decide to recognize as fact (the ‘strong position’, cf. Bloor, as discussed in Klee 1997). It would go beyond the scope of this chapter to pursue either of those themes in any detail; the basic point is that what we understand as reality, i.e. the world picture that we operate with, is propagated in the community by processes of essentially the same social character that propagate language change and political ideas, and thus the process whereby it becomes an accepted, curriculum-worthy fact that the world is round, is crucially social.

In spite of the rather different approaches they are associated with, it is more than an accident that the two terms are etymologically cognate. Like conceptual construal, social construction derives its impetus from the insight that objective properties do not determine the content of understanding, putting the human factor in centre-stage position. Where they part company is in the approach to the human dimension. While conceptual construal takes its point of departure in human cognition as grounded in the body, social construction takes its point of departure in processes of social determination, analyzing ways in which conceptualization is the result of social pressures. The pressures may be more or less strong, and the stronger they are, the more likely it is that they impose social constructions on individual processes of conceptualization, regardless of what individually grounded experience may be involved. In Section 3 below, I discuss that kind of situation. However, I begin by discussing the relationship between construal and construction from the conceptual point of approach.

The social life of a conceptualization starts at the level of a linguistic concept 'taking effect', as discussed above, with the addressee mapping the concept encoded by the speaker on to the shared discourse target. The result of this local event I call a *discursive* construction. A discursive construction has a sender and an addressee (who co-construct the discursive event, cf. Clark 1996), and has (yet) no causal history beyond the speech event. The discursive construction of a concept being imposed upon a target must be understood in the context of the discursive construction of the whole illocutionary act; but that, too, can be viewed as a strictly local, online event. Calling your interlocutor an idiot as part of ongoing interaction changes the discourse situation, but not necessarily anything else, even if the conceptualization is seen as part of the speech act of a taunt or insult – that remains to be seen.

I reserve the term *social* construction for cases where a categorization is taken as holding of something in the frame of reference independently of any immediate discourse context. The key idea is that a 'real' social construction has no sender or receiver, but is just there in social space, the way a steel construction is there in physical space. This applies, for example, to the world picture that includes the earth being round and revolving around the sun, just as once it applied to the world picture where the world was flat. 'General knowledge' consists of such social constructions.

Further, it is useful to distinguish between *formally established* and *informal* social constructions. Formally established social constructions are those that are explicitly recognized in the legal and official apparatus of an organized body such as a school system or state. An essential thing about such constructions is that they do not only determine beliefs but are also formally inscribed in the way the world actually works. An example is an institution such as the criminal justice system. It exists in virtue of what Searle calls 'status functions:' (cf. Searle 1995, 1999), i.e. by virtue of people recognizing that certain people have a certain status, e.g., as judges, and certain acts have a certain status, e.g., as felonies.

Status functions establish the social identity of objects to which they are assigned. Social identity depends on but is not reducible to conceptual identity. Conceptual

identity can be exemplified with “metaphors we live by” (Lakoff and Johnson 1980), expressed by the word ‘is’, e.g., as in ‘more *is* up’, or ‘life *is* a journey’, working by virtue of mappings in the mind between domains. Identity established by formal social constructions, in contrast, work by virtue of causal powers embedded in social reality. When judges (in an up-and-running criminal justice system) sentence prisoners to a term of penal servitude, the prisoners go to jail, regardless of what any other individual may think or say about him.

Social groups may also informally share conceptualizations of the way things are, and these may be taken for granted and have causal powers vested in them by group members. Informal social constructions vary across the larger community in essentially the same way that linguistic conventions do. Reputations, ways of life, and world pictures are subject to social, subcultural variation that can be correlated with sociological parameters such as class, income and ethnic background. Just as there is a need for variational description of linguistic concepts (cf. Grondelaers and Geeraerts 2003), there is a need for variational description of social constructions.

This perhaps somewhat pedantic account of the relationship and the difference between social and conceptual dimensions of the issue is meant to highlight differences due to different links between conceptualization and the way the world works. For some purposes, the distinctions can be ignored, because the conceptual dimension is part of the social dimension as well, and so one can speak of a conceptual model (e.g. the strict father model) as being both in the mind, in texts and in the social space of a political campaign. Hawkins (2001: 28) rightly points out the ‘isomorphism’ between the apparatus of cognitive linguistics and the apparatus needed to investigate socio-political ‘ideologies’. This isomorphism is operative as long as the target is to explore the conceptual dimension.

However, if we are interested in the question of causal efficacy, it matters a great deal whether we are speaking of a particular mental representation in the mind of an individual, the shared understanding between sender and addressee in a given situation, or a pattern of thinking that is formally established in a social order. For example, in a conflict of loyalty, it is unpleasant to risk being construed as a traitor. But there is a difference between being subject only to the conceptualization in someone’s mental universe, and being *called* a traitor – let alone falling under the concept of traitor according to a formally established social construction (which may render you liable to the extreme penalty of the law). Below we shall see how the path from conceptualization to social constructions can be understood in relation to Croft’s (2000) theory of the social dimension of cognitive linguistics in relation to language change.

3. Social construction in a Darwinian world

As described above, both conceptual construal and social construction are understood as going beyond objectivism. In a functional picture, however, this does not entail that

these processes can be understood only on their own terms, ignoring what is really there. Conceptualizations are functionally adequate to the extent they enable subjects to deal adequately with relevant 'objects' out there, whether physical or social, and are thus exposed to the Darwinian processes of selection and propagation that affect all features of the biological world. Like antibodies (Jerne 1955), and neurons (Edelman 1992), conceptualizations live or die depending on feedback from the environment.

The potential path from discursive construction to social construction can be elucidated by means of the evolutionary theory proposed by Hull (1988) for scientific development and adopted by Croft (2000) as the basis for his theory of language change. Not all aspects of the process, however, are captured by this analogy; as emphasized by Andersen (2006), human actions differ from biological mutations in being intentional, and the role of intentional action in generating social acceptance is part of the picture. What I assume in invoking the analogy here is that, as in biological evolution, there are two irreducibly different sets of processes involved: one set affecting the individual, and one set affecting the population (the 'invisible hand' level, cf. Keller 1990).

In evolution-based theory, this distinction is reflected in a crucial difference between two forms of change (cf. Croft 2000: 4–5). The first is innovation, i.e. a spontaneous change of some kind; in biological evolution it is a mutation, in language change it is a deviant utterance, and in science it is a new idea. The second form is propagation (proliferation, diffusion): the process whereby a given new form spreads across the relevant population. Conceptual construal and social construction differ in precisely this way: the individual may innovate by means of a particular construal, but social forces determine the extent to which the idea acquires status in the community.

Propagation is made possible by the central feature whereby also Darwin-type evolution in general is made possible, namely replication: only populations which are maintained by a form of reproduction over time can undergo evolution. Mountain tops persist as individuals but do not undergo evolutionary change. The mechanism whereby propagation is successful or blocked, and which makes evolution rather than unchanged persistence possible, is the act of selection: not all changes are replicated equally in the next generation. This process of reproduction-cum-change is the point of the notion of a 'lineage' (in the terminology that Croft takes over from Hull, cf. Croft 2000: 22): For each element that you want to trace through processes of social propagation and change, you get different 'lineages' consisting of a successive generations of objects in a temporal chain of reproduced tokens. The macro-level mechanism that has made webbed feet on ducks, quantum dynamics, and adverbial endings on adjectives general features of the landscape is the same: once an innovation has come into being, selection as part of the reproduction process determines what the world is going to be like in the next generation.

It may be questioned whether changing beliefs and institutions qualify as 'lineages' – are they not rather to be compared with mountain-tops that simply live on without being subject to selection pressure and demands for reproduction? In one sense, however, they are crucially unlike mountain-tops: they are not made of rock that will just

stay around forever if nothing happens to prevent it. As teachers will recognize, the sort of thing that causes an educational institution to persist involves a large number of things that have to be reproduced every time a new cycle begins – just like the persistence of biological species and scientific ideas.

As stressed by Hull (1988: 354f), his approach places the development of science in a functional context: the fate of new proposals depends on the role they get in the ‘macro-level’ process of scientific development, just as the fate of biological mutations depend on whether they have survival-promoting effects. Less scientific ways of understanding the world are also subject to function-dependent Darwinian processes of selection and proliferation. Institutions, beliefs, ways of life, and political parties change, thrive and decline depending on (1) the kind of innovations that arise within them and (2) who and what gets promoted by the processes of selection-cum-reproduction that are at work in the population as a whole.

In the perspective of the innovative individual, this differential success rate is rather important: it means that the way you see things may either be systematically rejected or become entrenched in the social environment in which you live. Here, too, it is crucial what the criteria of selection are in the community. An interesting issue is the role of brute frequency, i.e. the role of actual proliferation in generating subsequent proliferation. For the entrenchment of linguistic constructions, there is evidence that it plays a considerable role, cf. Bybee and Hopper (2001). Goebbels is generally credited with the observation that the same applies to the entrenchment of political ideas. If that were all there is to be said, there would be very close correlation between propagation and propaganda: all you need to do is physically reproduce your favorite ideas often enough. A more optimistic assumption would be that even frequently invoked ideas are subject to some (other) forms of selective pressure.

A crucial issue in a Darwinian system is whether an evolved construct is *sustainable*, i.e. viable in the long run. Sustainability depends on the overall balance between erosion and (re)construction. The basic requirement for a social construction to persist is to maintain people’s allegiance, i.e. their acceptance that the identity embedded in the social construction holds. At least two sets of criteria play a role for continuing allegiance: one is whether the relevant concepts give you a handle on reality; another is whether the status and practices associated with a social construction actually work.

In the case of a social construction such as the criminal justice system, the first criterion requires that it contains adequate conceptualizations of real-world crimes; and the second that it actually maintains law and order. This is why if you do not catch and punish enough criminals, the social construction of the system as being part of reality may erode. The same thing may happen, even if everything is in fact working fine, if people do not *realize* that it is working fine: that is why justice must be *seen* to be done (cf. Harder 2003 on status functions and how to maintain them). If people do not believe that the legal system is working, they will not make themselves dependent on it and may devise private ways of ensuring what they see as justice being done – and this in turn will speed up the erosion process.

This example shows that there is a causal link (but not identity) between appearance and reality in the social domain. For the same reasons, there is also a causal link (but not identity) between personal convictions and social reality. Here too, it is essential to maintain the distinction in order to be able to be precise about the link. As stressed above, causal relations are criterial when we move from conceptualization into the social domain. Social constructionism is often invoked by those who advocate social change, because if something is socially constructed it can also be socially deconstructed. But the change from one *conceptualization* to another is not enough, even if you are personally convinced that the new conceptualization is the right one. This can be illustrated with the case of gender equality. It is not enough to develop new *concepts* of female gender, and it is not enough to categorize *yourself* as a different person, or to *speak* of yourself or others in different and more equal terms. A real social construction of a new role depends on getting other people to *act* in a way that matches the new identity, thus making it sustainable in everyday life (otherwise there would be no need to involve men in women's liberation process!).

The difference of principle that arose between Croft (2000) and Andersen (2006) with respect to the role of intention in language change can also be raised in relation to issue of change in social constructions. If 'teleological' change is just as impossible in social constructions as it is in biology, people who try to change the social world for the better are in the grip of an illusion: they would be trying to impose intentional change on the level where the invisible hand rules. But it would perhaps be a bit pessimistic to rule out the possibility of intentional social change. Such change is possible if the social propagation process can have an intentional element – so that people not only innovate but also adopt and implement political ideas because they want intentionally to change things. The idea of democracy takes for granted that this is possible, so it would be nice if we did not have to give it up. Crucially, however, it is not a matter of one or the other. Cynical as it would be to dismiss intentional change, it would also be naïve to pretend that macro-level, Darwin-type processes could be ignored. Those who think that putting forward an idea is enough to change the world are not likely to have much experience of the process. Putting a real social construction on its feet is hard work and depends crucially on finding a path through the Darwinian jungle of macro-social processes.

This enables us to return to a closer analysis of the term *frame*. On the purely conceptual understanding, 'frames' come out as identical to 'domains' (cf. Croft and Cruse 2004: 19). In the micro-perspective of interaction, a frame comes out as a result of the speaker's chosen vantage point: people can *discursively* construct a target in any way they like, which means that a conceptual frame may be used in 'framing' understood as a *speech* or *discourse* act. But frames may also be entrenched social constructions, part of the way the world works. In that case, they are present neither purely as concepts nor as a dimension of ongoing interaction, but as part of the context of utterance understanding. Success in imposing your own conceptualizations on the situation depends very much on the causal power of frames that are embedded in social constructions.

4. The role of discourse pressure: From discursive practice to conceptualization

In the perspective outlined above, the vantage point is defined in conceptual terms: the narrative protagonist is a conceptualization that is launched into the social world, where various things may happen to it. This scenario can be counterbalanced with a perspective that takes interactive patterns as the point of departure. With his concept of language games, anchored in 'forms of life' as the ultimate source of meaning, Wittgenstein (1953) stresses the extent to which meaning has its origin in what happens between speakers rather than in the mind of the individual. Only mental beings can have the kinds of interaction that he talks about (cf. Searle 1995), but the character of utterance content as shared meaning (rather than merely as 'inner life') is bound up with patterns of interaction.

The 'nine months revolution', cf. Tomasello (2003: 21f) with the rise of shared attention can be understood as the ontogenetic entry into this human 'form of life'. When a mental state acquires special significance by being shared with the discourse partner, whatever that mental state in itself may be, it is less important precisely what mental content to entertain than it is to be able to home in on what the other person is thinking. This is also the first prerequisite for having status functions: without shared attention, there could be no shared presidents or legal systems.

There is an inherent link between this discursive point of departure and embodied experience, as stressed in the notion of 'situated embodiment' (Zlatev 1997): basic interactive patterns, beginning with relations with the caregiver, have elementary qualia associated with them, preceding and presupposed by fully conceptual structures. In the course of later ontogenetic development complex cognitive structures and experiences arise, supplementing but not replacing the elementary level of what it feels like to be engaged in various interactive relationships.

The complex experience associated with participating in interactive relationships constitutes the automatic and pre-given context of all conceptualizations of an individual. A language game may set an agenda that participants more or less have to adapt to: the shared activity imposes a certain kind of mental content on those who perform it. In this respect it is like dancing; in order to be part of this shared activity, you have to be able to take the steps required. Thus, if you are not discursively incompetent, your own psychological understanding of yourself and others in the situation will emerge from the discourse agenda, not from your inner conceptual processes; to that extent the basis for understanding psychological processes lies outside the mind (cf. Edwards 2005 on 'discursive psychology').

Human beings are generally fairly adept at tuning in on what the occasion demands, responding at all levels in ways that will be considered appropriate or even prestigious – mostly through subconscious 'backstage cognition'. Included in this is the ability to respond emotionally in ways that are considered interactively adequate, an example being the outbursts of 'spontaneous' patriotism at the start of WW I. As an

extreme case, we may invoke Adorno's paradoxical observation that when people feel they are expressing their innermost feelings, what comes out tends to be trivial expressions of today's fashionable sentiments.

The other side of the coin involves thoughts that are discursively inappropriate and risky. Learning to be a successful discourse participant entails avoiding those. Certain 'language games' are routinized processes of distributing unwanted statuses in the group – e.g. 'assigning blame'. If other members of the group start the language game of 'assigning blame', your own contributions will be understood in terms of this discursive project. It does not matter what you think of the issue, or whether blame is 'objectively' relevant or not – if you are not careful, you will end up on the receiving end of the blame-assignment process (with the associated undesirable role in the causal machinery of the world).

Although adaptation is presented as the norm here, the opposite case also exists: we all know at least one person whose conversational contributions are invariably at cross-purposes with whatever is going on. The ripples they create around them, however, also make it clear why the ability to generate discursively appropriate mental content is an adaptive skill. Although this may sound simply as an evolutionary explanation of hypocrisy, that would be an underestimation of the deep-seatedness of this mechanism. Pretence may occasionally be the best you can do, but in terms of adaptive skills it comes a poor second to the ability to genuinely feel and think what the situation requires at the moment. Also, discursive routines do not exhaustively specify all properties of the next step in the dance, unless they are totally ritualized: there is scope for personal variation. The point remains, however, that discursive practices may call the tune for conceptualization.

A widespread concept designed to capture this form of determination is the countable sense of the noun *discourse* that goes back to Foucault (see e.g. Fairclough 1995; Jørgensen and Phillips 1999; Riggins 1997). There is considerable variation and also widespread lack of cogency in the way this concept is understood, sometimes to the point of intellectual bankruptcy (as pointed out in Antaki et al. 2002). To be precise about what I am after, I propose an explicit definition:

A discourse is a socially entrenched linguistic practice consisting of a set of basic assumptions and values, a matching vocabulary to express them, and an attested pattern of concrete acts of discursive construction reflecting the basic assumptions – working so as to protect or install a social constructing matching the discourse (and undermine or block out alternative social constructions)

It is not obvious that such discourses are actually part of the furniture of the world: variation in conceptualization and discursive practice is not naturally constrained to a limited set of mutually distinct 'discourses', and there is a whiff of conspiracy theory about looking for a well-defined (set of) countable 'discourse(s)' when you analyze a given text, rather than simply a collection of concepts, words and arguments that the author has brought together in producing a concrete text. Much of what passes as

(countable) discourse analysis in fact consists in taking up individual words, constructions and figures of speech and seeing these as representing a particular, more or less suspect discourse (with debatable empirical underpinnings, cf. Widdowson's critique (2004) of Fairclough-style 'critical discourse analysis').

