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Motivation in Grammar and the Lexicon

Edited by
Klaus-Uwe Panther
Günter Radden

John Benjamins Publishing Company

Motivation in Grammar and the Lexicon

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Volume 27

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Preface

Most of the papers collected in the present volume originated from the theme session “Motivation in Language” organized by us at the 10th International Cognitive Linguistics Conference in Kraków, Poland, July 15–20, 2007. We would like to express our appreciation to the 31 presenters and the large audience attracted by the topic of the theme session. In addition to the presenters, Ronald Langacker and Teenie Matlock were invited to contribute to the volume.

We gratefully acknowledge the support of the publishing house John Benjamins and the editors of the series Human Cognitive Processing. In the summer of 2007, we enjoyed the hospitality extended to us by Peter Koch, University of Tübingen. We are deeply indebted to him for giving us the opportunity to present our ideas on motivation to his research group on Lexical Motivation in French, Italian and German. We are also grateful to the DFG-funded research project “Linguistische Datenstrukturen: Theoretische und empirische Grundlagen der Grammatikforschung”, which allowed us to rely on the native speaker expertise of Susannah Ewing-Bölke in editorial matters.

Hamburg, February 2011

Klaus-Uwe Panther and Günter Radden

Introduction

Reflections on motivation revisited*

Klaus-Uwe Panther and Günter Radden
University of Hamburg

1. Introduction

The title of this introductory chapter alludes to our prior volume *Studies in Linguistic Motivation* (2004), in which we offered a working definition of linguistic motivation and proposed a typology of motivations, comprising ecological, genetic, experiential, perceptual, cognitive, communicative and other motivations. In the present chapter our point of departure is cognition, the “information-processing system” that we consider central to the human condition. Cognition relates to and mediates among other human systems, which we refer to as “peripheral” (see Figure 1). They include, amongst others, bodily experience, emotion, perception, action, social and communicative interaction, culture – and language. From this more general perspective, motivation in language can be regarded as a special case of influence that one human system exerts upon another human system.

The Introduction is structured as follows: Section 2 presents a sketch of the overall framework of the interaction among human systems. Section 3, more specifically, elaborates the interaction between language and cognition (thought). Section 4 provides summaries of the contributions to this volume, relating them to the conceptual framework outlined in Sections 2 and 3. Section 5 concludes with some remarks on open questions and an agenda for future research.

* We would like to thank Linda Thornburg for reading carefully through the introductory chapter and suggesting many improvements both in content and style, which have found their way into the text. We are also grateful for the comments of an anonymous reviewer, which inspired us to rethink and reformulate our conception of motivation in language. The above-mentioned scholars are of course not responsible for any remaining errors and flaws.

2. Human systems and their interaction

This section discusses the relation between cognition and other important human systems. The overall picture is given in Figure 1.

The basic idea of Figure 1 is that all human systems interact with cognition and may, via cognition, interact with one another. Cognition thus functions as the central switchboard that receives input from peripheral systems, processes them, and may influence them in turn. This two-way traffic between cognition and the peripheral systems is indicated by double-headed arrows. In Sections 2.1–2.8, cognition and the peripheral systems are introduced and their mutual interactions are illustrated with non-linguistic and linguistic examples.

2.1 Cognition

Cognition is understood here in the narrow sense of specifically human higher-level mental processes, particularly the ones listed in the central box of Figure 1. In a broader sense, cognition is seen as including the peripheral systems of perceptual, emotional, and linguistic processing. For analytical purposes we find it useful to distinguish between e.g. “raw” experiences, emotions, perceptions, etc., and their cognitive processing and representation. Cognition gives these peripheral systems meaning and functions as a mediator among them.

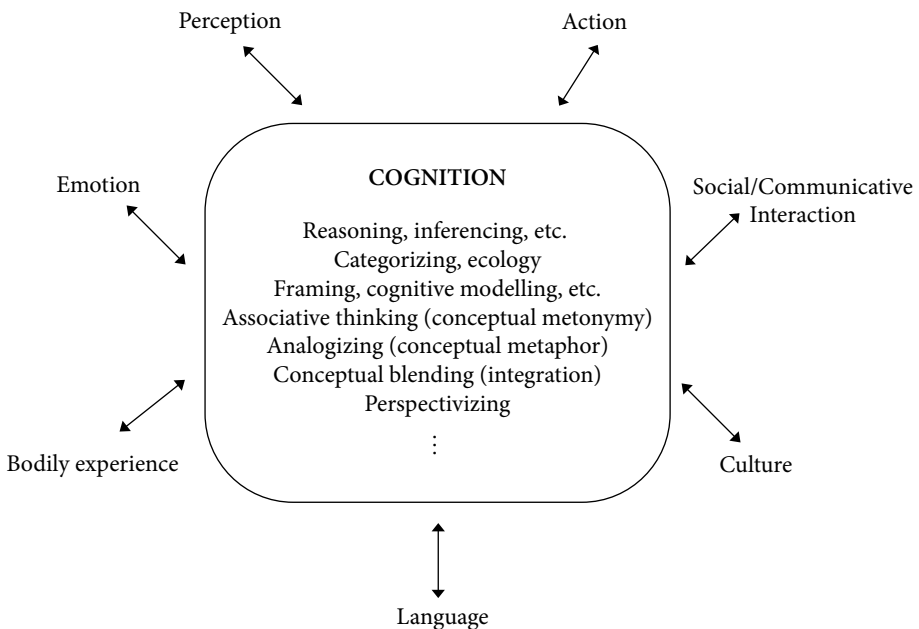


Figure 1. Cognition and its interactions with other human systems

Cognition comprises dynamic mental processes and the product of these processes. For example, the dynamic processes of categorization lead to categories as their products, and the resulting categories may undergo further processes of recategorization. A case in point is the creation of novel antonymic concepts, as analyzed by Panther and Thornburg (forthcoming). For example, the concepts ‘summer’ and ‘winter’ are normally seen as two members of the category ‘season’. However, in the following advertisement (Google search), the concepts ‘summer’ and ‘winter’ are recategorized as antonyms.

- (1) A car-free family resort offering a warm welcome, summer and winter alike.

In (1), the categories ‘summer’ and ‘winter’ are conceptualized as *maximally contrastive* with respect to meteorological conditions, temperature, and vegetation. Their recategorization affects the *value* (in the Saussurean sense) of ‘summer’ and ‘winter’ in the system of seasons and hence the system of seasons as a whole. Following Lakoff (1987: 487) and Taylor (2004), we refer to the value of an entity within a system as its “ecology” but understand this notion not just in a linguistic sense but as applying to cognition in general. In the above advertisement, the seasons summer and winter are profiled but, in all likelihood, the resort is also open to tourists in the spring and the fall, i.e. the use of the two terms *summer* and *winter* invites the metonymic inference that all four seasons are meant. The metonymy itself is motivated by a principle of economy; in this case by the principle of informativeness “say no more than you must” (Levinson 2000, Huang 2007).

Even more on the fly than sentence (1) is the following example:

- (2) Doctors and citizens alike are concerned about the consequences of health-care reform.

In this example, doctors are contrasted with citizens (even though they themselves constitute a subset of the set of citizens), i.e., citizens are conceptualized as potential patients and seen in opposition to doctors. What is predicated of these two contrasted groups is that they share a concern “about the consequences of healthcare reform”.

To summarize, the seemingly straightforward uses of the *X and Y alike*-construction in sentences (1) and (2) exhibit a complex of cognitive processes and properties: categorization and recategorization, metonymic inferencing, ecology, and economical coding (informativeness).

2.2 Bodily experience

One of the basic tenets of cognitive science is that the human mind is grounded in the body. Numerous studies have provided evidence for the embodiment hypothesis in thought, language, perception, emotion, action, and other human systems (see e.g. Gibbs 2005; Feldman 2010). Basic bodily experiences are hunger, thirst, pain, sex, sleep, physical force, posture, locomotion, etc. These kinds of bodily experience are

typically metaphorically projected onto more abstract domains, as in *DESIRE IS HUNGER* (e.g. *He hungers for adventure*) (Gibbs 2005: 184–87), *UNDERSTANDING IS GRASPING* (e.g. *grasp a complex idea*) or *BEING PROVOCATIVELY INTERESTING IS BEING SEXY* (e.g. *a sexy idea to trim Japan's debt*). Here, the abstract concepts of desire, understanding, and appeal are understood in analogy to the bodily experiences of hunger, grasping, and sex, respectively.