Nevertheless, there are cases where it is plausible to assume that one is up against more than merely an idiosyncratic collection of discursive choices working to achieve a text-specific purpose. The definition suggested above makes 'socially entrenched practice' a key constituent of 'a discourse', and on that definition a 'discourse' cannot be set up based on the reading of a single text: there must be a socially established set of categorizations shaping each new contribution, otherwise there can be no causal agency beyond the idiosyncratic properties of the text itself. One can name a discourse after the individual text, of course, but that would be mere duplication and leave the concept of 'a discourse' without independent empirical substance.

One area in which the significance of entrenched patterns of speaking has been studied is in the field of international relations. An example, taken from Hansen (2006), is the role played by two alternative 'discourses' in international negotiations about the ex-Yugoslav war during the 1990s. One of these is the 'Balkan discourse' that construed the area as constituted of backward nationalist groups that were persistently at each other's throats. The chief rival was the 'genocide discourse', in which the fighting was understood as a case of an aggressive Serbian majority trying to destroy underdog minorities. When single events were analyzed in terms of the 'Balkan discourse', it motivated international intervention designed to prevent fighting in general, without taking sides. In contrast, when they were understood in terms of the 'genocide discourse', the actions of one side were construed as acts of aggression against a defenseless enemy – and this motivated intervention against Serbia.

By analyzing international negotiations in the context of the actual events and decisions, the discursive school of international relations (cf. also Wæver 1998) makes a strong case for the independent causal relevance of such entrenched discursive patterns. The level of 'a discourse', thus conceived, is intermediate between individual discursive constructions and established social constructions: a recurrent set of discourse choices serving to impose or reinforce a particular construal of the relevant issue. In the context of the field of international relations theory, the discourse-based approach presents an alternative to the analysis of international relations purely in terms of 'objective interests', which would leave causes for action invoked in negotiations as merely epiphenomenal.

There are good reasons to assume that this level is a causally relevant fact in political contexts, not only because it may match better with attested outcomes than purely objective interest, but also because such a pre-set pattern of understanding and argumentation enables a political party to 'speak with one voice' and thus present a coherent front to voters and negotiation partners (which may have survival value in itself). Understood like this, the concept 'a discourse' constitutes a form of 'framing' that is systematic, socially entrenched and regularly practiced in (uncountable)

discourse. Part of George Lakoff's message to the Democratic Party can be expressed by saying that the Republican Party has succeeded in socially constructing the political landscape by means of a powerful, socially well-entrenched discourse, which Democrats have been ineffectually trying to combat with individual and scattered discursive constructions.

In terms of the conceptual apparatus I have argued for, we therefore need all of the levels suggested above to give an account of conceptualization in action. We also need both the directions of approach: the path from conceptual construal via discursive constructions and discourses to socially constructed reality, and the path that begins with social pressures and ends up with conceptualizations in the minds of individuals. To Lakoff's (2004) exhortation, *Know your values and frame the debate*, one may add "but check how the debate has already been framed, and think of how the debate may frame *you*!" Below, I try to show how the two paths may interact in the case of a complex and conflictive challenge to conceptualization in the social arena.

5. The cartoon crisis: Construals, discourses, and social constructions in communication

The illustration case will be an analysis of the 'cartoon crisis' in Denmark, i.e. the series of events that began with a newspaper publishing cartoons of the prophet Mohammad and caused riots and embassy burnings in the Middle East. First, I am going to give an outline of the political landscape in Denmark as it was when the cartoon crisis occurred. Then I give an account of the main events of the crisis itself, and finally I select some key instances of the different levels of analysis I have presented above.

5.1 The background

Before the present Danish government came in, the previous governments and the cultural and political establishment as a whole maintained an informal but pervasive social construction according to which it was factually and morally wrong to understand, and discursively construct, immigrants as different from other citizens in terms of social problems, crime rates, school districts, etc. This position was manifested in the form of a well-entrenched discourse, which constructed all attempts to discuss problems in relation to immigrants as 'discrimination'. Some politicians, including members of the government party who deviated from the majority position, acquired the status of xenophobes, among them some mayors of municipalities with significant immigrant communities.

Dubbing it the 'anti-racist discourse', the Turkish-born sociologist Mehmet Nedef from the University of Southern Denmark argued (in contributions to public debate) that this practice prevented an adequate discussion of the issues, because it only

allowed problems to be explained by factors on the Danish side, primarily racism. Other factors, for instance gaps between immigrant backgrounds and the demands of the Danish labor market could not be addressed.

When the new government came in, it brought about a change on all these levels. At the level of formal social constructions, including causal structure, strict immigration laws and lower benefits for immigrants were introduced with the help of the 'Danish People's Party' (=DPP) which had until then been stigmatized also in parliament because of their hostile attitude to immigrants. At the level of informal constructions, the 'anti-racist' ban against articulating problems as immigration-related lost its force, not only on the winning side, but across the board.

This may be used to illustrate relations between individual construals and social (population-level) constructions. It was not that all individuals changed their individual minds overnight because of the change of power – the change occurred primarily at the macro-social level. The causality of that change, I suggest, was that the social construction of immigrants as being similar in all relevant respects to ethnic Danes, and with it the ban on speaking of problems in relation to immigrants, was no longer sustainable. The first sustainability criterion of a social construction (cf. above) is that it provides a handle on reality, which had seemed problematic for a while, cf. Necef as cited above. The second criterion, that the status functions imposed by the construction are actually working (i.e. that the social landscape included a generally recognized distinction between xenophobes and decent people who never mentioned immigration as a problem), now could no longer be upheld. The ban had already been weakened in the debate that preceded the election, and with the election the majority of voters had put problems that they associated with immigration at the centre of political attention. By Darwinian selection pressure politicians would be removed from the playing field if they could not even *address* the issue.

This in turn influenced conceptualization and discursive practice at individual level: with the removal of social pressure, it quickly became 'normal' to discuss, e.g., what to do about schools where a majority of the children did not have a full command of Danish and educational achievement was low – which used to be stigmatized before. Hostile and derogatory utterances also became more common in public, although it was still possible to go too far and incur public censure and loss of prestige (as happened to a prominent member of the DPP during local elections).

In addition to the social construction of immigrants, the landscape included other constructions with parallel patterns of social variation broadly predictable in terms of social status: the higher people's social status and education level, the less importance they assign to Danishness and the more to globalization, and the more tolerant of Muslim immigrant groups they are likely to be. In the (mostly low-status) electorate of the DPP, 'Danishness' is the positive pole on the axis where 'Muslim' and 'globalization' belong at the opposite end, but has no obvious conceptual content beyond the national and geographical core. The concept 'Muslim' has a contested periphery, including a considerable admixture of the threatening ethnic 'other' (cf. Karim 1997).

After the 'anti-racist' position could no longer uphold its social construction of the shared landscape, it manifested itself in the weaker form of deploring the 'tone' of the debate. The source domain of this metaphor is music: the right 'tone' is harmonious, others are 'jarring' or 'shrill'. The metaphor dates from the seventeenth to eighteenth century, and the target domain is linguistic interaction. In the history of the concept, the conversational mores of upper-class polite society has had the status of 'harmonious' while lower-class patterns have had the status of jarring deviations, which is reflected in the social variation affecting this metaphor: If you are 'well brought up' in polite society, you tend to regard 'tone' as a good thing, minimizing face-threatening acts (cf. Brown and Levinson 1987). If your social background is in the lower half of the spectrum, you may well associate 'tone' with the tyranny of upper-class manners over your own ordinary, everyday forms of speech. The 'tone' model thus historically reflects the same social variation that we saw above.

5.2 The crisis

The crisis arose in the context of the ongoing discussion about how to respond to the question of Muslim vs. majority culture. The newspaper published the cartoons as part of a campaign for freedom of speech, citing difficulties in finding an illustrator for a planned children's book about Mohammad, allegedly because of fear of Muslim reprisals. In explaining this initiative, however, they also explicitly stated that Muslims living in Denmark would have to live with being insulted and ridiculed.

Two weeks later, ambassadors of 11 Muslim nations sent a letter to the Danish Prime Minister (=PM), mentioning the Mohammad drawings episode as the last in a series of incidents of a "smear campaign against Islam and Muslims" (another episode was one in which a government minister talked about Muslim culture as 'medieval'). They asked the PM to have a meeting to discuss the climate of increasing hostility with them, and in the interest of inter-faith harmony to "take all those responsible to task under law of the land". The PM, however, refused to have a meeting, citing freedom of expression as "the very foundation of the Danish democracy".

The ambassadors took this rejection as a slap in the face: an arrogant refusal to take an urgent problem seriously, ignoring thereby also the potential for conflict with the wider Islamic world. The PM said that it would only have made matters worse if he had said yes to the meeting, when he had to say no to what they asked for, since he could not take any legal steps (in view of the freedom of expression). This claim was challenged both by the ambassadors and various experts. One of the signatories of the letter said, "we are not stupid – we know the PM cannot interfere" (*Information*, October 28, 2005). The PM denied that it made any difference how you understood the letter: any form of action on his part would be against the freedom of speech. No understanding was reached on this point. In an exceptional act of public remonstrance, 22 ex-ambassadors later criticized the PM for refusing to meet the ambassadors. In the intensive public debate following the riots, the PM was supported by a number of intellectuals also outside his

political circles, who invoked the 'Enlightenment frame' as the salient context. Through the last two centuries, people in western countries have gradually achieved freedom from subservience to religious authorities – would this development be reversed now, with other religions taking the sanctified position we no longer reserve for our own religion?

5.3 From concept to social construction and back again:

A level-by-level analysis of the crisis

The crisis is well suited for an analysis beginning at the conceptual end because a concept, that of freedom of speech, was at the centre of events. Like the superordinate concept of 'freedom' (cf. Lakoff 2006), this contested sub-concept has an uncontested core; and this uncontested core includes something which we may call an 'absence of barrier' (following Talmy 1988 and Sweetser 1990) in relation to saying what you want. There are variable construals, however, of the nature of the relevant barrier, of which two have played a central role. In terms of the motivation for publishing the cartoons, the barrier that played a role was religious, specifically Muslim feelings. In terms of the PM's role, the potential barrier was intervention from the government. The latter construal is formally enshrined in a well-established social construction, namely the constitution, which explicitly forbids it.

In refusing to discuss government interference, the PM was clearly on solid socially constructed ground. But the PM's reading of the ambassadors' request ('we ask you to take legal steps!') did not really make sense, since they could hardly expect him to set the police on his own minister of culture, who was one of the causes of complaint. On a more co-operative construal, the letter asked to PM to act as a 'barrier' to increasing public hostility towards Muslims, not towards freedom of the press. When the PM said that this new reading made no difference, he shifted his ground in order to defend his refusal, and the battle lines were now drawn in terms of a conflict between harmonious relations on the one hand and freedom of the press on the other: the PM effectively said you could not defend harmonious relations (as requested by the letter) without going against freedom of speech.

This discursive construction is interesting because it can be seen in some ways as a 'mutant' conceptualization, an accidental rather than intentional event of 'innovating' by imposing a construal on a discourse target – thus illustrating the parallel between biological and social-constructional evolution. Subsequent events suggest that had the PM understood the letter and the implications, he would much have preferred not to construct this radical conflict, which is really not in his own political interest. To defend his immigration policies, it is an advantage if he can construct himself as defending religious harmony even while maintaining strict control, as reflected in his New Year's speech, where he said, "I condemn any expression, action or indication that attempts to demonize groups of people on the basis of their religious or ethnic background". The mutation arose, I therefore suggest, essentially because he needed to

put a construction on events that justified his rejection of the letter. And once out there, the mutant multiplied across the population.

As politicians had to respond to questions round the clock, subsequently a full-fledged *discourse* came into being, adding another level of causal structure. Part of it has to do with collective intentional action: defenders of the government closed ranks against attempts to impose hostile conceptualizations on the PM. It may also involve Darwinian mechanisms of survival, the resort to a shared discourse being comparable to 'flocking' as a defense against predators. As always when an entrenched discourse acquires independent causal power, it involved a process of standardization and generalization. The discourse constructed all criticism of the PM in terms of a contrast between a positive pole defined in terms of 'freedom of speech' which was identified with being Danish, and democratic, and a negative side which was understood in terms of 'suppression of free speech' Islam, and dictatorship.

There was little effective opposition to this. Mehmet Necet suggested the cartoon crisis caused the definitive collapse in Denmark of the 'anti-racist discourse', because its standard discourse choices ('mutual respect' etc.) were identical with those found in statements published by representatives of Syrian and Egypt dictatorships and fundamentalist imams (cf. the Danish newspaper *Information*, February 26, 2006). The crisis therefore strengthened the social construction of the situation of Denmark as involving a Muslim danger to the nation, to democracy and free speech: opinion polls for a long time showed an increase in the backing of the Danish People's Party, while the figures for the previous government party dropped sharply.

This path from construals to social constructions can now serve as background for an outline of the causal path going in the opposite direction, from social pressure to construal. We have already seen social pressure in operation in the form of the need to justify the PM's actions, but it is perhaps more striking if we start with the other side of the issue, i.e. the construal according to which publishing the cartoons was unfortunate because it was offensive and disrupted good relations with the Muslim community. What happened in Denmark to this construal, which was the standard construal internationally? At the purely conceptual level there is no inherent contradiction between having freedom of speech and aiming for good interethnic relations. Nor would there be any conflict (in relation to the *facts* of the matter) between supporting the freedom of the newspaper to publish the cartoons while saying that doing it was not such a brilliant idea; this would in fact reflect precisely the classic formulation of the principle of freedom of speech as a civil liberty that is generally attributed to Voltaire, 'I disagree with everything you say but I will fight to the death for your right to say it'.

The point was made by many people, including the former foreign secretary, but to no avail. Two intertwined causal factors can be discerned. The first is the force of the discourse that identified the publication of the cartoons with being Danish and being for the freedom of speech. Raising the issue of peaceful dialogue between cultures placed you on the wrong side, aligned with fundamentalist Muslims and dictatorship. The other has to do with the language game of 'blame assignment' – which for a while

was just about the only game in town: allowing the 'Voltaire construal' into social space would shift some of the blame for the embassy burnings to the "Danish" side – and was thus out of the question. In combination, the two factors effectively eliminated the middle ground in the social sphere (on the dynamics of polarization, cf. Harder 2005). As an example, a well-known spokesman of multiculturalism publicly announced that having to choose between mutual respect and freedom of speech, he chose freedom of speech.

One of the advantages in distinguishing rigorously between conceptual and social constructs is that this allows an interpretation whereby this choice does not show that he was conceptually challenged. The causal power of social pressure on conceptualization meant that in private, among consenting adults, it might be possible to support both interethnic understanding and freedom of speech, but not in the socially constructed terrain where they were placed on opposite sides.

I have argued that this construction was not adequate in relation to the facts of the matter in Denmark. This can be illustrated by comparing with Britain, where a bill proposed by Blair, defeated at the last moment through a parliamentary revolt, would have made anyone who made remarks that *might* stir up religious unrest punishable. In the discussion in Britain it was factually correct to construe harmonious relations and freedom of speech as being in conflict (in relation to the formal social construction contained in the bill). To discuss the issue on the purely conceptual level is therefore insufficient; you need to view it against assumptions about social reality.

The case also illustrates the importance of the variationist dimension of experiential grounding. The immigrant issue, as discussed above, was grounded differently in lower-class and middle class experience. The well-educated middle classes generally 'framed' Muslim immigrants in terms of global understanding, metaphorically extending something like Lakoff's 'nurturing family' model to newcomers. In low-income neighborhoods, on the other hand, a non-metaphorical frame was available involving the rise of parallel communities with divisive consequences. Being 'Danish' is of limited significance in the first context, but if your everyday life involves conflictive encounters with a population group that does not speak the language, associating meaning with the word 'Danish' does not operate in terms of elaborate conceptual analysis – it becomes 'visceral' in just the same sense as elementary freedom, cf. Lakoff (2006). A variationist account of experiential grounding is a prerequisite for understanding the social life of conceptualization.

This also shows the limitations of the purely social constructionist approach. A standard argument in discussions of relations with minorities is to focus on the unfortunate consequences of understanding relations in terms of a 'them' and 'us' discourse (see e.g. Riggins 1997). While this is true as far as it goes, it is an ineffectual argumentative strategy if pursued under the assumption that social constructions are arbitrary and can be removed simply by pointing out preferable alternative conceptual *construals*. If there are two population groups out there whose interactive practices effectively construct each other as 'them', the us-them distinction is part of socially constructed

reality, which has to be taken seriously precisely as part of reality. A reconceptualization, however desirable, will not be able to marshal the necessary allegiance, much less be 'sustainable', unless interactive practices are changed along with the conceptual model. The term 'coconut' used as a metaphor (someone who is colored on the outside but white underneath, i.e. a turncoat and traitor to the immigrant community) shows that the construction is not only active among majority members. Similarly, social constructionist intellectuals who deconstruct the notion of Danishness by showing the absence of a coherent conceptual core, end up in the ironic situation of losing the argument (except in their own intellectual circles) because they have ignored the *social* embedding of the concept they are deconstructing.

6. Summing up

The point of this chapter has been to highlight the social processes that shape conceptualizations and through which conceptualizations may shape the world. I have tried to show both that this falls naturally out of existing concerns among cognitive linguists, and that it calls for some extensions of the standard explanatory apparatus. These extensions make contact with well-established concepts of other approaches, with 'social construction' as the centerpiece; and I have tried to show how both sides can gain by integrating the two approaches to the issue.

For cognitive linguistics, the implications of the proposal can be illustrated with reference to its position, as described by Johnson (1992), between objectivism on the one hand and social constructionism on the other. Rather than define this relationship in terms of conflicting foundational assumptions, the picture I offer aims to provide an overall framework that integrates hard facts as well as processes of social construction with the conceptual domain that constitutes the heartland of cognitive linguistics.

In relation to the multifarious descriptive practices of social constructionism, the picture provides an account that emphasizes the limitations within which processes of social constructions operate. The mechanisms that mediate, I have suggested, are functional in nature: both at the social and the individual level, some types of feedback undermine and others reinforce existing ways of understanding objects in the world. Social constructions, such as the construction of freedom of speech and of relations between the majority and the Muslim minority in Denmark, thus constitute 'lineages' (in the sense of Croft 2000), which exist and are replicated by virtue of events at two levels, the individual level and the population level. These lineages exist in the same social space as those constituted by linguistic concepts. This ubiquitous development involves Darwinian mechanisms of selection and propagation, while allowing scope for the ability of human beings to act intentionally on the world, collectively as well as individually. The bottom line is that concepts as involved in usage events need to be understood both in terms of their conceptual properties and in terms of their causal trajectory in social space.

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The biblical story retold

A cognitive linguistic perspective*

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In this chapter I offer one, or a small set of, possible interpretation(s) of the basic story of the Bible. I suggest that the symbolic meaning of the story derives in large part from conceptual structures and conceptual mechanisms that are shared by a large number of speakers of English and other languages belonging to the European cultural sphere. My claim is that a large part of the dominant features of Christianity can be understood on the basis of people's everyday conceptual system and that the understanding of these features does not require an entirely independently existing conceptual apparatus that is somehow unique to the interpretation of the sacred.

Keywords: conceptual structures and mechanisms, everyday conceptual systems, interpretation of the sacred, symbolic meaning

1. Introduction

It is perhaps one of the few safe claims about the Bible that it uses many symbols and is constituted by a story that, in addition to being a historical story, has symbolic significance (unless, of course, we believe that the Bible is entirely literal). Studies concerning both the symbols and the story abound and are conducted from many perspectives. There are many symbols used in the Bible for both God and Jesus. A sample of these symbols based on Neville's (2001) work includes the following:

God the Father
God as Logos
God as Holy Spirit

* I am grateful to a number of colleagues and friends for their comments on this chapter. Francisco Ruiz de Mendoza provided me with extensive and very constructive criticism. I also greatly benefited from comments by Antonio Barcelona, Réka Benczes, Andrew Goatly, Robert Neville, Kristóf Nyíri, and Heli Tissari. My special thanks go Réka Benczes for drawing the diagrams.

Jesus the Lamb of God
Jesus the Cosmic Christ
Jesus the Son of God
Jesus Christ the Trinitarian Person
Jesus the Incarnate Word
Jesus as Friend
Jesus as Savior

As Neville notes, Christians need these symbols to engage with aspects of ultimate reality. Without these symbols no such engagement is possible.¹

Similarly, the Bible consists of a narrative, a storyline that points way beyond itself and has symbolic significance. The biblical story can be told and interpreted at several different levels of granularity, as the notion is used by cognitive linguists (see e.g. Talmy 2000). This means that we can tell the story at various levels of generality and detail. At one possible level of granularity, the story is this:

1. There is God and God creates the world.
2. God tells people to believe in and rely on him entirely.
3. God tells people how to live in the world. People do not live the way God tells them to live, and so he punishes them.
4. God loves people and offers them a new chance to live the way he told them to by sending his son to the people to show them how to live.
5. In the name of God the son teaches the people how to live.
6. The Son offers a new covenant to his disciples between God and people, thereby establishing the Christian church.
7. But most people do not live that way and do not want to accept the new covenant. They kill the son by crucifying him. The son dies for people's sins.
8. The son ascends to heaven.
9. The Son is resurrected and he sends the Holy Spirit to the people.
10. Jesus will come back to judge all people.

It has to be noted that this description of the story makes use of the word *people* in a way that is not sensitive to the historical changes in its reference; *people* does not distinguish between “the Jewish people” and the later referent of “all Christians” and, indeed, that of “the entire human race”. However, at the level of granularity I’m considering the story, the distinction is not relevant.

But then what gives me the grounds to deal with the story at such a level of generality, or granularity? In other words, the question is: *Why have these particular aspects of the story been selected and focused on to the exclusion of many other possible ones?* The selection is based on Christian liturgy – the liturgy consisting of the essential aspects

1. Throughout this chapter I will rely heavily on Neville's (2001) work partly because I can readily accept and identify with his interpretation(s) of the Bible and partly because he works within a semiotic perspective that lends itself easily to a cognitive linguistic analysis.

of mainstream Christianity. In addition to finding these aspects and events in the liturgy of mainstream Christianity, this essence is given in *The Apostles' Creed*:

I believe in God, the Father Almighty
 the Creator of heaven and earth,
 and in Jesus Christ, His only Son, our Lord:
 Who was conceived of the Holy Spirit,
 born of the Virgin Mary,
 suffered under Pontius Pilate,
 was crucified, died, and was buried.
 He descended into hell.
 The third day He arose again from the dead.
 He ascended into heaven
 and sits at the right hand of God the Father Almighty,
 whence He shall come to judge the living and the dead.
 I believe in the Holy Spirit, the Holy Catholic Church,
 the communion of saints,
 the forgiveness of sins,
 he resurrection of the body,
 and life everlasting.
 Amen.

(In Christian thought, the phrase “the Holy Catholic Church” really means the “Holy Christian Church”.)

We find many aspects of the storyline as spelled out above in *The Apostles' Creed*: God creates the world; his only son Jesus is born; Jesus is crucified for our sins; he is resurrected; he ascends to heaven; he comes to judge people. In the life of the church most of these are also major events that determine and structure the Christian calendar. The birth of Jesus is celebrated at Christmas; his crucifixion and resurrection are observed at Easter; his ascension to heaven is remembered at Ascension Day.

The main issue that concerns me in this chapter is how we can provide an interpretation of the meaning and significance of some of the central symbols and the basic story. It is a commonplace in the study of the Bible that both the symbols and the story can be interpreted in several different ways. My goal is not to take stock of these various possibilities, but to offer one or a small set of possible interpretation(s) – those that I personally find most acceptable. But more importantly, in providing these interpretations I wish to suggest that the symbolic meaning derives in large part from conceptual structures and conceptual mechanisms such as the ones given below in this section that are not personal but shared by a large number of speakers of English and other languages belonging to the European cultural sphere. My basic claim will be that a large part of the dominant features of Christianity can be understood on the basis of the everyday conceptual system and that the understanding of these features does not require an entirely independently existing conceptual apparatus that is somehow unique to the interpretation of the sacred.

In my view, the following major metaphors and metonymies can be identified that play an important role in the interpretation of the biblical symbols and story:

Metaphors:

CAUSATION IS PROGENERATION

LIFE IS LIGHT

LIFE IS BREATH

IDEAS ARE FOOD

MORALITY IS ACCOUNTING

LIFE IS A JOURNEY

COMMUNICATION IS SENDING

Metonymies:

A MEMBER OF A CATEGORY FOR THE WHOLE CATEGORY

THE INSTRUMENT FOR THE AGENT USING THE INSTRUMENT

PART FOR WHOLE

A PROPERTY OF A CATEGORY FOR THE WHOLE CATEGORY

EMOIONAL BEHAVIOR FOR EMOTION

CAUSE FOR EFFECT

EFFECT FOR CAUSE

These decontextualized metaphors and metonymies underlie the biblical symbols and story, and we rely on them for their symbolic interpretation. We can take language to be a symbolic system in the sense that forms are paired with meanings. Higher-level symbolic systems are based on language as a symbolic system. One such higher-level symbolic system is religion. Religion as a higher-level symbolic system consists of metaphysical concepts. (Following Neville, I'm using "metaphysical" in a somewhat loose way – in the sense of "transcendental".) We can ask how and why metaphysical concepts arise. The present chapter also attempts to shed some light on this issue through the study of Christian symbols as these participate in the biblical story.

There is, of course, a long-standing tradition in biblical scholarship and interpretation. The present chapter can be regarded an exercise in biblical hermeneutics. I hope that I can demonstrate here that figurative meaning making in the cognitive linguistic mode may contribute something to the hermeneutic study of the Bible.

2. The story retold and reinterpreted

Let us look at each of the ten aspects and events in some detail. My chief interest will be in how we can conceptualize them in order to come up with a possible interpretation by means of some figurative mechanism, such as metaphor (Lakoff and Johnson 1980; Kövecses, 2002/2010), metonymy (Kövecses and Radden 1998; Radden and Kövecses 1999), and conceptual integration (Fauconnier and Turner 2002). (For further reference and a general introduction to such mechanisms, see Kövecses 2006.)

2.1 There is God and God creates the world

The chief element of Christianity, just like in other major religions, is God. God can be regarded as an abstract entity from a cognitive linguistic perspective. As such, it can be, and, indeed, must be, conceptualized metaphorically via less abstract entities. In other words, it serves as an ideal abstract target domain. What constitutes the meaning of such abstract target domains that form a part of the symbolic system of Christianity are metaphysical concepts (see Neville 2001). Thus, the meaning of God in the symbolic system of Christianity is “the ultimate causer/reason”. This is a metaphysical concept that is used to define what God is.

Now the concept of God defined as “the ultimate causer/reason” serves as the target domain of the best known conceptual metaphor as regards God: GOD IS A FATHER. In other words, God as creator is metaphorically viewed as a father. The source domain of the metaphor is taken from everyday language as a symbolic system.

The coming into existence of the world can be construed in essentially two ways: In one, it is thought of as an act or action; in the other, it is conceived as a process or event. In the former, the world is made, while in the latter it is the result of a process or event. The now current scientific explanation is that it came about as the end result of a process. The construal of the origin of the world in the Bible maintains that it came about as an act of creation and that the creator was God.

Creation by God is conceptualized metaphorically in essentially two ways: either as progeneration or as speaking. Symbolically creating the world as progeneration is what I call one of the main meaning foci of the GOD IS A FATHER metaphor. (On the notion of the “main meaning focus”, see Kövecses 2000a, 2002/2010, 2005.) That is to say, we can take progeneration to be one of the key aspects that characterizes fathers. The correspondence between progeneration and creation can be regarded as a central mapping of the GOD IS A FATHER metaphor. This mapping can be seen as a (relatively) specific-level instance² of the generic-level metaphor CAUSATION IS PROGENERATION³ (see Turner 1987). Progeneration is a way of causing an entity to come into existence.⁴ The metaphor is based on the metonymy PROGENERATION FOR CREATION, in the sense that the act of progeneration is a particular instance of creation. In a profound and insightful paper, Barcelona (2003) points out that the assumption that GOD IS A FATHER as based on the

2. The mapping “progeneration → creation” can be regarded as more specific than the metaphor CAUSATION IS PROGENERATION in the sense that “creation” is an instance of “causation”.

3. The GOD IS A FATHER metaphor indicates that we deal with male (as opposed to female) progeneration here, where the father, in Turner’s (1987) words, is “uniquely instrumental” in the creation and has a latent power to create the child-thing (effect, result, product).

4. Progeneration can be construed as both creation-out-of-nothing and as creation-out-of-something. If we profile what is created and leave in the background the quantitatively very little out of which it is created (sperms, eggs, etc.), we can argue for creation *ex nihilo*, whereas if we profile the things and the qualitative aspects of the things that contribute to what is created, we can make a case for creation out of something.

aspect of progeneration leads to a problem in the conceptualization of Jesus. The problem is that if we think of Jesus as the Son of God, who is the Father, then God must precede Jesus in time, and hence Jesus cannot be eternal, a person on a par with God. Barcelona sees the solution in the “invariance hypothesis”, and argues that our knowledge of the divine (i.e. that both God and Jesus are eternal) does not allow us to make the inference based on the GOD IS THE FATHER metaphor. I would argue, however, that it is not progeneration but the authority of the FATHER over the son that is used as the meaning focus in the metaphor GOD IS JESUS’ FATHER. This is revealed clearly, I believe, in John 14: 28–31: “28 ...the Father is greater than I. 29 ... 30 I will not speak with you much longer, for the prince of this world is coming. He has no hold on me, 31 but the world must learn that I love the Father and that I do exactly what my Father has commanded me”.

More generally, the metonymy would be MEMBER OF A CATEGORY FOR THE WHOLE CATEGORY.⁵ This can be represented diagrammatically as follows.

I believe that evidence for the applicability of the CAUSATION IS PROGENERATION metaphor comes from the idea that God created people “in his own image”, where the human offspring look like the parents, more specifically, the father in the Judeo-Christian tradition.⁶

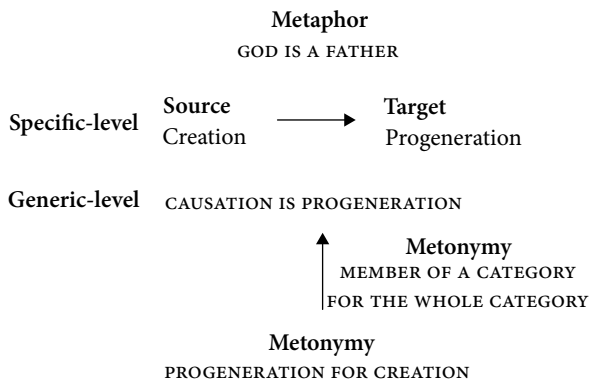


Figure 1. The relationship between the metaphors GOD IS A FATHER and CAUSATION IS PROGENERATION

5. As a matter of fact, as Ruiz de Mendoza noted in his comments on the chapter, creation includes more than the creation of people; it includes the entire universe, as well as human life. In this case, we would need an additional metonymy to extend the GOD IS A FATHER metaphor to this broad sense of creation. The metonymy could be A SPECIFIC INSTANCE OF CREATION (that of humans) FOR EVERYTHING CREATED (the entire universe). This is a version of THE SPECIFIC INSTANCE OF A CATEGORY FOR THE WHOLE CATEGORY. In other words, this general metonymy would be applied twice: first, to progeneration and, second, to creation itself.

6. It is an interesting question whether the idea that God created people “in his own image” is a metaphor or not. We could set up this idea in standard metaphoric notation as HUMANS ARE GOD. Barcelona (2003) argues that this is a root metaphor just like the general GOD IS A HUMAN (and that GOD IS A FATHER is a special case of this).

The other way in which creation is conceptualized in the Bible has to do with God speaking and thereby creating the world. This kind of creation is used to create the entire universe. John describes it in the following passage (quotes are taken from the New International Version of the Bible on the Internet resource Bible Gateway):

In the beginning was the Word, and the Word was with God, and the Word was God. He was in the beginning with God. All things came into being through him, and without him not one thing came into being. What has come into being in him was life, and the life was the light of all people. The light shines in the darkness, and the darkness did not overcome it. (John, 1.1–5)

Here God is identified with the words he speaks. He uses the words to create the world, as can be seen in the first few verses of Genesis:

1. In the beginning God created the heavens and the earth.
2. Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters.
3. And God said, “Let there be light,” and there was light.
4. God saw that the light was good, and He separated the light from the darkness.
5. God called the light “day”, and the darkness he called “night”. And there was evening, and there was morning – the first day.

As construed here, the act of creation is realized through a metonymic chain. We can reconstruct this in the following way: The WORDS stand for IMPERATIVE UTTERANCES, which stand for CREATIVE ACTS, which stand for THE THINGS CREATED by these acts. But the essential metonymy is the OBJECT USED standing for the USER OF THE OBJECT, or put more generally, the INSTRUMENT OF THE AGENT USING THE INSTRUMENT; that is, THE WORD OF GOD FOR GOD HIMSELF. The powerful nature of the instrument (the words) derives from the power of the agent (God) using the instrument.⁷

Thus the divine act of creation is metaphoric in one case and metonymic in another.

2.2 God tells people to believe in and rely on him entirely

As the passage by John makes it clear, life comes into being in God. This life is conceptualized metaphorically as light,⁸ yielding the metaphors LIFE IS LIGHT and, consequently, GOD IS LIGHT, as John 1: 5 says:

- 5 This is the message we have heard from him and declare to you: God is light; in him there is no darkness at all.

7. Ruiz de Mendoza observed that this metonymic chain is based on the idea that GOD IS A RULER, who gets things done by issuing commands and whose commands must be obeyed. It is not clear whether GOD IS A RULER should be understood literally or metaphorically.

8. The source domain of LIGHT, together with ANIMAL, AGRICULTURE, WEATHER, etc., is one of the most frequent and important metaphorical source domains in the Bible (Charteris-Black 2004).

Given the notion of light in the first verses of Genesis above, we get two uses of light: one metaphorical, the other literal. The light in *LIFE IS LIGHT* is metaphoric, and the light in Genesis is literal. However, when God calls the light day, he applies metonymic conceptualization: He uses light to stand for the day, which is *PART FOR WHOLE*, or *A PROPERTY OF A CATEGORY FOR THE WHOLE CATEGORY*.

But the light metaphor for life is extended in John to faith, or belief, in God. Thus, John widens the scope of the source to another target. The extension of the target is not arbitrary. The life that emerges in God and that is used to create *PEOPLE WITH LIFE* also becomes the faith in God entertained by people. Therefore, to be alive can mean two things in Christianity: life and Christian faith, both structured by light. How is this possible?

First, we can think of light as a precondition of life. There is no biological life without light. This gives rise to the metonymy *LIGHT FOR LIFE*, which is the basis of the metaphor *LIFE IS LIGHT*. Second, as we just saw, *GOD IS LIGHT* and belief in God, that is, Christian faith, can thus be conceptualized as *LIGHT*. In other words, to be alive means to be alive in the sense of having biological life as well as having faith in God. Life and faith are thus aspects of God, and, consequently, all three (God, life, and faith) can be conceptualized metaphorically in terms of light.