Conversely, cognition may also exert its influence on the way people experience their body. For example, moral codes or religious taboos may lead to the suppression of one's sexual drive or associate sex with feelings of guilt. Cultural taboos are also reflected in the lexicon of a language. The very existence and condemnation of taboo words, most of which refer to bodily functions such as excretion and sex, reinforce strong negative feelings associated with these bodily functions. Rules of social interaction normally prohibit people from using taboo words. Reference to a taboo is, of course, sometimes unavoidable and can only be done indirectly through euphemisms, such as *Where can I wash my hands?* (for 'I want to use the bathroom', which is itself a euphemism) or *We have a relationship* (for 'We have a sexual relationship'). Such euphemisms are typically metonymic or metaphoric in nature and fill an ecological niche in the subsystem of social interaction.

2.3 Emotion

Emotion is intimately tied to bodily experience and action. In our folk understanding, emotions are part of a causal chain, involving a causal event, the emotion itself, and physiological or bodily reactions. The causal link between an emotion and its physiological reaction is felt to be particularly tight and does not involve cognition as an intermediary link. Owing to their tight causal relation, we can conceive of emotions metonymically in terms of their physiological reactions or express them together in "symptom-emotion" constructions, as in *white with anger* or *tremble in fear* (for the use of prepositions expressing emotional causality, see Radden 1998; for emotion metaphors and metonymies, see especially Kövecses 2000).

Emotions tend to be beyond our control and, therefore, are often conceptualized as independently existing, forceful entities, as illustrated in sentence (3a).

- (3) a. Juliet_i was struggling with her_i anger.
 b. Juliet_i was struggling with herself_i.
 c. Romeo_i was beside himself_i (with anger).

In (3a), Juliet's anger is metaphorized as an adversary. *Juliet* stands for her normal, controlled self, while *her anger* refers to an uncontrolled emotion. The subscripts indicate that *her* is referentially identical with *Juliet*. A further step in the conceptualization of emotion is exemplified in (3b), where *Juliet* again stands for her calm, controlled self, whereas the coreferential *herself* stands for a highly emotionalized self. Juliet is split into two personalities that, nevertheless, are blended into the same self (for the

notion of divided self see Lakoff 1996 and Kövecses 2000: 24, 38, 44). Sentence (3c) involves another split of self in which *himself* represents Romeo's usual location, i.e. his normal, controlled emotional state of mind, in contrast to the subject *Romeo*, which describes Romeo's shifted location (*beside*), i.e. his uncontrolled, angry state of mind. These examples illustrate the highly complex cognitive operations involved in processing emotions: the metaphor EMOTION IS AN ADVERSARY (*struggle with*), the metonymy PERSON FOR PERSON WITH SALIENT CHARACTERISTICS, and the conceptual integration of two selves into one self.

From a more general perspective, strong emotions are seen as being in conflict with the "essence" of human beings as rational agents. Lakoff and Johnson (1999: 282) claim that there exists a folk model according to which "every object has an essence that makes it the kind of thing it is and that is the causal source of its behavior." In the sentences under (3), the emotional behavior does not correspond to the ideal of rationality attributed to humans by the folk theory of essences. The cultural model thus provides a powerful reason why people should control their emotions. This does, however, not mean that emotions have to be suppressed altogether but that they can be displayed within culturally defined boundaries.

The display of emotions is highly culture-dependent. As a case in point consider how culture, via cognition, interacts with the emotions and the behavior of mourners in funeral ceremonies. Although the spontaneous emotional response to the demise of a close family member is universally a feeling of sadness, cultures vary substantially in the way grief is channeled in mourning ceremonies, i.e. in the kind of behavior that is deemed appropriate in such situations. Islamic cultures, for example, allow mourners to express grief by weeping but prohibit "wailing [...], shrieking, tearing hair or clothes, breaking things or scratching faces [...]" (Wikipedia, s.v. *Mourning*). One's behavior in mourning situations is thus shaped not only by the emotion of grief but also by religious beliefs and cultural practices. At funerals, priests and orators often try to mitigate mourners' grief by presenting the deceased's life as fulfilled and meaningful, by claiming that the deceased is now in a better place, that he died for his country as a "hero", etc. Such conceptualizations of death may have a comforting effect on the mourners, i.e., its rationalization has a feedback effect on the experience of the emotion of grief itself.

2.4 Perception

Perception feeds into cognition and, in turn, receives meaningful interpretations through the cognitive system. In the "real world" we perceive individual objects or phenomena (*tokens*), which, in order to become meaningful, need to be assigned to a *type*. For example, the utterance *That's a possum* presupposes for its comprehension knowledge of the category (type) 'possum'. In general, knowledge of types feeds back into our "meaningful" perception of tokens. Thus, without knowing the rules, a continental European watching a baseball game will not be able to make sense of the game

and enjoy its subtleties. In a jocular vein, cognition accounts for the fact that we do not say, *I wondered why the baseball kept getting bigger. Then it hit me.*

Cognition also enables us to divide a perceived scene into a *figure* and a *ground*, which, under specific circumstances, can even be reversed. The figure is perceived as salient, especially if it is moving, against a more or less static background. The cognitive interpretation of a visual scene in terms of figure and ground thus feeds back into the perceptual system itself. Analogously, the perceptual figure-ground distinction also applies to the conceptual and grammatical organization of syntactic units.

As one of the most important sources of knowledge, the domain of perception is used in structuring the domain of knowledge, as in *I see* ('know') *the solution to the problem* or *I see* ('understand') *your point*. The impact of perception on cognition can be gleaned also from the use of perception verbs in sentences like *John looks sad* or *You sound disappointed*, which, via metonymic inference, convey the interpretations '(Judging from his appearance, I infer that) *John is sad*' and '(Judging from your tone of voice, I infer that) *you are disappointed*', respectively (see Panther and Thornburg 2009).

As pointed out by Gibbs (2005: ch.3), "[p]erception cannot be understood without reference to action" (49). For example, we associate our perception of objects with the actions typically performed with them, we often interpret static scenes as motional, and we grasp at small objects within arm's reach. Within the framework of interacting human systems, the above-mentioned perceptual affordances are mediated by inferential processes in cognition (with the exception of infants, whose grasping behavior is probably instinctual).

2.5 Action

Actions may be seen as motivated by the need of humans to survive in a potentially hostile environment. Actions are typically physical, intentional, controlled, goal-directed, and meant to have an effect upon the world, for which the human agent is held responsible. As with perceptions, an occurrence needs to be interpreted by the cognitive system. Depending on how many of the above criteria are fulfilled, an occurrence will, or will not, be assigned to a certain type of action. For example, a driver who accidentally hits a cyclist riding a bike without lights does not act intentionally but may still be held responsible for the accident. Yet, this incident does not count as a full-fledged action. A border guard who shoots a person attempting to cross the border illegally acts intentionally but will claim that he acted on command of his superiors and hence had no full control over his act. Such categorizations of occurrences as more or less prototypical actions have consequences in the judicial system, which is part of the culture. For example, in an American courtroom, a jury must decide whether an act of killing is to be categorized as first-degree murder, second-degree murder, or manslaughter. Judgments of what constitutes a premeditated action may vary from culture to culture.

2.6 Social and communicative interaction

Human interaction, both social and communicative, is a subtype of action. Like physical action, human interaction is guided by intentionality, goal-directedness, and effectiveness. However, the effect is not on the physical world *per se* but rather on the social and/or mental world yet may have material consequences. For example, if my boss declares, “You are fired”, the consequences for my social status and material well-being might be serious.

Typically, communicative intentions are conveyed by means of signs, in particular, in language through speech acts. The felicity conditions of speech acts are, among other things, dependent on social parameters. For example, an order is only felicitous if the speaker has authority over the addressee, while in imploring someone to do something, the speaker humbles himself vis-à-vis the addressee.

Not only speech acts, but also any physical act may be intended and/or understood as communicating something. For example, if, at midnight, my neighbor starts drilling holes into the wall, I might interpret this physical act rightly or wrongly as communicating that she intends to exasperate me. Such examples illustrate that cognition is always involved in the interpretations of actions, whatever their nature.