The life that is based on the acceptance of and faith in him pleases God. God provides for and takes care of people. Some passages from the Old Testament make this clear (taken from the Bible Gateway):

- 29 Then God said, "I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food.
(Genesis 1: 29)
- 22 "As long as the earth endures,
seedtime and harvest,
cold and heat,
summer and winter,
day and night
will never cease". (Genesis 8: 22)
- 1 Then God blessed Noah and his sons, saying to them, "Be fruitful and increase in number and fill the earth.
 - 2 The fear and dread of you will fall upon all the beasts of the earth and all the birds of the air, upon every creature that moves along the ground, and upon all the fish of the sea; they are given into your hands.
 - 3 Everything that lives and moves will be food for you. Just as I gave you the green plants, I now give you everything. (Genesis 9: 1–3)

In the passages, another aspect of *GOD AS A FATHER* is revealed. In the previous section, God appears as the creator based on progeneration, here another meaning focus of father is utilized – that of nurturer, or provider. Perhaps the major means of nurturance is providing food. God is seen as giving people food to nourish them. Although God is not explicitly mentioned as a father in the passages, we think of him as a father based on our

traditional conception of fathers in the family: They are supposed to provide nurturance for their children. This is another meaning focus of FATHER as a source domain. In the same way as in the case of progeneration we have the CAUSATION IS PROGENERATION generic-level metaphor, in the case of the nurturance aspect of the father we deal with the generic-level metaphor that we can put as PROVIDENCE IS NURTURANCE. According to this metaphor, providential care is (providence for short) is conceptualized as nurturance.

In a sense, God and the people (and other beings) created by him form a unity, yielding the metaphor: THE RELATIONSHIP BETWEEN GOD AND HIS CREATION IS A UNITY.⁹ This is the kind of life people had in the Garden of Eden. However, people's curiosity severed the tie with and damaged the unconditional reliance on God. Eating from the tree of knowledge resulted in knowledge that did not come from God himself; it was knowledge that came from people and was extraneous to God. There are several metaphors we can bring to bear on this interpretation. One is the general metaphor DESIRE IS HUNGER (OR THIRST), of which CURIOSITY (desire for knowledge) IS HUNGER is a specific-level instance. The CURIOSITY IS HUNGER (OR THIRST) metaphor combines with the IDEAS ARE FOOD (OR DRINK) metaphor because the knowledge (in the form of ideas) is metaphorically understood as food (or drink). This results in the combined metaphor CURIOSITY ABOUT KNOWLEDGE IS HUNGER FOR FOOD (OR DRINK). This is the metaphor that underlies the notion of the Original Sin. The picking and eating of the forbidden fruit by Adam and Eve can be interpreted by means of this metaphor. Incidentally, the knowledge so received results in another light-related metaphor: KNOWLEDGE IS LIGHT, OR KNOWING IS SEEING. But this kind of knowledge derives from people and is extraneous to God.

2.3 God tells people how to live in the world. People do not live the way God tells them to live, and so he punishes them

After people decided to reduce their reliance on God, God tells them how to live in the form of giving them laws. These laws were given by God in the form of the Ten Commandments given below (taken from Bible Gateway, Exodus: 3–17).

- 3 “You shall have no other gods before me.
- 4 “You shall not make for yourself an idol in the form of anything in heaven above or on the earth beneath or in the waters below.
- 5 You shall not bow down to them or worship them; for I, the lord your God, am a jealous God, punishing the children for the sin of the fathers to the third and fourth generation of those who hate me,
- 6 but showing love to a thousand {generations} of those who love me and keep my commandments.
- 7 “You shall not misuse the name of the lord your God, for the lord will not hold anyone guiltless who misuses his name.

9. I owe this observation and metaphor to Heli Tissari. I discussed the UNITY metaphor in connection with love in Kövecses (1988, 2000b).

- 8 "Remember the Sabbath day by keeping it holy.
- 9 Six days you shall labor and do all your work,
- 10 but the seventh day is a Sabbath to the lord your God. On it you shall not do any work, neither you, nor your son or daughter, nor your manservant or maidservant, nor your animals, nor the alien within your gates.
- 11 For in six days the lord made the heavens and the earth, the sea, and all that is in them, but he rested on the seventh day. Therefore the lord blessed the Sabbath day and made it holy.
- 12 "Honor your father and your mother, so that you may live long in the land the lord your God is giving you.
- 13 "You shall not murder.
- 14 "You shall not commit adultery.
- 15 "You shall not steal.
- 16 "You shall not give false testimony against your neighbor.
- 17 "You shall not covet your neighbor's house. You shall not covet your neighbor's wife, or his manservant or maidservant, his ox or donkey, or anything that belongs to your neighbor".

These commandments are in stark contrast to the highly figurative language used in the rest of the Bible. They are formulated as basic literal propositions. Such propositions make it clear what it means to live a life in God. They provide in a clear, succinct, and literal way what Neville calls the "ultimate moral imperative" (Neville 2001).

The concept of love figures importantly in the Bible, and we get an insight into the nature of its Old Testament version in the second commandment. According to these passages in The Ten Commandments, God seems to base the understanding of love on the keeping of the commandments. He loves those who keep the commandments and punishes those who do not. Conversely, he takes those who do not keep them as hating him. In other words, this understanding of love is based on obedience; he loves those who obey the laws and he punishes those who do not. This conception of love is essentially metonymic – both regarding God's love and people's love for God. Love involves obedience as a precondition, or cause. In other words, the CAUSE OF LOVE stands for LOVE. This is a specific case of the generic-level metonymy CAUSE FOR EFFECT.

This view is very different from our contemporary everyday conception of loving another person (Kövecses 1988). Moreover, as we will see, it is also different from view of love we find in the New Testament.

But more importantly for our immediate purposes, this view of love in the Old Testament seems to be the basis of God's relationship with his chosen people. God's love is correlated with punishment; if people do not obey his laws, he punishes them. Thus, God's love involves a metaphorical system that George Lakoff calls "moral accounting;" hence the conceptual metaphor MORALITY IS ACCOUNTING (Lakoff 1996): If people are not obedient, they get punished; if they are obedient, they get love. This moral accounting system goes together with the "strict father" interpretation of the family (and the metaphor God

IS A FATHER). The MORALITY IS ACCOUNTING metaphor is another major metaphor that underlies much of our social-cultural reality, including Christianity (Lakoff 1996). The strict father interpretation of the family implies that children are loved by their father if they are obedient and are punished if they are disobedient. When we use this as a source domain for understanding our relationship with God as father, we have this “strict father” interpretation in mind. As Lakoff shows, this is not the only interpretation of the family that serves as a basis for understanding the relationship between God and his people.

However, the conception of love in The Ten Commandments does not faithfully reflect God’s love in the Bible. To see that, we need to consider the next stage of the schematic biblical story.

2.4 God loves people and offers them a new chance to live the way he told them to by sending his son to the people to show them how to live

Since people do not obey God’s laws, God punishes them. At the same time, God wants to give people a new chance to mend their ways. People are separated from God and they lead their lives without the guidance of God, that is, without observing God’s commandments. They need a life in faith again. God offers this chance to people because of his love of the world. In John’s words (from Bible Gateway, John, 3: 16–17):

- 16 “For God so loved the world that he gave his one and only Son, that whoever believes in him shall not perish but have eternal life.
17 For God did not send his Son into the world to condemn the world, but to save the world through him.

As we saw above, life in faith is conceptualized as light through the metaphor LIFE IN FAITH IS LIGHT. God sends a person, his only son, to the people to bring the light of faith. Jesus is also metaphorically viewed as light. We find the following passage in John 8:12 (taken from Bible Gateway):

- 12 When Jesus spoke again to the people, he said, “I am the light of the world. Whoever follows me will never walk in darkness, but will have the light of life”.

This is again based on partly metaphoric and partly metonymic reasoning: Since LIFE IN FAITH IS LIGHT and it is Jesus who brings the light of faith to the people, and because the AGENT OF AN ACTIVITY INVOLVING AN OBJECT (Jesus as bearer of the light) can stand for the OBJECT INVOLVED (the light of faith brought by Jesus), we get JESUS IS LIGHT. As a matter of fact, another and more straightforward way of arriving at this metaphor is possible if we think of Jesus as the effect of the light caused by God (who is also viewed as light, as we saw above). This would be based on the EFFECT FOR CAUSE metonymy (the radiance for the light).¹⁰ Justification for this reading is provided by Revelation 21: 23–24:

10. This latter conceptualization is Barcelona’s (2003) suggestion.

- 23 The city does not need the sun or the moon to shine on it, for the glory of God gives it light, and the Lamb is its lamp.
- 24 The nations will walk by its light, and the kings of the earth will bring their splendor into it.

The lamp provides light that comes from God's light, where the lamp illuminating the world is the effect of the light that originates in God. On both readings, given JESUS AS LIGHT, we can metonymically understand Jesus as causing or enabling knowledge. Thus, the metaphor goes together with the metonymy CAUSE FOR EFFECT. Those who see the light brought and offered by Jesus will gain knowledge of what is right and wrong.

This interpretation is reinforced by another metaphor in which JESUS IS LIGHT is embedded. As the passage by John shows, the JESUS IS LIGHT metaphor is couched in the metaphor LIFE IS A JOURNEY. People's lives are comprehended by Jesus as a journey, which is perhaps the most general metaphor for the understanding of life even today. In the biblical metaphor, the light shows people the way, and this corresponds to the idea that Jesus provides the necessary guidance for people about how to conduct their lives. I will return to this metaphor in the next section.

2.5 In the name of God, the son teaches the people how to live

How did Jesus provide this new guidance for the people? There are two aspects to this question that I will take up here. One has to do with *how* Jesus provides guidance and the other with *what* this guidance is actually about.

God is invisible, so he sends his real, visible son, Jesus Christ, among the people. As we noted above, God is constituted by his words – according to John he is the word. We can think of Jesus as the incarnation, or embodiment, of God's word. As such, Jesus metonymically also stands for God, the metonymic chain being EMBODIMENT OF INSTRUMENT stands for the INSTRUMENT itself that stands for the AGENT. That is, we have the EMBODIMENT OF THE WORD OF GOD FOR THE WORD OF GOD FOR GOD HIMSELF.

We can then see the coming of God's words in Jesus' birth. Since birth is conceptualized as arrival, or coming, Jesus' birth can be viewed as the coming of God's words among the people. This is based on the metaphor BIRTH IS ARRIVAL (e.g., "The baby will *come* soon"). As a consequence, we can construe Jesus' physical presence in this world as the existence of God's word among the people, given the metaphor EXISTENCE IS PRESENCE HERE (e.g., "A new age is *here*"). As a matter of fact, we can comprehend God's sending Jesus' among the people in light of the metaphor COMMUNICATION IS SENDING, in the sense that God communicates with people by sending his son (embodying his word) to the world.

God, like a father does with his children, constantly takes people to task as regards their keeping his commandments, but at the same time he is a merciful God. He does not want people to suffer. This compassionate side of love is a part of God's essence. God's word is, to a large extent, about love as compassion, and if Jesus is God's word, then Jesus

is in large part the incarnation, or embodiment, of God's compassionate love as well. It is this compassionate love that Jesus predominantly embodies. Consequently, Jesus loves everyone indiscriminately – including the sinners and especially the sinners. The emphasis on the compassionate aspect of God's love makes Jesus' love special and distinctive.

Jesus is the love that he teaches. He teaches about love because he wants people to have his love. But he does not only teach the love; he also does love. He also teaches about love through loving because he *is* God's love. How does this kind of embodiment compare with the notion of embodiment as it is used in recent cognitive science (see e.g. Lakoff and Johnson 1999; Gibbs, 2006)? The notion of embodiment in cognitive science is used to ground symbols, that is, to provide motivation for the meaningfulness of symbols. On this view, image schemas, basic-level concepts, correlations in experience, and so forth are used to account for the meaningfulness of symbols. In the cognitive linguistic view of embodiment (see Lakoff and Johnson 1999), symbols become meaningful to people as a result of their embodied experiences. Similarly, meaningfulness and truth are embodied by Christ. (See more on this below.)

The symbolic story and the symbol system of Christianity that center on love become meaningful to people through their directly experiencing Jesus' love. As was noted above, Jesus not only teaches *about* love but he does love all people, thereby providing embodiment for their concept of love. This embodied love primarily assumes the form of nurturance. (In Lakoff's 1996 system, Jesus' love would be based on the nurturant family, as opposed to the strict father, view of the family.) The acts of nurturance that Jesus provides for people (healing, raising the dead, etc.) are signs, or manifestations, of his compassionate love, and can thus be interpreted metonymically via *LOVING BEHAVIOR FOR LOVE*, or more generally, *EMOTIONAL BEHAVIOR FOR EMOTION* and, ultimately, *EFFECT FOR CAUSE* (see Kövecses 1988, 1990, 2000).

Accordingly, Jesus' embodiment of love consists of three aspects. First, he is the earthly embodiment, or incarnation, of God's love. Second, his acts metonymically embody God's love, and, in this sense, are manifestations of it. And third, people can directly experience God's love and are thus given an embodied understanding of what God's love is like.¹¹

The second aspect of Jesus' guidance has to do with what he actually teaches. Since it would be impossible to deal with the content of Jesus' teachings within the limits of this chapter, I will focus on a single issue that is regarded as essential in Christianity (Neville 2001). This is the ultimate question of who we are. Based on Neville, we can formulate the question in the following way: Is there an ultimate and normative obligation for human beings? In more everyday terms, this is the issue of the meaning of life; specifically, what is the meaning of life beyond some self-imposed or self-given purpose? We all have our small, specific, individual goals in life. But the ultimate question goes beyond these, in that it asks us to consider the possible obligations we must fulfill in this world.

11. Andrew Goatly (2007) also discusses the issue of Christ's embodiment from the perspective of the Lakoffian embodiment hypothesis.

People can answer this question in several ways. We can suggest that there simply are no such higher and larger obligations and purposes imposed on us. All we need to worry about are the smaller specific goals that individuals may have. We set our own goals, and there are no goals beyond these. Some Christians might argue that our chief obligation is to structure our lives through Christian rituals, such as observing religious holidays, going to church regularly, and so on. These Christian rituals would then frame our lives and give it a larger purpose.

There are obviously many additional ways to answer the question of what our ultimate obligation is in life, but Jesus offers an answer that many Christians accept as their norm (from Bible Gateway):

Jesus: "...And you know the way to the place where I am going".

Thomas: "Lord, we do not know where you are going. How can we know the way?"

Jesus: "I am the way, and the truth, and the life. No one comes to the Father except through me. If you know me, you will know my Father also. From now on you do know him and have seen him". (John, 14.4–7)

Let us see how we can interpret the crucially important sentence in Jesus' response: "I am the way, and the truth, and the life". In it, we have three statements in one: "I am the way", "I am the truth", and "I am the life". Each of these sentences can be construed in several different ways. I describe interpretations that are compatible with Neville's ideas concerning the passage or are explicitly suggested by him.

I am the way.

This answer is based on the metaphor *LIFE IS A JOURNEY*. In general, the metaphor consists, among others, of such mappings as:

the destination of the journey → the purpose of life

the way we go → the manner in which we live our lives

In other words, the destination in the journey domain corresponds to the purpose of life (as in "*reaching one's goal*") and the way in the journey domain corresponds to the manner in which people live their lives (as in "*Let's do it this way*"). To these and some additional mappings, the New Testament version of the metaphor adds the following ones (Jäkel 2002):

the destination → Jesus/God

and/or

the guide along the way → Jesus/helper

Jesus introduces a complication in the mappings of the *LIFE IS A JOURNEY* metaphor when he says "I am the way". In this sentence, he as purpose identifies himself explicitly with the way instead of identifying himself either with the destination or with the guide. That is to say, Jesus who functions in the target domain as ultimate purpose or as helper sets up a correspondence between himself and the way in the journey domain.

This identification creates a blended domain in which Jesus is conceptually integrated with the manner of life. But, since in the target Jesus is also purpose and helper, the overall result is a conceptual entity that is a fusion of purpose, helper, and way (manner). We can represent this as follows.

Since it is way (manner) that is explicitly stated in the passage above, we can take manner of living as the dominant aspect of the conceptual blend. This gives us an explanation of what our ultimate obligation in life is: to live life in the Christian way (manner) as taught and bodily exemplified by Jesus. We fulfill the purpose of life if we live this way.

I am the truth.

There are several ways to interpret this sentence. One is that God's words are the truth (and, indeed, that God *is* the truth), and since Jesus is the embodiment of God's words, he is also the truth.¹² Another interpretation is suggested by Neville that is based on the metaphor JESUS IS THE SON (OF THE FATHER). Neville notes that in Biblical times the son continued the job of the father. If the son did exactly what his father did, he was a true son. Since the visible son is the embodiment of the invisible father, he is like the father; that is, he is true to the father.

I am the life.

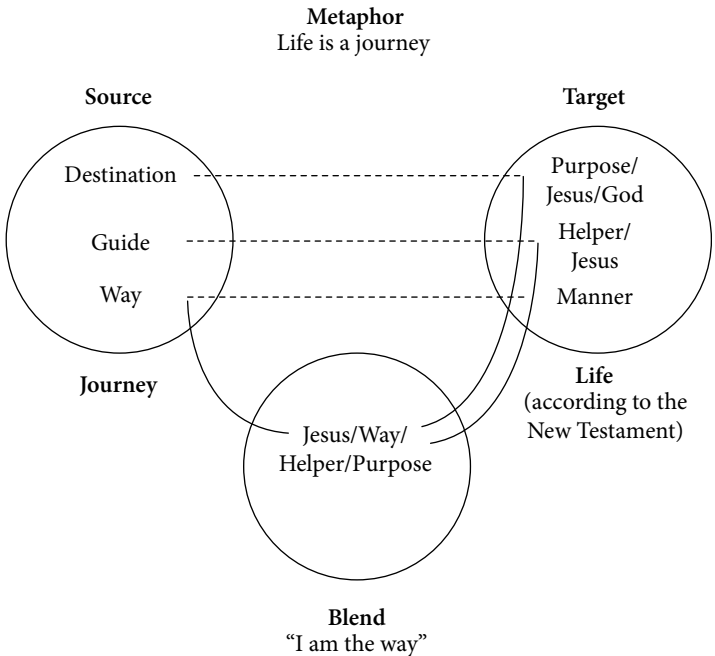


Figure 2. The "I am the way" blend

12. On the embodied nature of truth in an experientialist perspective, see the discussion in Goatly (2007).

This sentence requires a different interpretation again. It can be suggested that Jesus means here the special life that is the connection between God and the disciples and in which he dwells in the disciples and the disciples dwell in each other (Neville 2001: 254).¹³ This conception of life would be a special case of the general concept of life. In other words, the interpretation would be based on metonymic reasoning in which a member of the general category of life stands for the general category: CHRISTIAN LIFE FOR LIFE IN GENERAL, which assumes the metonymy MEMBER FOR THE CATEGORY.