2.7 Culture

Culture encompasses systems of knowledge, beliefs, values, ethics, etc., that are acquired and shared by members of any human society and transmitted to subsequent generations. These elements of culture provide relatively stable cognitive models that guide people in their behavior and orientation in the world. In this sense, culture can be regarded as a system that exists independently of the individual human mind. A precondition for developing a culture is the specifically human ability to read other persons’ minds and cooperate with them, i.e. to engage in activities that require joint attention and the sharing of intentions and goals. These abilities are crucial in what Tomasello et al. (2005) call “cultural cognition”.

2.8 Language

Like the other peripheral systems, language interacts with cognition and, via cognition, with the other peripheral systems discussed above. Since the focus of this volume is on language and its motivation, we devote a separate section to the mutual influences between language and cognition.

3. Language and cognition

Language is probably the system that links more tightly than any other system to cognition. Language influences cognition and is, in turn, influenced by the latter. The hypothesis that language influences cognition is usually attributed to Edward Sapir (1921: 13–18) and, especially, Benjamin Lee Whorf (1964). A thought shaped by a linguistic phenomenon is nowadays often referred to as a “Whorfian effect”. Section 3.1 considers some examples of plausible Whorfian effects that have been proposed in the literature.

The opposite directionality, the impact of cognition on language, is traditionally referred to as *linguistic motivation*. Language is a system of signs, i.e. pairings of concepts and forms. It is only by virtue of form that thoughts can be communicated. A study of motivation in language, therefore, will have to take into account the nature of the linguistic sign. Linguistic motivation is discussed in Section 3.2, and the nature of linguistic signs and their relation to motivation are explored in Section 3.3.

3.1 From language to cognition: Whorfian effects

In the early 19th century, Wilhelm von Humboldt (1979 [1830–35]: 426) postulated that language is the formative organ of thought (“Die Sprache ist das bildende Organ des Gedankens”). In the 20th century, Benjamin Lee Whorf’s (1964) version of this hypothesis, known as the *linguistic relativity principle*, has received perhaps more attention than any of its predecessors. It is a moot point whether Whorf embraced a strong deterministic version of the linguistic relativity principle, implying that speakers cannot escape from the conceptual prison of their mother tongue, or whether he intended to make the point that language *may*, under certain conditions, have an influence on how language users think and experience the world in terms of their native language (see Lee 1996 for detailed discussion).

Recent psycholinguistic studies suggest that language structure indeed may have an influence on thought (see Boroditsky 2003 for a useful summary of recent post-Whorfian work). For example, Bowerman (1996) shows that English and Korean contrast in how spatial relations are coded. Whereas English makes a distinction between ‘containment’ (*in*) and ‘support’ (*on*), Korean distinguishes between ‘tight fit’ (*kkita*) and ‘loose attachment’ (*nehta*). As shown by McDonough, Choi, and Mandler (2003), Korean adult subjects readily picked the “odd man out” when shown several pictures of tight fit and one of loose fit (and vice versa), while English subjects did not notice any differences among the pictures. Similarly, Whorfian effects have been observed by Levinson (1996) in his study of spatial reference systems in Dutch and Tzeltal. Dutch speakers act in accordance with a system of egocentric location (e.g. ‘left/right’, ‘front/back’) as coded in Dutch, whereas Tzeltal speakers behave in accordance with a geocentric system of reference (e.g. ‘north/south’) as coded in their native language.

Grammatical categories have also been shown to have Whorfian effects. According to a study conducted by Boroditsky, Schmidt, and Phillips (2003), the grammatical gender of a noun seems to influence how people think about its referent. For example, when asked to describe associations evoked by the word for ‘key’ in their respective native language, Spanish and German speakers chose completely different sets of attributes. The German masculine noun *Schlüssel* ‘key’ evokes “male” attributes such as ‘hard, heavy, jagged, serrated, and useful’, whereas the Spanish grammatically feminine equivalent *llave* evokes “female” properties such as ‘golden, intricate, little, lovely, shiny, and tiny’. Conversely, the noun for ‘bridge’ is feminine in German (*die Brücke*) and evokes female attributes like ‘beautiful, elegant, and slender’, while its masculine counterpart in Spanish (*el puente*) evokes male attributes like ‘big, dangerous, and towering’ (Boroditsky 2003: 920).