In sum, the three structurally identical propositions require three very different ways of construing their meaning: the LIFE IS A JOURNEY metaphor and the blend associated with it for “I’m the way”, the JESUS IS THE SON metaphor for “I am the truth”, and the CHRISTIAN LIFE IN GENERAL FOR LIFE IN GENERAL metonymy for “I am the life”.

2.6 The Son offers a new covenant to his disciples between God and humanity, thereby establishing the Christian church

The new covenant is offered to the disciples in the form of a ritual that became known as the Eucharist or Holy Communion. The ritual is described by Paul in the following passage (taken from the Bible Gateway):

For I received from the Lord what I also handed on to you, that the Lord Jesus on the night when he was betrayed took a loaf of bread, and when he had given thanks, he broke it and said, “This is my body that is for you. Do this in remembrance of me”. In the same way he took the cup also, after supper, saying, “This cup is the new covenant in my blood. Do this, as often as you drink it, in remembrance of me”. For as often as you eat this bread and drink the cup, you proclaim the Lord’s death until he comes. (Paul in Corinthians, 11.23–26)

In a Protestant (but possibly not in a Catholic) perspective, we can interpret the Eucharist as a ritual that is based on the metaphor IDEAS ARE FOOD (OR DRINK). This is a well known metaphor that is reflected in such linguistic examples as *I can’t digest these ideas*, *That’s just a warmed-up theory*, and *Those are halfbaked ideas*. Since, as we have seen, Jesus is the incarnation/embodiment of the word of God and since IDEAS ARE FOOD (OR DRINK), Jesus who is the embodiment of God’s words can be understood as food. As a matter of fact, this is exactly what Jesus himself suggests. His suggestion is

13. In this case as well, there may be several additional interpretations. One of these was pointed out to me by Andrew Goatly (personal communication): Through his resurrection Jesus conquered death because he is life itself. I believe, however, that our understanding of this cannot be a straightforward identity relation between Jesus and life, but some other construal operations would be required to understand it.

based on the IDEAS ARE FOOD (or DRINK) metaphor, when he identifies his body with the bread and his blood with the wine.¹⁴

Clearly, this understanding of the Eucharist goes against the interpretation that it is a somewhat disguised form of cannibalistic ritual in which people take Jesus' body into their own. Where it goes beyond it is that it is not Jesus' body as such that is internalized by believers, but it is Jesus as the Word of God (i.e. IDEAS) that is internalized.¹⁵

In telling the disciples to do this in remembrance of him, Jesus establishes the Christian church. When the disciples offer the Eucharist to other people, they build the body of the Christian church. At the last supper, the disciples represent all the people who believe in God. In other words, they metonymically stand for all other people, given the metonymy CERTAIN (DISTINGUISHED) MEMBERS OF A CATEGORY FOR THE WHOLE CATEGORY. What makes this possible is that they have special status among all people: They are the ones who directly experienced Jesus' love for the first time.

2.7 But most people do not live that way and do not want to accept the new covenant. They kill the son by crucifying him. The son dies for people's sins

The people who did not accept the new covenant conspired to kill Jesus, accusing him of blasphemy. This interpretation of why he has to be killed is based on Hebrew laws. On the other hand, from the new Christian perspective Jesus is of course innocent. The story of the crucifixion is a conceptual integration of two parallel stories: the contemporary Hebrew understanding of what was going on and the emerging Christian view of events. This blended story culminates in the crucifixion, which is simultaneously a just punishment for a sin (blasphemy), on the one hand, and a sacrifice for mankind's sins in order to reconcile mankind to God, on the other. In other words, the crucifixion was read the former way by the majority of the people at the time it happened, while it was read the latter way by a small minority of people (such as the disciples).

The notion of sacrifice in the second interpretation takes us back to the MORALITY IS ACCOUNTING metaphor. Why did Jesus sacrifice himself? According to this metaphor

14. Ruiz de Mendoza suggests that both the Protestant and the Catholic interpretations assume certain metonymies: The bread and the wine stand for Jesus' body and blood and the taking of the bread and wine evokes the act of Jesus' crucifixion and sacrifice. I think this is a valid point, but it does not undermine the potential interpretation of the Communion in terms of the IDEAS ARE FOOD metaphor in Protestant thought.

15. There are of course several additional interpretations of the Holy Communion both among individuals and in Christian churches. We can distinguish literal, metonymic, and metaphoric interpretations. The Orthodox, Roman Catholic, and Lutheran churches appear (in finely different ways) to be based on a literal interpretation and churches that emphasize the memorial function of the Eucharist appear to be metonymy-based (the bread and wine evoke the crucifixion and the passion of Christ). I do not know if there is a church that uses (explicitly or implicitly) the IDEAS ARE FOOD (or DRINK) metaphor in understanding the Holy Communion.

(see Lakoff 1996), sins are moral debits and pain, sacrifice, and so forth, are moral credits. Since in the new covenant God wanted to reconcile mankind to himself, he sacrificed his only son to pay off the huge debt that people's sins amounted to. That is, as a result of their sins people accumulated a huge moral debt. The pain inflicted by crucifixion on Jesus more than balanced the huge debt people were required to pay if they wanted to go to heaven. That is, with his sacrifice Jesus paid off our moral debts and balanced the moral books, thus clearing the way for all people to go to heaven.

The moral accounting metaphor assumes an important metonymic connection between Jesus and mankind, in which Jesus stands for all mankind. This is a special case of the A PARTICULAR MEMBER OF A CATEGORY FOR ALL THE MEMBERS OF THE CATEGORY. What kind of member is Jesus that allows him to represent all human-kind? He is an individual who possesses all the features of an ideal person – a paragon of love. As a matter of fact, the crucifixion builds heavily on additional metonymies. Most important of these is the one that connects Jesus' suffering with people's suffering: JESUS' SUFFERING ON THE CROSS FOR ALL HUMAN SUFFERING, again based on the general metonymy AN INSTANCE/MEMBER OF A CATEGORY FOR THE WHOLE CATEGORY.

But there is a problem here: How can Jesus metonymically stand for all people (and all their pain) if he is the son of God? The son of God is not human. To account for this problem, we can think of Jesus as a blend. Jesus belongs in part to God and in part to mankind. In one input space, we have the divine with its entities and properties, and in another we have the human world with its entities and properties. The figure of Jesus is a blend of divine and human entities (God and people) and has properties from both realms. As an entity, he is both God and human. As far as his properties are concerned, he is the embodiment of perfect love and this is his most decisive feature; his human qualities are much less significant.¹⁶ We can say that his fundamental properties only come from the input space of the divine. He qualifies as a paragon for all humans by virtue of being a blend and having only fundamental properties from the input of the divine.

2.8 The son ascends to heaven

Shortly after he is killed, Jesus rises to Heaven. Heaven is a further metaphysical concept, which is defined by Neville (2001) as the "non-spatio-temporal ultimate". This "non-spatio-temporal ultimate" is conceptualized as HEAVEN in many religions. Neville notes that heaven is a schematization of space-time places of various sorts (Neville 2001):

In Ancient Israel: HEAVEN IS A TH\RONE ROOM and HEAVEN IS A COURT ROOM
In Christianity: HEAVEN IS A DINING ROOM and HEAVEN IS A DORMITORY, HEAVEN
IS GOLDEN STREETS, HEAVEN IS MEETING WITH THE RISEN DEAD, HEAVEN IS HARP
MUSIC

16. For a similar argument using Hegel's ideas, see Goatly (2007).

In Islam: HEAVEN IS AN OUTDOOR GARDEN OF DELIGHTS

In Buddhism and Hinduism: HEAVEN IS A PALACE IN A LARGE PARK

In Daoism: HEAVEN IS IN THE SKY AT CLOUD LEVEL

Not all of these are conceptual metaphors in our sense, but they give us a sense of how certain specific images may turn into schematizations of certain theological conceptions. Thus, many religions work with concepts at three distinct levels: theological conceptions, schematic symbols, and schema images. In our terminology, the schematic symbols are target domains for a number of rich images, as is the case for HEAVEN above. And as we noted previously, the theological conceptions corresponding to schematic symbols constitute the meaning or denotation of schematic symbols. For example, in the present case HEAVEN is a schematic symbol that has the meaning “non-spatio-temporal ultimate” and that has, among others, the rich image of dormitory and meeting with the risen dead, which serve as source domains for the schematic symbol. As regards the historical evolution of such concepts belonging to different levels, Neville (2001: 3) notes that “[h]istorically the richly imaged religious symbols arise before sophisticated theological conceptions, and theology itself is stimulated by reflections on both what those symbols might mean and the conditions under which they apply”.

It is in heaven that people can have eternal life. How is eternal life schematized? Neville provides the following picture. In heaven people are beautiful, strong, and wise. In it, we have the beauty of youth, the strength of maturity, and the wisdom of age. If we take youth, maturity, and age to be separate domains characterized by some typical features, then, again, we can think of this conceptualization of heaven as a result of conceptual integration. Youth, maturity, and age would be input spaces each characterized by a typical feature: youth by beauty, maturity by strength, age by wisdom. Projecting these features into a single blended space in a single person, we arrive at the concept of heaven, which is a schematized idealization that utilizes the “best”, the “most desirable” qualities of the three domains in one in the case of each individual.

2.9 The Son is resurrected and he sends the Holy Spirit to the people

Before he dies, Jesus promises the Holy Spirit to the disciples with these words (taken from Bible Gateway):

- 15 “If you love me, you will obey what I command.
 - 16 And I will ask the Father, and he will give you another Counselor to be with you forever –
 - 17 the Spirit of truth. The world cannot accept him, because it neither sees him nor knows him. But you know him, for he lives with you and will be in you.
- (John 14: 15–17)

The Holy Spirit will now guide people to the true life – the life of Christianity, and he will also move people to accept Jesus Christ. Given that the Holy Spirit can actually make people believe in God, it can be interpreted as the words of God communicated by God to the people. We can understand the role the Holy Spirit plays in the same way as we interpreted God sending Jesus to the people, where Jesus was viewed as the embodiment of God's words. The Holy Spirit has the same function as Jesus without actually embodying God's words; it remains just as invisible and ineffable as God himself.

After Jesus ascends to Heaven, it is the Holy Spirit that guides people to the religious life, that is, into the community of friendship and love.

- 21 Again Jesus said, "Peace be with you! As the Father has sent me, I am sending you".
- 22 And with that he breathed on them and said, "Receive the Holy Spirit.
- 23 If you forgive anyone his sins, they are forgiven; if you do not forgive them, they are not forgiven". (taken from Bible Gateway, John 20: 21–23)

Thus, again with Neville, the Holy Spirit is that which transforms people to accept Jesus as the word of God. (Incidentally, the Holy Spirit can also be metaphorically viewed as a BIRD, typically a DOVE.) A common metaphor for life is LIFE IS BREATH (e.g. *breathe new life into*), where breath is a precondition for life and thus the metaphor is based on the metonymy BREATH FOR LIFE. Obviously, the LIFE IS BREATH metaphor derives ultimately from the biblical act of creation, when God breathes life into Adam. Breath seems to have a secondary application in which LIFE IN FAITH IS BREATH. In the same way as LIFE IS LIGHT and LIFE IN FAITH IS LIGHT, breath is used for life in faith, yielding LIFE IN FAITH IS BREATH. Being filled with the Holy Spirit we gain a life in faith.

At Pentecost the Holy Spirit came and it came conceptualized in a different way (taken from Bible Gateway, Acts 2: 1–3):

- 1 When the day of Pentecost came, they were all together in one place.
- 2 Suddenly a sound like the blowing of a violent wind came from heaven and filled the whole house where they were sitting.
- 3 They saw what seemed to be tongues of fire that separated and came to rest on each of them.

Now the Holy Spirit is construed as fire. This conceptualization is similar to how we saw life was comprehended as light in a previous section. The properties of fire include that it gives out light and it can provide (heat) energy. The light metaphor has as its meaning focus its potential for giving guidance and the fire metaphor is based on the energizing potential of fire (see Kövecses 2002/2010). We can conceive of the Holy Spirit as utilizing both aspects of the fire source domain.

Now we have all the elements of the Holy Trinity:

GOD THE FATHER

JESUS CHRIST (the SON OF GOD)

HOLY SPIRIT

Again, the Trinity appears to be a blend, which unifies three different aspects of the same God: the creator and the source of love, the embodied love and the nurturer, and the nonembodied guide and energizer of the same love.¹⁷

2.10 Jesus will come back to judge all people

One day Jesus will come back to the world and will judge everyone. This is known as the Last Judgment. Matthew describes it in the following way (taken from Bible Gateway):

- 31 “When the Son of Man comes in his glory, and all the angels with him, he will sit on his throne in heavenly glory.
- 32 All the nations will be gathered before him, and he will separate the people one from another as a shepherd separates the sheep from the goats.
- 33 He will put the sheep on his right and the goats on his left.
- 34 “Then the King will say to those on his right, ‘Come, you who are blessed by my Father; take your inheritance, the kingdom prepared for you since the creation of the world.
- 35 For I was hungry and you gave me something to eat, I was thirsty and you gave me something to drink, I was a stranger and you invited me in,
- 36 I needed clothes and you clothed me, I was sick and you looked after me, I was in prison and you came to visit me.’
- 37 “Then the righteous will answer him, ‘Lord, when did we see you hungry and feed you, or thirsty and give you something to drink?
- 38 When did we see you a stranger and invite you in, or needing clothes and clothe you?
- 39 When did we see you sick or in prison and go to visit you?’
- 40 “The King will reply, ‘I tell you the truth, whatever you did for one of the least of these brothers of mine, you did for me.’
- 41 “Then he will say to those on his left, ‘Depart from me, you who are cursed, into the eternal fire prepared for the devil and his angels.
- 42 For I was hungry and you gave me nothing to eat, I was thirsty and you gave me nothing to drink,
- 43 I was a stranger and you did not invite me in, I needed clothes and you did not clothe me, I was sick and in prison and you did not look after me.’
- 44 “They also will answer, ‘Lord, when did we see you hungry or thirsty or a stranger or needing clothes or sick or in prison, and did not help you?’

17. Barcelona (2003) provides a wonderful account of the coherence of the three persons of the Holy Trinity from a cognitive linguistic perspective.

- 45 “He will reply, ‘I tell you the truth, whatever you did not do for one of the least of these, you did not do for me.’
46 “Then they will go away to eternal punishment, but the righteous to eternal life”.
(Matthew 25: 31–46)

In this part of the biblical story, Jesus is conceptualized as a king. Based on these passages, the metaphor JESUS IS A KING is constituted by the mappings below:

Source		Target
The king	→	Jesus
The glory of the king	→	the glory of Jesus
The king separates his subjects into those who are obedient and those who are not	→	Jesus separates the people into those who have sinned and those who have not
The king passes judgment on his subjects	→	Jesus judges the people
The king punishes those who were not obedient by torturing and killing them	→	Jesus punishes those who have sinned by eternal punishment
The king gives an inheritance to those who were obedient	→	Jesus gives eternal life to the good
The inherited special kingdom	→	heaven

As was noted above, the concept of heaven has the meaning “non-spatio-temporal ultimate” and is a schematization of several rich images. In the set of mappings above, heaven in the target domain corresponds to an inherited special kingdom that the king gives as a reward to the people who deserve it. Alternatively, we might argue that there is no such mapping constituting the metaphor, and that what we have instead is a blend that conceptually integrates heaven with a kingdom inside the kingdom (the special kingdom that can be inherited). In this latter case, we could suggest that heaven as a part of the target domain exists independently of this metaphor and that an entity has to be found to match it in the source domain. Once found (kingdom inside kingdom), it can be fused with heaven in the blend. What makes this solution interesting from a cognitive perspective is that the mapping process that usually goes from the source to the target is reversed; the preexisting entity of heaven selects an entity in the source.

Furthermore, we may also note that in the background of the JESUS IS A KING metaphor there is a generic space that consists of the shared properties of many specific kingdoms as input spaces. There are many kingdoms in the world and each has a king and his subjects. The king has dominion over the subjects and can judge and

punish and reward them. It is this generic space of kingdom that functions as the source domain of the metaphor JESUS' REALM IS A WORLDLY KINGDOM.

Kings judge, punish, and reward their own subjects only. However, in his realm Jesus judges *all* people in all nations. This is why at the Last Judgment he can divide all the people into two groups: the good ones and the bad ones. Given this property of the target domain (JESUS' REALM) and given the nature of the source domain (WORLDLY KINGDOM), we get a blend that is characterized by this property of the target; namely, that it is a kingdom where the king/Jesus has people divided into two groups across all nations (i.e. independently of nations). In other words, in order to make sense of how Jesus can have all people divided into two groups across all nations we need to have a source domain that is the generic space of all the specific source domains (i.e. the individual kingdoms) with one king having dominion over one set of subjects. We can summarize this complex picture in the following diagram:

Given that the source domain contains all subjects in all nations, the blend contains not only Jesus' followers but all people. Thus, Jesus will rule over and judge all people at the Last Judgment.