In a similar vein, Panther and Thornburg (2009: 20–22) argue that German nouns such as *Stadt* ‘town, city’ and *Kunst* ‘art’, which are grammatically feminine, are sometimes conceptualized as having conceptual gender. For example, in the German sentence (4), the agreement of the subject *Kunst* with the feminine and female noun *Vermittlerin* (‘female mediator’) shows that art is metaphorically personified as a woman.

- (4) *Kunst ist die Vermittlerin des Unaussprechlichen.*
 art.FEM is the mediator-FEM of.the unspeakable
 ‘Art is the mediator of the unspeakable’

In this example, the grammatical (feminine) gender of the noun *Kunst* evokes the corresponding conceptual (female) gender and determines the speaker’s choice of the feminine and female predicate noun *Vermittlerin*, which may, in turn, reinforce the female character of art. In addition, the female conceptual gender of *Kunst* is certainly also motivated by the Western cultural tradition of pictorially representing the arts as young females.

3.2 From cognition to language: Motivation in language

As mentioned at the beginning of Section 3, we understand the term *linguistic motivation* as the influence of cognition and, via cognition, of peripheral systems on language. The notion of motivation adopted here differs only slightly from the one proposed by Radden and Panther (2004: 4); it now reads as follows:

- (5) A linguistic sign (target) is motivated to the extent that some of its properties are shaped by a linguistic or non-linguistic source and language-independent factors.

The definition in (5) captures the following aspects of motivation in language: First, motivation in language involves a *source* and a *target*. The target is a form and/or content of a linguistic sign, while the source may be cognitive and/or linguistic in nature. A cognitive source of a motivational process is illustrated in the following compound sentence.

(6) Victoria wrote her paper on motivation and submitted it to *Cognitive Linguistics*.

Here, the order of the two clauses reflects the temporal sequence of the events described. The source of the motivational process is purely cognitive in nature, i.e., the source is the conceptualization of two or more events as temporally ordered. Source and target are related by the cognitive principle of iconicity, which guides the interpretation that the writing of the paper occurred before its submission to the journal.

In many cases, the source is linguistic, i.e. the form and/or content of a sign. For example, for a present-day language-user, the compound *bedroom* (linguistic target) is readily relatable to a linguistic source, namely its linguistic components *bed* and *room*. The words *bed* and *room* are, however, not sufficient to evoke the concept ‘room for sleeping’, since a *bedroom* might refer to any room with a bed in it, a room for storing beds, a room for manufacturing beds, etc. More cognitive work is required in order to reconstruct the motivational process, i.e., language-independent factors also have to be considered. (see also Sanchez-Stockhammer, this volume, p. 288).

Second, the *relation* between a motivational source and target is causal but, as suggested by the term *shaped* in the definition, non-deterministic. A given source is a *contributing*, but not a sufficient, cause for the occurrence of the target. As pointed out above, the English target *bedroom* is motivated, but not determined, by its components *bed* and *room*. For example, the term *bedroom* does not code its function, which is e.g. focused upon in the German and French equivalents *Schlafzimmer* and *chambre à coucher* (‘sleeping-room’), respectively.

Third, and most importantly, a motivational process is guided by language-independent factors, in particular cognition. In the case of the compound *bedroom*, the conceptual metonymy PART FOR WHOLE allows us to conceive of the components *bed* and *room* as salient parts of the ‘bedroom’ frame as a whole. In comparison, the compound *drawing room* is not as obviously motivated to present-day language users. Since the origin of the compound (‘room to withdraw to’) is no longer transparent to ordinary language users, they may, unless they reject it as unmotivated, try to make sense of *drawing room* by relating the element *drawing* to the artistic activity of drawing. This folk-etymological reasoning may evoke a scene of a room designed for private entertainment and activities such as drawing, etc.

To conclude, within the larger framework of interacting human systems proposed in this study, cognition and the peripheral systems identified in Section 2 play a major role in motivational processes in language. In fact, we claim that all motivational processes are shaped by language-independent factors, i.e. factors that are external to language in the sense that they also operate in cognition and peripheral systems other than language. This claim entails that there is no such thing as language-internal motivation. Thus, the notion of motivation in language differs from that in psychology, where intrinsic and extrinsic motivations are distinguished. There is no such driving force in language, as fittingly expressed by Traugott and Dasher (2002: 35–36), who claim that “[linguistic] change does not originate within language (grammars do not change by themselves), but in language use, i.e. in factors external to language structure”.