How does Jesus decide who is good (i.e. righteous, blessed) and who is bad (i.e. cursed)? The decision is based on what people do. If we feed people who are hungry, if we visit people who are sick, and so on, we will be given eternal life. These acts of love are metonymic for love; the acts stand for the love we have inside us, and ultimately, for the love of God embodied in Jesus. Thus this is a specific instance of the EFFECT FOR CAUSE generic-level metonymy.

But how do we understand what Jesus says in the following sentences?

'I tell you the truth, whatever you did for one of the least of these brothers of mine, you did for me.'

'I tell you the truth, whatever you did not do for one of the least of these, you did not do for me.'

We can make sense of this if we assume that God created people in his own image and thus God and his embodiment (Jesus) are present in all people. (Note THE RELATIONSHIP BETWEEN GOD AND HIS CREATION IS A UNITY metaphor in Section 2.) It then follows that if we do good to a person, we do good to Jesus. If Jesus (God) is the whole and each person is a part, then what we do to a part also affects the whole. This is based on the logic of the part-whole image schema: Actions affecting the parts affect the whole. And if a part is not affected, then the whole is not affected either. This explains the second statement as well: If we do not do good to others, we do not do good to Jesus and God.

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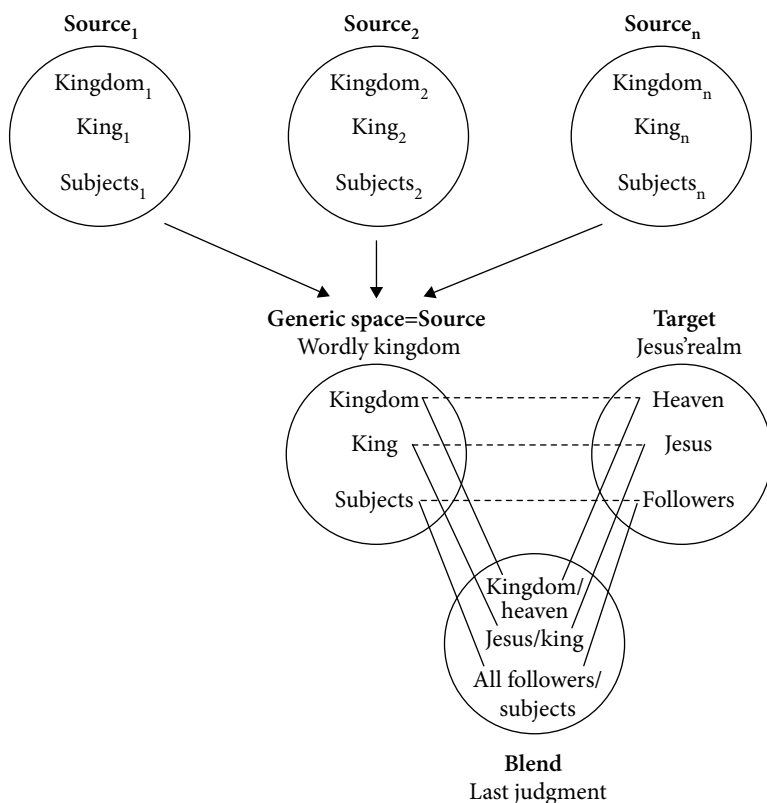


Figure 3. JESUS AS KING in the metaphor JESUS' REALM IS A WORLDLY KINGDOM and the resulting conceptual blend

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3. A note on metaphor

In light of some of the metaphors discussed in the chapter it seems possible to see a potentially interesting generalization as regards the cognitive theory of metaphor. Take the conceptualization of HEAVEN. We saw that it is metaphorically viewed as a number of different places that share the property of being ideal. That is, the source domains of the concept of HEAVEN are all places where (eternal) life is good and pleasant – free of pain, sorrow, injustice, and so forth. The target concept of HEAVEN thus appears to be a schematically ideal place; hence the metaphor HEAVEN IS AN IDEAL PHYSICAL PLACE. The particular and specific nature and qualities of the places in the source domains are in a way bleached out with only the schematic idealization remaining. We think of this schematic idealization as heaven. In other words, the target domain seems to be an idealized schematization of a variety of particular and specific source domains.

In such cases, we can suggest that the target is a schematization of the various source domains relating to the target domain. The nature of this process of schematization is essentially metonymic. The sources are specific instances of the target; this is the metonymy A PARTICULAR INSTANCE OF A CATEGORY FOR THE WHOLE CATEGORY. We can put this in the present example as PARTICULAR PLACES THAT ARE PLEASANT TO BE FOR HEAVEN. Since such places and heaven share only the property of being ideal, we can construe the basically metonymic relationship as a metaphor.

In Section 2, I mentioned that the nurturant aspect of GOD THE FATHER can be conceptualized through the generic-level metaphor PROVIDENCE IS NURTURANCE. I propose that this latter metaphor is also a case of schematization of the kind we just saw for heaven above. The domain of father in the GOD IS A FATHER metaphors consists of several distinct meaning foci. One of these is that we expect the father to provide nurturance for his children. This nurturance can be of various sorts, such as providing food and also as providing “hidden manna”, that is, nonphysical food, for the people. In addition, nurturance includes helping and taking care of people in all kinds of ways and protecting them from danger. In this light, we can see God’s providential care as a schematization of different kinds of nurturance; hence PROVIDENCE IS NURTURANCE. The concept of PROVIDENCE schematizes the specific instances of nurturance and it thus becomes a concept that shares only one property with the various kinds of nurturance; namely, that God takes care of people. Similar to the concept of HEAVEN, the PROVIDENCE IS NURTURANCE metaphor is based on a metonymic

process in which SPECIFIC INSTANCES OF A CATEGORY stand for THE WHOLE CATEGORY; in other words PROVIDING FOOD, and the like, stands for PROVIDENTIAL CARE. The only link between the two ideas is that in both people are taken care of. This enables us to think of the metonymy as metaphor.

Actually, we can account for the other meaning focus of GOD AS FATHER in a similar way, although this is a somewhat more complicated situation. In Section 1, I suggested that God as the creator can be conceptualized via the CAUSATION IS PROGENERATION generic-level metaphor.

What we have in this case is the following: There is the GOD IS A FATHER metaphor, in which FATHER has as its meaning focus progeneration. In the metaphor, we have the mapping “progeneration → creation”. The relation between progeneration and creation is also based on metonymy; namely, a SPECIFIC INSTANCE OF A CATEGORY FOR THE WHOLE CATEGORY (progeneration is one kind of creation). Furthermore, creation is a specific instance of causation. This is again a metonymic relationship. The relationship explains in part the existence of the generic-level metaphor CAUSATION IS PROGENERATION. Finally, another metonymy-based relationship, that obtaining between progeneration and causation (progeneration is a kind of causation) provides further motivation for the same metaphor. The point is that causation is a metonymy-based schematization of both the specific-level concept of progeneration and the generic-level concept of creation.

What seems to be going on in all of these cases is that specific instances that share a feature are converted into a schematic category. This schematization becomes the target domain of a number of different but related source domains (i.e., the different source domains share a high-level feature). I believe that this is a metonymy-based process, but its end result functions as a metaphor, such as the various specific-level versions of HEAVEN IS AN IDEAL PHYSICAL PLACE or GOD IS A FATHER with its generic-level versions: CAUSATION IS PROGENERATION and PROVIDENCE (PROVIDENTIAL CARE) IS NURTURANCE.

If this analysis is on the right track, we can suggest that this is a new type of metaphor. In the cognitive linguistic literature on metaphor, it is customary to distinguish two basic types of metaphor: those based on similarity (perceived or real) and on correlations in experience (such as primary metaphors). The metaphors such as HEAVEN IS AN IDEAL PHYSICAL PLACE, CAUSATION IS PROGENERATION, and PROVIDENCE IS NURTURANCE are based on the source domain schematized into the target; the target is a schematic version of the source, where the specific rich imagery of the source is bleached out. In sum, some metaphors can emerge from schematization as a result of a metonymic process.

4. Discussion and conclusions

In this chapter I tried to give an account of a small set of possible meanings of the biblical story. The set of meanings that I constructed derives from the analysis of the

story and its symbols using the machinery of cognitive linguistics. The set of meanings so constructed may reflect one person's meaning-making capacities and may be significantly different from the meanings that other individuals might arrive at. Furthermore, they may also be very different from interpretations that the church as an institution and various Christian denominations would endorse. But my goal was not to challenge such codified interpretations; rather it was to show what might be involved in the meaning-making process of a set of ritualized events. As a matter of fact, in light of the present analysis, it would be worthwhile investigating potential differences in the way the four gospels interpret the events and how, later on, the early church canonized an interpretation, and how the Reformation challenged the codified meaning and significance of the story as a whole or parts of it.

It is certainly the case that attributing meaning to the story depends in large measure on how much we know about early and modern Christianity and of course (the history of) the Old Testament. For this reason, the meaning I attribute to the story may be wide of the mark and/or superficial; I do not claim expertise in any of these fields. What I did was to take advantage of my own cognitive apparatus, suggest an interpretation (helped by others, such as Neville), and given that interpretation reflect on my use of the cognitive apparatus. I believe, however, that other people (be they better or worse informed about the Bible than myself) could only do the same in their effort of making sense of the biblical story; that is, they would also have to resort to their own cognitive apparatus and employ conceptual mechanisms of the sort I have used.

In particular, as the study presented here shows, three such conceptual mechanisms seem especially important in the task: conceptual metaphor, conceptual metonymy, and conceptual integration. A large part of the interpretation involved conceptual metaphors and metonymies that exist independently of the conceptual domains figuring importantly in the Bible, such as creation, faith, God, Christian life, Jesus Christ, and others. Such independently existing metaphors and metonymies include:

CAUSATION IS PROGENERATION

LIFE IS LIGHT

LIFE IS BREATH

IDEAS ARE FOOD

MORALITY IS ACCOUNTING

LIFE IS A JOURNEY

COMMUNICATION IS SENDING

A MEMBER OF A CATEGORY FOR THE WHOLE CATEGORY

THE INSTRUMENT FOR THE AGENT USING THE INSTRUMENT

PART FOR WHOLE

A PROPERTY OF A CATEGORY FOR THE WHOLE CATEGORY

EMOTIONAL BEHAVIOR FOR EMOTION

CAUSE FOR EFFECT

EFFECT FOR CAUSE

Causation, life, ideas, communication, category, part, whole, property, cause, and effect are all concepts that have their own independent existence in people's everyday conceptual systems outside the Bible and the domains it deals with most intimately. This is so despite the historical connections between some of the metaphors above and the biblical story. After all, many people who are not familiar with the story use several of these metaphorical concepts (LIFE IS BREATH, MORALITY IS ACCOUNTING, etc.). Furthermore, such concepts and metaphors and metonymies are at the supraindividual level, in that we can establish them on the basis of decontextualized, lexical evidence. This approach is based on a three-level view of metaphor (see Kövecses 2002: ch. 17; 2010: ch. 19), in which the supraindividual, the individual, and the subindividual levels can be distinguished. In brief, the supraindividual level is the one where we find decontextualized conceptual metaphors and metonymies on the basis of decontextualized linguistic examples. At the individual level, people use metaphors in context putting the decontextualized metaphors to use. At the subindividual level, we find bodily or other motivation for the metaphors at the other two levels.

We put the conceptual metaphors and metonymies above to use outside the everyday, that is, in the realm of the sacred. This can happen because many of the domains that the Bible discusses are clearly related to the everyday: either because the everyday also deals with the issue (e.g. life, death, creation) or because the sacred requires concepts from everyday experience in the form of source domains (e.g. GOD IS A FATHER). Metonymy does not have this bridge-creating function between the sacred and the everyday; it seems to be an all-purpose cognitive device in either realm. However, when we use metaphor and metonymy in the realm of the sacred, we turn the decontextualized, supraindividual-level mechanisms into contextualized ones at the individual level. As a result, the sketchy and schematic metaphors and metonymies come alive and begin to do important conceptual work in the interpretation process. For example, the CAUSATION IS PROGENERATION, IDEAS ARE FOOD, LIFE IS A JOURNEY metaphors are adapted to and are fleshed out by the demands of comprehending the sacred. CAUSATION IS PROGENERATION becomes GOD IS A FATHER; IDEAS ARE FOOD will have God's word as its target; and LIFE IS A JOURNEY will have the additional mapping 'the guide along the way → Jesus'. The same goes for the decontextualized metonymies. For example, CAUSE FOR EFFECT and EMOTIONAL BEHAVIOR FOR EMOTION are both abstract metonymies that become LOVING BEHAVIOR FOR LOVE in the context of the biblical story.

All of this and more is happening at the individual level. In addition to the metaphors and metonymies conceptual integration enters the picture to a large measure at this level. It appears that thinking and talking about the sacred makes it inevitable for the human mind to break up old conceptual patterns and create new formations. As we saw, many of the most significant elements of the Christian story, such as the Holy Trinity, Heaven and eternal life, the Holy Spirit, and others are probably best viewed as conceptual blends. In some other cases, what we see is that seemingly straightforward

cases of conceptual metaphor, such as JESUS IS KING, rely on the already blended nature of the source domain.

Does this kind of analysis solve any the issues discussed and debated by biblical and other scholars for two millennia? I do not think so. What it can give us though is a clearer and more focused understanding of the issues themselves. If we are aware of each other's differing strategies in understanding some of the difficult questions that the Bible poses, we make one step in the direction of their resolution or elimination.

What then is the potential significance of this kind of analysis for cognitive science? In my view, it can show, in a particularly much debated and sensitive area, how we utilize our cognitive apparatus: what that apparatus consists of, which levels of the use of figurative structures we need to distinguish, how we can change, break up, and flexibly manipulate the structures we have, and so forth. And last but not least, it can show how we try to make sense of our experience outside the ordinary by means of relying on the ordinary and at the same time altering the ordinary in the hope that we can come face to face with the divine.

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Name index

A

Achard, M. 11–13, 181, 208, 214, 216
 Alonso, C. 32, 44
 Andersen, H. 310, 312, 323
 Anderson, J.M. 116, 147
 Andric, M. 223, 233
 Anić, V. 141, 147
 Antaki, Ch. 314, 323
 Atkins, B. 22, 30, 39
 Austin, J.L. 15, 42, 85, 288, 306, 323

B

Babić, S. 117, 147
 Bakema, P. 11, 13
 Baker, M. 116, 147
 Barcelona, A. vii, 2, 4, 17, 18, 20, 27, 28, 31, 32, 35–37, 41, 42, 44, 114, 151, 154, 157, 162, 166, 169, 172, 173, 177, 178, 325, 329, 330, 335, 345, 353
 Barðdal, J. 29, 37
 Barlow, M. 11, 12, 66, 71, 77, 78, 83–85, 148, 258, 272, 286, 305, 323
 Barnden, J. 32, 37
 Barsalou, L.W. 11, 12
 Belaj, B. vii, 2, 4, 115, 143, 146, 147
 Bellver, Ph. 29, 37
 Benczes, R. 156, 162, 173, 325
 Bergen, B. 11, 12, 23, 34, 37
 Berger, P.L. 307, 323
 Berg, Th. 32, 37, 38, 173, 289
 Berlin, B. 12–15, 19, 37, 38, 40–44, 65, 66, 85, 95–98, 113, 114, 148, 173, 174, 214–216, 233, 255, 256, 287, 288, 323, 353
 Biber, D. 77, 83, 285, 286
 Billig, M. 323
 Black, M. 28, 32, 37, 51, 61, 65, 77, 83, 331, 353
 Blasko, D. 70, 83
 Boas, H. 29, 37, 115

Boeve, L. 32, 37
 Bogdanovich, J.M. 223, 233
 Bolinger, D. 181, 190, 204, 207, 214
 Booi, G. 29, 37
 Boroditsky, L. 11, 15, 36, 37, 223, 233
 Bowdle, B. 71, 84
 Bowerman, M. 280, 286
 Branigan, H.P. 249, 256
 Breedlove, D.E. 19, 37
 Brooks, R. 32, 38
 Brown, P. 171, 264, 266, 267, 286, 300, 303, 318, 323
 Brugman, C. 25–27, 38, 117, 147, 270, 286
 Buljan, G. 143, 147
 Butler, Chris 71, 83
 Bybee, J.L. 10, 12, 71, 83, 258, 272, 286, 311, 323

C

Cameron, L. 32, 38, 74, 83, 84
 Capps, D. 295
 Carroll, L. 101, 102, 113
 Carston, R. 62, 65
 Chafe, W.L. 9, 10, 12, 50, 65, 204, 209, 214
 Chang, N. 23, 34, 37
 Charteris-Black, J. 32, 77, 83, 331, 353
 Chilton, P. 73, 83
 Chomsky, N. 9, 13, 19, 38, 260, 281, 286
 Cifuentes Honrubia, J.L. 18, 36, 38
 Clarke, D.D. 30, 42
 Clark, H.E. 308, 323
 Comrie, B. 143, 147
 Conrad, S. 286
 Correa Beningfield, M. 38
 Coulson, S. 12, 29, 38, 39, 68, 71, 84, 85
 Crisp, P. 227, 233

Croft, W. 3, 11–13, 23, 35, 36, 38, 43, 44, 47, 53, 54, 56, 57, 59–61, 63–65, 69, 84, 87, 113, 117, 147, 305, 307, 309, 310, 312, 322, 323
 Cruse, D.A. 23, 35, 36, 57, 65, 87, 113, 307, 312, 323
 Cuenca, M.J. 18, 36
 Cutrer, M. 12, 13
 Cuyckens, H. 25, 30, 32, 36–38, 66, 173, 323