3.3 Motivation, arbitrariness, conventionality, and non-conventionality of the linguistic sign

Motivation in language pertains to signs, which are understood as form-content pairs, including lexical items as well as morphological and syntactic constructions. Signs can be located on the two scales of conventionality vs. non-conventionality and motivation vs. arbitrariness, as diagrammed in Figure 2 (see Panther 2008; in press).

The conventionality-nonconventionality distinction can be illustrated by means of the following speech act constructions.

- (7) a. Can you post the letter for me?
b. Are you able to post the letter for me?

The construction *Can you VP_{action}?*, as in (7a), is a conventionalized way of expressing a polite request in English, while the semantically similar construction *Are you able to VP_{action}?*, as in (7b), is non-conventional as a request but could still be interpreted as one. Both constructions refer to one of the preparatory conditions of a request, namely the hearer's ability to perform the action requested, and the common metonymy PRECONDITION OF A REQUEST FOR THE REQUEST enables us to interpret the sentences as indirect requests. Reference to the hearer's ability is the motivational source and the above-mentioned conceptual metonymy is a language-independent cognitive factor, both of which jointly motivate the directive function of the speech act. However, the directive use of the *can you*-construction is far more entrenched than the *are you able to*-construction. This may be motivated by the shorthand grammatical marker *can*, which normally takes the hearer's ability to perform the requested action for granted. In contrast, the longer and more complex expression *are you able to* focuses on the hearer's ability.

Let us now consider the use of *can* as opposed to *be able to* in offers, as in the following examples:

- (8) a. Can I post the letter for you?
b. #Am I able to post the letter for you?

Utterance (8a) is a conventionalized indirect offer, where the speaker's ability to perform the offered act is taken for granted and *can* is used in the permissive sense, soliciting the hearer's acceptance of the offer. The speaker assumes that he is permitted to

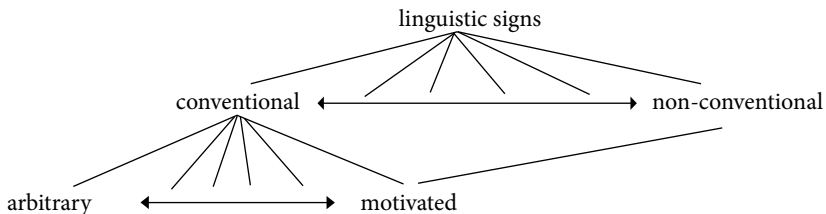


Figure 2. The scalar nature of conventionality and motivation

carry out an action that is in the interest of the hearer and thereby invites the metonymic inference that his utterance is to be understood as an offer. In contrast, utterance (8b) cannot even be interpreted as a non-conventional indirect offer. The locution *am I able to* focuses exclusively on the speaker's ability to perform an act, and questioning one's own abilities is pragmatically odd and hence is not motivatable as a non-conventional offer. This observation seems to apply to all non-conventional signs: they must be motivated in order to be interpretable.

Conventional signs, by contrast, need not be motivated in order to be interpretable, i.e., they can be arbitrary. Arbitrariness applies mainly to the form-content relationship of simple lexical items, which, for the most part, exhibit no natural connection between their form and content. Morphologically complex lexical items and grammatical constructions, by contrast, tend to be motivated. For example, subject-auxiliary inversion in polarity questions as in *Can we go now?* is, as shown by Langacker (this volume), motivated. Due to its clause-initial position, the auxiliary functions as the clausal "anchor", a role which in default declarative sentences is assumed by the subject. By assigning the anchoring function to the auxiliary, the speaker directs the hearer's attention to the reality status of the propositional content of the polarity question, which Langacker describes as "existence per se". Subject-auxiliary inversion is thus not just a syntactic rule, as assumed in formal models of grammar (see e.g. Newmeyer 2000), but a well-motivated cognitive strategy for coding *yes-no* questions.