D

Dąbrowska, E. 272, 286
 Dale, J.B. 233
 Damasio, A. 19, 38
 Darwin, Ch. 292, 310, 312
 Deacon, T. 19, 38
 Deignan, A. 72, 75, 84
 Demos, E.V. 292, 303, 304
 Deulofeu, H.-J. 29, 38
 Dewell, R. 26, 38
 Dickinson, C. 77, 84
 Diessel, H. 10, 13, 272, 286
 Díez de Velasco, O.I. 36, 43
 Dik, S.C. 60, 65, 116, 117, 145, 147
 Dirven, R. 11, 15, 30–32, 35, 37, 38, 41–43, 76, 84, 148, 173, 215, 256, 288, 323, 324
 Dodge, E. 11, 14
 Dowty, D. 187, 214

E

Eco, U. 77, 84
 Edelman, G.M. 19, 38, 310, 323
 Edwards, D. 313, 323
 Eisenberg, P. 108, 113
 Ekman, P. 292, 294, 303
 Elman, J.L. 280, 286
 Engdahl, E. 295, 303
 Engel, U. 109, 113
 Epstein, R. 191, 214
 Erteschik-Shir, N. 264, 286
 Evans, N. 14, 23, 26, 30, 34, 38, 44, 63, 65, 87, 89, 113, 323

- Evans, V. 14, 23, 26, 30, 34, 38, 44, 63, 65, 87, 89, 113, 323
- Eye, A von 21, 22, 140, 172, 278, 286
- F**
- Fairclough, N. 314, 315, 323
- Fass, D. 32, 36, 38
- Fauconnier, G. 10, 12, 13, 15, 29, 32, 38, 44, 67, 112, 113, 171, 174, 208, 214, 328, 353
- Ferreira, L.C. vii, 2, 4, 221
- Fillmore, Ch.J. 9, 13, 20, 22, 23, 30, 34, 39, 40, 53, 65, 116, 147, 257, 260, 286
- Flier, M.S. 117, 147, 148
- Fodor, J. 19, 39
- Forceville, Ch. 82, 84
- Folley, W.A.
- Francuzo, E. 223, 233
- Franks, H. 223, 233
- Fried, M. 29, 37, 39, 42, 137
- Funes, M.J. 43
- G**
- Gabrys, D. 75, 84
- Gallant, J. 117, 147
- Geeraerts, D. 11–13, 30, 33, 36, 39, 66, 258, 259, 272, 287, 289, 305, 309, 323
- Gensler, O. 197, 207, 214
- Gentner, D. 71, 84
- Gibbs, R.W., Jr. vii, 2, 4, 11, 13, 32, 35, 36, 39, 69–71, 73, 76, 77, 81, 82, 84, 85, 221–224, 233, 234, 258, 287, 305, 323, 337, 353
- Gildea, P. 72, 84
- Givón, T. 10, 13, 48, 50, 65, 77, 84, 116, 117, 143, 145, 147, 286
- Glucksberg, S. 69, 72, 84, 223, 233
- Goatly, A. 73, 84, 325, 337, 339, 340, 342, 353
- Goldberg, A.E. 11, 13, 19, 23, 24, 27, 34, 39, 53, 60, 63–65, 107, 113, 117, 147, 215, 241, 255, 259–264, 267, 268, 275, 277, 279, 280, 287
- Goldberg, R. 11, 13, 19, 23, 24, 27, 34, 39, 53, 60, 63–65, 107, 113, 117, 147, 215, 241, 255, 259–264, 267, 268, 275, 277, 279, 280, 287
- Gonzalez-Marquez, M. 33, 39, 68, 84
- Goossens, L. 10, 13, 35, 39, 172, 174
- Gould, J. 223, 233
- Grady, J. 69, 84, 233, 235
- Greenbaum, S. 114, 174
- Green, M. 23, 87, 113, 324, 332
- Grevisse, M. 89, 113
- Grice, H.P. 62, 66
- Gries, St.Th. vii, 1, 2, 5, 11, 13, 237–240, 242, 249, 250, 253–256, 265, 266, 272–275, 277, 278, 280, 284, 285, 287–289
- Grondelaers, S. 11, 13, 305, 309, 323
- Gropen, J. 268, 281, 287
- Gruber, J. 116, 147
- H**
- Haiman, J. 20, 39
- Halliday, M.A.K. 58, 66, 264, 287
- Hampe, B. 13–15, 287
- Hankamer, J. 191, 215
- Hansen, L. 315, 323
- Harder, P. vii, 2, 5, 72, 181, 192, 206, 305, 306, 311, 321, 323
- Harding, J. 223, 234
- Harris, R.A. 9, 13
- Haser, V. 224, 233
- Hawkins, B. 42, 191, 215, 286, 305, 309, 324
- Hawkins, J. 42, 191, 215, 286, 305, 309, 324
- Hegel, G.W.F. 342
- Heider, E.R. 19, 39
- Heine, B. 12, 13, 19, 40, 70, 84, 148
- Herman, V. 30, 42
- Herrera, H. 32, 44
- Herskovits, A. 30, 40
- Heylen, K. 239, 255, 289
- Heyvaert, L. 186, 215
- Heywood, J. 234
- Hilferty, J. 18, 29, 36, 40
- Hilpert, M. 277, 287
- Hiraga, M. 31, 32, 40
- Hoey, M. 272, 273, 278, 287
- Holland, D. 19, 40, 215, 302, 303
- Hollander, M. 287
- Holyoak, K. 37
- Honneck, R.P.
- Hopper, P.J. 10, 14, 71, 83, 272, 286, 287, 311, 323
- Horton, W. 84
- Huang, Y. 87, 113
- Huddleston, R. 88, 91, 113, 152–155, 174
- Hull, D. 310, 311, 324
- Hunston, S. 272, 287
- I**
- Ikegami, Y. 111–113, 186, 215
- Israel, M. 12, 14, 342
- J**
- Jackendoff, R. 19, 40, 63, 66, 69, 84, 87, 113, 116, 147
- Jäkel, O. 28, 40, 338, 353
- Jakobson, R. 115, 116
- Janda, L. 117, 148
- Janssen, Th.A.J.M. 14, 191, 215, 216, 323
- Jerne, N.K. 310, 324
- Jespersen, O. 152, 154, 155, 174
- Johnson, M. 10, 12, 14, 17, 19–21, 27, 29, 32, 40, 41, 68, 69, 85, 134, 148, 222, 223, 225, 233, 258, 287, 292, 295, 297, 298, 301, 302, 304, 309, 322, 324, 328, 337, 353
- Jönsson, L. 300, 303
- Jørgensen, M. 314, 324
- K**
- Karim, K.H. 317, 324
- Kaufman, G. 38, 295–298, 300, 302, 303
- Kay, P. 19, 23, 34, 37, 39, 40
- Keller, R. 310, 324
- Kemmer, S. 11–14, 66, 71, 77, 78, 83–85, 148, 216, 258, 272, 286, 305, 323
- Kempton, W. 19, 40
- Kendall, M. 111, 113
- Kennedy, G.D. 69, 82, 84, 86, 223, 224, 233, 259, 287
- Kennedy, J.M. 69, 82, 84, 86, 223, 224, 233, 259, 287
- Kepser, S. 237, 255
- Keyser, B. 71, 84, 223, 233
- Kipnis, A. 302, 303
- Kirsner, R.S. 181, 190, 209, 215
- Klee, R. 307, 324
- Koide, Y. 269, 280, 287
- Kolehmainen, L. 29, 40

- Kövecses, Z. VII, 2, 5, 6, 10, 12,
14, 20, 28, 31, 32, 36, 40, 75, 78,
84, 233–235, 291–293, 296, 302,
303, 325, 328, 329, 333, 334, 337,
344, 352–354
Kreitzer, A. 26, 40
Kučanda, D. 143, 147
Kuno, S. 40
- L
- Laaksonen, H. 300, 304
Lakoff, G. 10–12, 14, 17, 19–23,
26–33, 35, 36, 38, 40, 41, 61,
66–70, 72, 85, 117, 134, 148,
180, 207, 208, 215, 222, 223,
225, 233, 235, 257, 258, 270,
287, 292, 293, 295, 297, 298,
301, 302, 304, 306, 309, 316,
319, 321, 324, 328, 334, 335, 337,
342, 353
Lambrecht, K. 29, 41
Lamb, S. 77, 85, 326, 336
Langacker, R.W. VII, 2–4, 9–12,
14, 17, 18, 20, 22, 23, 25, 29, 32,
41, 47, 53–56, 58, 63, 64, 66, 71,
76, 78, 85, 117, 133, 145, 148, 151,
153, 154, 156, 157, 168, 169, 174,
179–182, 184, 186, 188–191, 196,
198, 200, 204, 207, 209, 211,
214–216, 255, 257–260, 264,
267, 271–273, 276, 279, 280,
287, 307, 324
Langston, W. 232, 233
LaPolla, R.J. 116, 117, 143, 149
Larjavaara, M. 30, 40
Larreja, P. 91, 113
Leech, G. 114, 174
Lee, D. 36
Leinonen, M. 30, 41
Levelt, W.J.M. 55, 66
Levinson, S.C. 63, 66, 87, 113,
300, 303, 318, 323
Lewis, M. 102, 113, 301, 304
Li, Ch. 143, 148
Lima, P. 223, 233, 286
Lindner, S. 25, 41, 117, 118, 148
Low, G. 38, 83, 84, 158, 165, 166,
170, 181, 209, 251, 255, 263, 281,
282, 317, 321
Luckmann, Th. 307, 323
Lupiáñez, J. 43
- M
- Mandler, J.M. 11, 15
Martin, J. 15, 32, 41, 42, 256,
287
Matlock, T. 11, 15, 35, 39
Mauß, M. 298, 304
McDaniel, Ch. 19, 40
McEnery, A. 259, 281, 285, 288
McGlone, M. 223, 234
McIntosh, E. 73, 85
McNeill, D. 29, 41
Meurers, D. 268, 288
Meyer, Ch.F. 285, 288
Michaelis, L.A. 29, 30, 37, 42
Mittelberg, I. 39, 68, 84
Mompeán-González, J.A. 12, 15
Murphy, G.L. 69, 85
- N
- Nathan, G.S. 12, 15
Nathanson, D.L. 291, 292, 295,
296, 302, 304
Nayak, N.P. 223, 234
Neisser, U. 19, 42
Nerlich, B. 30, 42
Neset, T. 12, 15
Neville, R.C. 6, 325, 326, 328,
329, 334, 337–340, 342–344,
351, 354
Newman, J. 237, 238, 249, 251,
254, 256
Newmeyer, F.J. 72, 85
Niemeier, S. 11, 12, 15, 30, 42
Norrick, N.R. 36, 42
Norvig, P. 30, 41
Núñez, R.E. 12, 14, 32, 41
Nussbaum, M.C. 296, 304
Nuyts, J. VII, 2, 3, 47–49, 51, 55,
58, 66, 115
Nyíri, K. 325
- O
- Oakley, T. 29, 38, 71, 84
O'Brien, J. 223, 233, 287
O'Connor, M.C. 23, 39
Ohara, K.H. 30, 42
Okamoto, S. 90, 113
Oliver, D.C. 19, 39
Ortony, A. 41, 42
Östman, J.-O. 30, 37, 39, 41,
42, 66
Otal, J.L. 32, 43
- P
- Palmer, G.B. 12, 15, 32, 42, 70,
85, 113
Panther, K.-U. VII, 1–3, 10, 15,
18, 27, 32, 37, 38, 41, 42, 87, 88,
92, 97, 102, 113, 114, 166, 173,
174, 354
Partington, A. 259, 288
Pattison, S. 294–296, 304
Pauwels, P. 39
Pedersen, T. 275, 288
Peeters, B. 42
Pérez, E. 43
Phillips, L. 314, 324
Pickering, M.J. 249, 256
Pinker, S. 275, 287, 288
Pollard, C. 34, 42
Pörings, R. 31, 35, 37, 38, 43, 173
Potter, J. 323
Probyn, E. 291, 292, 294, 298,
299, 301, 304
Pullum, G.K. 88, 91, 113, 152–155,
174
Pustejovsky, J. 41, 103, 114
Pütz, M. 11, 15, 30, 32, 41, 42,
215, 288
- Q
- Quinn, N. 19, 40
Quirk, R. 91, 114, 152, 154, 155,
174
- R
- Radden, R. 10, 14, 15, 28, 32,
35–38, 40, 42, 114, 173, 289,
328, 353, 354
Radwanska Williams, J. 40
Ramscar, M. 11, 15, 223, 233
Raven, P.H. 19, 37
Reddy, M. 20, 42
Redeker, G. 12, 14, 15, 216, 323
Regier, T. 11, 15
Reinhart, T. 180, 216
Reis, M. 237, 255
Reppen, R. 286
Rice, S. 11, 15, 34, 43, 152, 188,
216, 238, 249, 251, 254, 256,
258, 271, 287, 288
Richards, I.A. 74, 85
Riggins, S.H. 314, 321, 324
Rohrer, T. 11, 15
Rosch, E.H. 19, 21, 25, 42, 258, 288
Rosenbaum, P.S. 180, 216
Ross, J.R. 257, 288
Rubba, J.E. 12, 15
Rudzka-Ostyn, B. 31, 39, 43, 66,
85, 117, 119, 148, 215

- Ruiz de Mendoza, F.J. 13, 14, 32, 36, 37, 43, 66, 85, 114, 148, 173, 325, 330, 331, 341
 Rundell, M. 73, 85
- S**
 Sag, Ivan 34, 42, 191, 215
 Sanders, S. 12, 15, 323
 Sandra, D. 11, 14–16, 34, 35, 43, 44, 148, 254, 256, 258, 287, 288
 Santiago, J. 36, 43
 Šarić, Lj. 117, 148
 Scheibman, J. 258, 286
 Schmid, H.-J. 20, 36, 44, 272, 288
 Schönefeld, D. 287
 Schütze, C. 258, 288
 Searle, J.R. 91, 93, 114, 308, 313, 324
 Semino, E. 227, 228, 234
 Shen, Y. 84
 Shibatani, M. 143, 148, 184, 216
 Shieber, S. 34, 43
 Shore, B. 32, 43, 70, 85
 Short, M. 32, 80, 81, 213, 234, 298, 333
 Simon-Vandenberg, A.-M. 39
 Sinclair, J.M. 73, 85, 238, 256
 Slobin, D. 63, 66
 Smith, M.B. 180, 207, 208, 213, 214, 216
 Soares da Silva, A. 16, 43
 Solska, A. 75, 84
 Soriano, C. 29, 32, 36, 43, 44
 Sperber, D. 87, 114
 Spivey, M. 39, 68, 84
 Steels, L. 34, 43
 Steen, G. VII, 2, 3, 32, 39, 67, 70, 71, 73, 79, 85, 233, 323
 Stefanowitsch, A. VII, 2, 5, 11, 13, 90, 114, 238–240, 242, 249, 250, 254–257, 259, 265, 266, 268, 269, 272, 274, 275, 278, 280, 281, 283–285, 287–289
- Stein, L.A. 32, 38
 Stockwell, P. 12, 15
 Strathern, A. 301, 304
 Sumnicht, A. 200, 201, 216
 Svartvik, J. 114, 174
 Sweetser, E.E. 12, 15, 21, 27, 43, 319, 324
 Sykes, J.R. 223, 233
- T**
 Tabakowska, E. 12, 15
 Takami, K. 40
 Talmy, L. 9, 12, 13, 15, 32, 43, 65, 84, 103, 114, 147, 319, 324, 326, 354
 Taub, S. 29, 43
 Taylor, J.R. 21, 23, 28, 30, 32, 38, 43, 117, 118, 149, 272, 288, 323
 Temple, J.G. 223, 233
 Thompson, S.A. 10, 14, 16, 143, 148, 264, 266, 269, 280, 287, 288
 Thornburg, L. VII, 1–3, 18, 27, 32, 41, 42, 87, 88, 92, 97, 102, 113, 114, 166, 173, 174
 Tissari, H. VII, 2, 5, 291, 325, 333
 Todd, Z. 30, 38, 42, 84
 Tomasello, M. 10, 11, 13, 16, 25, 33, 43, 71, 86, 272, 280, 289, 313, 324
 Tomkins, S.S. 5, 291–295, 297–304
 Torres, A. 16, 43
 Traugott, E. 10, 16, 148
 Tsohatzidis, S.L. 19, 43
 Tuggy, D. 12, 16, 30, 35, 43, 153, 174
 Turner, M. 10, 12–14, 27–29, 31, 32, 35, 38, 41, 44, 70, 72, 85, 112, 113, 171, 174, 328, 329, 353, 354
 Tyler, A. 26, 30, 34, 44
- U**
 Ungerer, F. 20, 36, 44
- V**
 Valenzuela, J. VII, 2, 17, 29, 33, 36, 40, 43, 44, 174
 Vandeloise, C. 30, 44
 van Hoek, K. 180, 192, 216
 van Oosten, J. 184, 186, 217
 Vanparys, J. 39
 Van Schooneveld, C.H. 117, 149
 Van Valin, R.D. Jr. 116, 117, 143, 147, 149
 Verhagen, A. 10, 12, 16, 64, 66, 190, 217, 305, 324
 Verspoor, M. 76, 84
 Vervaeke, J. 69, 86, 223, 224, 233
 Vogel, A. 301, 304
- W**
 Wæver, O. 315, 324
 Wegener, H. 106, 108, 114
 White, M. 32, 44, 61, 65, 137, 322, 324
 Widdowson, H.G. 315, 324
 Wierzbicka, A. 9, 12, 16, 50, 66
 Wilcox, Ph.P. 29, 44
 Wilkins, W. 116, 149
 Wilson, A. 87, 114, 259, 281, 285, 287, 288
 Wilson, D. 87, 114, 259, 281, 285, 287, 288
 Wilson, R. 87, 114, 259, 281, 285, 287, 288
 Winter, S. 32, 44, 332
 Wittgenstein, L. 313, 324
- Y**
 Yu, N. 234
- Z**
 Zawada, B. 25, 30, 38
 Zelinsky-Wibbelt, C. 25, 44
 Zlatev, J. 33, 44, 313, 324

Subject index

Symbols

θ-role 116

A

ablative 118, 135
 abstract setting 180, 188, 205, 208
 action chain 119, 120, 124, 126, 138, 142, 143, 188
 active/passive 184, 262
 active zone 29, 160, 207
 affect 5, 35, 58, 120, 291–295, 298, 299, 301–304, 310, 347, 349
 agent defocusing 184
 agentive trajector 115, 119–124, 126–128, 131–139
 agentivity 142–144
 American Sign Language 29, 43
 anthropological linguistics 19
 artificial intelligence 32, 43
 assertive 88
 attraction strength 275
 autonomous syntax 179
 autonymy

B

bahuvrihi compound 153, 165, 169
 Basque 29, 37
 benefactive 112
 Bible 6, 325–329, 331–335, 338, 340, 343–345, 351–353
 blending 9, 10, 12, 13, 17, 27, 29, 31, 32, 35, 38, 77, 84, 113, 171–174, 323

C

cartoon crisis 6, 305, 307, 316, 320
 categorization 10, 17, 19, 21, 25, 42, 43, 124, 149, 254, 265, 308
 category 4, 11, 15, 21, 27, 76, 112, 115–117, 133, 134, 151–155, 157–169, 171, 172, 182, 231, 301, 302, 328, 330, 332, 340–342, 349–352

Christianity 6, 325, 327, 329, 332, 335, 337, 342, 344, 351
 clause 3, 10, 21, 60, 87–89, 91, 92, 99, 101, 104, 106, 108, 143, 144, 166, 180, 182, 184, 189, 190, 201, 206–208, 211, 213–215, 263
 coercion 103, 114
 cognition 2, 12, 14–17, 20, 28, 32, 33, 37, 40, 42–44, 50–52, 65, 82, 85, 114, 206, 216, 233, 234, 281, 286, 288, 308, 313, 323, 324
 cognitive commitment 20, 32
 Cognitive Grammar 10, 11, 14, 16, 17, 23, 25, 41, 54, 55, 61, 66, 85, 117, 148, 149, 157, 168, 174, 179, 180, 215, 216, 258, 270, 285, 287, 288, 324
 cognitive semantics 15, 43, 66, 84, 88, 114, 233, 324, 354
 collxeme 239–244, 251, 252, 274, 276, 278, 282
 collostruction 238, 239, 240, 255, 273, 274, 275, 277, 278, 281, 284, 287
 commissive 88
 communication 14, 43, 50–52, 59, 73, 74, 114, 148, 233, 234, 242, 244, 246, 248, 249, 251, 277, 280, 281, 284, 303, 306, 316, 328, 336, 340, 351, 352
 communication verb 246, 248, 249, 277, 281
 complement clause 87, 91, 92, 180, 201, 206, 211, 213
 compositionality 24
 compression 145, 171, 253
 conceptual integration 9, 10, 12, 29, 44, 84, 112, 239, 328, 341, 343, 351, 352
 conceptualization 5, 31, 40, 41, 43, 51, 52, 54, 62, 63, 66, 133, 134, 140, 157–159, 167–174, 209, 215, 222, 228, 295, 296, 301, 305–309, 312–314, 316, 317, 319, 321, 330, 332, 335, 343, 344, 349

conceptual metaphor

theory 116, 221, 223, 228, 292, 297, 299, 302

conceptual networks 115, 117

conceptual shift 35

conceptual unification 9, 10

conjunction 88, 99, 160, 207

construal 5, 39, 43, 280, 288, 305, 307–310, 315, 316, 319–321, 329, 340

construction grammar 5, 9–11, 13, 23, 24, 29, 30, 32, 34, 37–39, 43, 47, 53, 59–61, 63, 65, 107, 113, 147, 237, 239, 240, 255–257, 259, 260, 262, 263, 268, 270, 287

contested concepts 305

context 13, 17, 20, 40, 48, 51–53, 62, 65, 74, 75, 84, 102, 104, 133, 134, 141, 160, 181, 189–191, 197, 203, 205, 207, 208, 222–224, 258, 270–273, 277, 278, 284, 301, 305–308, 311–313, 315, 318, 319, 321, 324, 352

control cycle 179, 181, 188, 198, 207, 211, 216

conventionalization 25, 33, 71–73, 75, 79, 80, 162

convergence in cognitive linguistics 2, 9

corpus/corpora 5, 116, 237, 239, 251, 255–259, 263, 267, 270–272, 280, 281, 284–289

Correspondence Principle 262

Croatian 4, 115, 118, 120, 146–149

cross-domain mapping 73

cross-linguistic 74, 84, 89

cultural knowledge 98, 112

cultural linguistics 12, 15, 42, 85

cultural model 22, 32, 40, 256, 302, 303

D

dative 104–109, 111–113, 125,
142–145, 264–267, 278–280,
286–288
defocusing 120, 179, 184, 185, 216
delimitation 179, 192, 193, 195,
197, 204, 205, 207, 209
deontic 91, 92, 94, 95, 100
determiner 189–191
directive 90, 99, 100, 102–113
discourse 10, 12–16, 28, 29, 31,
32, 35, 37, 60, 65, 67, 72, 74,
80, 83, 160, 173, 184, 189–192,
195, 197, 198, 203, 208, 214,
216, 222, 223, 233, 237, 256,
265, 278, 286, 288, 306, 308,
312–317, 319–321, 323, 324
ditransitive 64, 107, 108, 183, 237,
240–242, 244–249, 251, 253,
255, 264–269, 274–284
divergence in cognitive lin-
guistics
dominion 168, 169, 198–201, 212,
346, 347
Dutch 29, 37, 72, 149, 180, 181,
209, 215, 217, 238, 254

E

Embodied Construction Gram-
mar 23, 34, 37
embodiment 2, 17, 19, 20, 34, 44,
233, 291, 292, 295, 298, 300,
302, 313, 324, 336, 337, 339, 340,
342, 344, 347, 348, 353
emotion 3, 5, 38, 40, 73, 78, 84,
87, 91, 99, 167, 222, 291–297,
299, 300, 302, 303, 328, 337,
351–353
encyclopedic knowledge 17, 112
English 4, 6, 13, 25, 26, 30, 31, 36,
37, 40–44, 60, 72, 73, 75, 76, 84,
85, 87–91, 95, 99, 113, 114, 118,
120, 148, 151–155, 158, 159, 162,
165, 167, 170, 171, 173, 174, 176,
177, 180, 184, 186, 188, 190, 196,
198, 212–217, 229, 237–239,
241, 242, 244–250, 256, 261,
266, 269, 274, 277, 285–288,
303, 325, 327, 353
entrenchment 25, 33, 273,
275–277, 279, 280, 284, 311
epistemic 28, 66, 91, 97, 189,
199–203, 206–208, 211, 212,
214, 216

evolution 9, 37, 38, 41, 50, 84,
215, 305, 310, 319, 323, 343
exclamation 88, 90
existential 207, 208, 213, 299
exocentric compounds 151–154,
162
expansion in cognitive linguistics 1, 2
experiencer 96, 97, 186, 187, 195,
206, 210–212, 301
expressive 16, 90–92, 95, 96,
99, 292
extralocative 4, 115, 118–122,
124, 125, 129–131, 133, 134, 136,
138–142, 145
extraposition 180, 206

F

field 3, 4, 14, 27, 30, 33, 34, 41, 48,
49, 67, 72, 76, 78, 79, 82, 85, 88,
115, 119, 125–127, 131, 134, 139,
141, 142, 144, 145, 179, 181, 198,
201, 205–213, 238, 257–259,
269, 272, 285, 315, 317
Finnish 29, 40, 300
focal prominence 181, 183–187,
209, 211, 213
formalist approach 18, 48, 49
formalist linguistics 49
formalization 34
framing 305, 306, 312, 315
free dative 108, 112
French 29, 36, 41, 44, 89, 180,
190, 208, 213, 214
functionalism 3, 9, 47–52, 60,
63, 65, 66, 115, 147

G

generativism 9, 11, 17, 49
goal 50, 60, 73, 90, 155, 204,
229, 230, 234, 266, 267, 327,
338, 351
grammatical category 182
granularity 5, 196, 237–239, 241,
249, 250, 254, 255, 326
grounding 5, 14, 37, 42, 43, 189,
190, 214, 216, 305, 306, 321
ground 3, 26, 33, 60, 65, 117, 144,
189, 195, 205, 260, 319, 321,
332, 337

H

Head-Driven Phrase Structure
Grammar 34, 42

head 18, 34, 42, 151–156, 159, 160,
162, 163, 165, 170–172, 174, 175,
177, 196, 301
Hopi 185
Hungarian 75, 76, 114

I

Icelandic 29, 37
iconicity 20, 39, 43, 216, 287
Idealized Cognitive Model
(ICM) 22, 40
illocutionary act 93, 102, 108,
109, 306, 308
immediate scope 181, 191, 196,
198, 205, 208, 209
impersonal construction 4, 180,
181, 207–209, 214, 216
impersonal pronoun 181
inferential meaning 87
information structure 37, 63,
264–266
interaction of metaphor and
metonymy 13, 39, 158, 162,
174
interaction theory 28
intralocative 4, 115, 118–122, 124,
125, 127, 129–131, 134, 138–142,
145
intransitive 141, 145, 146, 186
Invariance Hypothesis 41, 44,
330, 353

J

Japanese 30, 42, 89, 90, 113, 216

L

language acquisition 11, 12, 15,
16, 25, 30, 33, 43, 77, 80, 86,
222, 272, 289, 324
language and thought 3, 12, 15,
40, 42, 63, 67, 68, 70, 71, 74, 76,
82, 86, 114, 288, 354
language pedagogy 11, 15, 30,
31, 42
Latin 30, 42, 160
lemma 237–246, 249, 251, 253
Lexical Functional Grammar 48
lexicon 9, 11, 22–25, 31, 39, 41,
44, 58, 60, 65, 71, 114, 159, 180,
286, 288, 289
literal 12, 35, 63, 75, 76, 84, 85, 97,
159, 169, 172, 266, 292, 325, 332,
334, 341
locative 149, 195, 209

M

main clause 143, 166
 majority culture 318
 meaning chains 4, 22, 115,
 117–119, 132, 138, 140, 146
 mental representation 77, 309
 mental space 10, 180, 205, 207,
 208
 mental state 92, 101, 313
 metaphorical entailments 5,
 221, 225
 metaphorical inferences 221,
 231
 metaphoric source 167
 metaphor 3–5, 9–11, 13, 14, 17,
 19–22, 27–29, 31, 35–44, 54,
 55, 67–86, 89, 98, 112, 114,
 116, 134, 148, 151, 154–159,
 161–170, 172–174, 221–234,
 273, 285, 288, 291–294, 297,
 299, 301–303, 318, 322–324,
 328–330, 332–336, 338–342,
 344, 346–354
 metaphor typology
 metonymy 13, 39, 151, 174
 metonymic inferencing 87
 metonymy 4, 10, 13–15, 17, 21, 22,
 27–29, 31, 32, 35–40, 42–44,
 89, 94, 97, 102, 103, 111, 113,
 114, 151, 152, 154–174, 233, 285,
 288, 297, 299, 302, 328–332,
 334–336, 340–342, 344,
 347–354
 mismatch between form and
 function 87
 modal 89, 91–95, 98–100, 104,
 108, 112
 modularity 2, 17–19, 21, 39,
 56, 87
 modulation 35, 307
 morphosyntactic pattern 158–
 161, 165, 166
 motivation 4, 19, 20, 35, 37, 38,
 109, 114, 151, 155–157, 162, 168,
 172, 173, 184, 188, 222, 224, 233,
 270, 284, 319, 337, 350, 352

N

negative evidence 5, 280, 281,
 284, 286
 network 4, 15, 22, 27, 30, 41, 43,
 52, 59, 119, 140, 256, 270, 271,
 288, 294, 297
 network theory 41, 271

nominal 58, 108, 144, 161, 169,
 171, 179, 181–185, 187–190, 192,
 193, 195, 203, 207, 210, 211, 216,
 277, 278
 nominative 142, 143, 145
 non-literal 63
 non-modularism 2, 17, 19, 21
 non-objectivist 17, 20, 22

O

object 9, 16, 25, 35, 50, 53–55, 60,
 62, 79, 116, 128, 131, 132, 134,
 141–145, 153, 154, 167, 175–179,
 182–185, 187, 188, 190, 202, 211,
 214, 234, 241, 246, 262–264,
 267, 269, 291, 299, 306, 331, 335
 Old Testament 332, 334, 351
 optative 90
 Optimality Theory 11

P

participant 91–94, 96, 97, 105,
 119, 125, 126, 139, 141–144,
 182–187, 215, 224, 231, 261–264,
 268–270, 275, 314
 particle 41, 89, 99, 100, 104,
 108, 112, 118, 120, 141, 145, 148,
 250, 287
 patient 107, 131, 134, 142, 184, 262
 Polish 75, 148
 polysemy 22, 25, 32, 34, 38, 39,
 42–44, 68, 214, 254, 270, 271,
 277, 286
 Portuguese 238
 pragmatic elaboration 87, 88
 predicate 39, 60, 63, 100, 103,
 190, 200, 203, 210, 216
 predicate argument structure
 prefix 4, 89, 115, 117, 118, 138, 146,
 147, 190
pro drop 180, 213
 productivity 58, 158, 258
 pronoun 4, 91, 104–106, 109,
 111, 112, 141, 143, 171, 177–180,
 190–192, 198, 203, 204, 207,
 208
 prototype 4, 17, 21, 22, 25, 39, 43,
 61, 62, 115, 119, 134, 137, 149,
 153, 158, 216, 287
 psychological reality 23, 222

R

Radical Construction Gram-
 mar 11, 13, 23, 38, 65, 147, 256

raising 41, 84, 201, 211, 215, 216,
 320, 337
 recipient 27, 60, 107, 124, 127,
 183, 242, 264–269, 280
 reference point 29, 133, 154, 161,
 168–170, 209
 reference 17, 29, 48, 72, 79, 106,
 108, 109, 113, 133, 154, 157–163,
 165–172, 174, 179, 190, 191, 195–
 197, 204, 207, 209, 214–216,
 308, 322, 324, 326, 328
 register 191, 197, 237–239,
 249–251, 253–255
 Relational Grammar 48
 religious discourse 32
 Russian 15, 30, 41, 147–149,
 213, 216

S

schematicity 4, 73, 115, 118–120,
 133, 138, 140, 146, 272, 273
 second language 12, 32
 semantic prosody 74
 setting 2, 7, 179, 180, 187, 188,
 195, 205, 208–211, 213, 215
 shame 5, 160, 161, 167, 291, 292,
 294–304
 Shoshoni 190
 sign 3, 17, 20, 29, 43, 67, 71, 74,
 76–79, 81, 83, 215, 297
 social construction 5, 6, 305,
 307–312, 316–323
 source domain 10, 28, 120, 142,
 163, 164, 224, 225, 227, 229,
 230, 318, 329, 331, 333, 335, 344,
 346, 347, 350, 353
 Spanish 4, 18, 24, 29, 40, 43,
 151–155, 158, 160, 163, 165, 167,
 170–173, 176, 178, 180, 213
 speech act construction 87, 105
 structuralism 48, 117
 subcultural variation 309
 subject 4, 6, 18, 24, 60, 62,
 89, 92, 93, 96, 100, 116, 131,
 141–145, 147, 148, 179, 180,
 182–188, 190, 192, 194, 195, 201,
 203, 206, 209–212, 216, 242,
 262, 277, 307, 309–311
 subordinate clause 99, 201, 214
 superschema 115, 118, 119, 277
 Swedish 30, 41, 299, 304
 symbolic meaning 6, 325, 327
 symbolic unit 57, 61, 64
 synonymy 21, 279

Systemic linguistics

T

target domain 10, 28, 78, 120,
142, 163, 164, 221, 224–227,
229–231, 318, 329, 338, 346,
347, 349, 350
term 53, 55, 56, 58, 62, 77, 80, 81,
90, 102, 111, 140, 152, 156, 159,
179, 192, 198, 203, 204, 250,
296, 300, 308, 309, 312, 322
text 12, 28, 35, 40, 74, 101, 254,
291, 294, 299, 314, 315, 324
topic 10, 41, 60, 89, 111, 116, 143,
148, 166, 183, 216, 231, 232,
299, 306
trajector 11, 115, 119–142, 145,
146, 182–188, 190, 201, 209–213

transitive 141, 145, 146, 185, 211,
213, 242, 263, 305
transitivity 14, 141, 145, 188, 216,
256, 287

U

unidirectionality 28
unification 1, 2, 11, 12, 34, 43, 53,
59, 61, 63
usage-based model 14, 15, 66,
85, 148, 257, 259, 272, 273, 275,
277–279, 284, 285
usage 3, 5, 11, 12, 14–16, 25,
30, 31, 33, 43, 49, 51, 53, 58,
60–62, 66, 67, 71–86, 113, 148,
149, 237, 253–255, 257, 259,
262, 271–273, 275, 277–280,
284–287, 289, 303, 322–324

V

vagueness 39, 43, 179, 196–198,
204, 205, 209
variation 13, 14, 54, 62, 70, 71, 77,
85, 233, 239, 244, 245, 252, 256,
278, 288, 301, 309, 314, 317, 318
verbal prefix 4, 115, 146
Vietnamese 30, 42
V+(object)N compounds 153

W

world knowledge 3, 52, 89, 112