Motivation is a matter of degree, or, as already observed by Saussure (1916/1959: 133), relative. As shown in some more detail in Radden and Panther (2004: 5–7), the object denoted in English by the complex form *screwdriver* is coded differently in various languages. For example, French, Korean, and Polish code this tool as 'turn-screw' or 'screw-turn', Dutch as 'screws-turn-er', Japanese as 'screw-turn-NOM', German, Danish and Hungarian as 'screw(s)-pull-er', Spanish as 'de/out-screw-er', Italian as 'stick-in/take-out screw', Swedish and Finnish as 'screw-chisel', Chinese as 'screw-knife', and Brazilian Portuguese as 'key of cut'.² Cross-linguistically, there is a marked preference for certain elements of the 'screwdriver' frame: the object to which the tool is applied (screw), a central action performed with the tool (in particular turning, less so pulling out and driving in), and the tool function itself (instrumental suffix corresponding to English *-er*). Not surprisingly, therefore, these highly relevant frame elements are better motivated and more frequently selected in forming words for 'screwdriver' than more peripheral elements such as 'key', 'chisel' and 'cut (of screw)'.

The degree of motivation of a linguistic unit also depends on the number of cognitive steps needed to analyze and interpret this unit. Disregarding other potential

2. The expressions for 'screwdriver' are: French *tournevis*, Korean *nasadolige* (both 'turn-screw'), Polish *śrubokręt* ('screw-turn'), Dutch *schroevendraaier* ('screw-turn-er'), Japanese *nejimawashi* (screw-turn-NOM), German *Schraubenzieher*, Danish *skruetrækker*, Hungarian *csavarhúzó* (all of them 'screw-pull-er'), Spanish *destornillador* ('de/out-screw-er'), Italian *cacciavite* ('stick-in/take-out-screw'), Swedish *skruvmejsel*, Finnish *ruuvimeisseli*, *ruuvitaltta* (all of them 'screw-chisel'), Chinese *luósīdāo* 'screw-knife'), Brazilian Portuguese *chave de fenda* ('key of cut).

parameters, we can assume that the higher the number of cognitive steps needed to interpret a given linguistic unit, the lower its degree of transparency, i.e. its motivation (see also Langacker 2000: 152–3, and Ariel 2008: 123, who claims that motivation is not a logically transitive relation). For example, the complex nominal *sleeper* has at least eight related senses that involve different degrees of conceptual complexity (see Panther and Thornburg 2002: 309–10). Three of these meanings are paraphrased below:

- (9) a. *sleeper* ‘person who is asleep’
 b. *sleeper* ‘tablet whose ingestion causes a person to fall asleep’
 c. *sleeper* ‘event (e.g. movie, lecture) that causes a person to become bored, similar to falling asleep’

The most transparent, and hence best-motivated, sense of *sleeper* is (9a), which requires only one cognitive step, i.e. the conceptual integration of ‘sleep’ and the conceptual head expressed by the suffix *-er*, leading to the interpretation of *sleeper* as a human experiencer. The sense of (9b) is less transparent, and hence less motivated because it requires at least three cognitive steps for its interpretation: first, the entity denoted by the suffix *-er* is metaphorically likened to human agents (tablets have active ingredients); second, the effect of a person’s falling asleep metonymically stands for the causal event ‘ingest a tablet’; third, the event of being asleep metonymically stands for the transitional phase of falling asleep. The least transparent, and hence least motivated, sense is probably that of (9c), which requires at least four cognitive steps: the metaphorical interpretation of an event as an object, the metonymic interpretation of ‘sleep’ (effect) for ‘boring event’ (cause), the metaphorical conceptualization of being bored as sleeping, and, as in (9b), the metonymic conceptualization of the event of being asleep for its transitional phase of falling asleep.

4. Contributions to this volume

Most of the contributions collected in this volume address issues of motivation pertaining to language-independent motivational factors, in particular factors that relate to cognition (e.g. metaphor, metonymy, inference, cognitive models), perception (e.g. figure and ground, simulation, perspective, viewing arrangement), social and communicative interaction (e.g. communicative function, intersubjectivity), and culture (e.g. honorifics, cultural models). However, we decided to structure this volume not according to these language-independent factors but according to the linguistic components impacted by them, in particular, grammar and the lexicon. In this sense, the volume reflects the present focus of research in motivation on grammatical and lexical structure. The binary distinction between grammar and lexicon in the organization of the volume is, however, somewhat artificial. Probably most cognitive linguists agree that syntax, morphology, and lexicon form a continuum of symbolic structures ranging from more abstract grammatical functions to more specific lexical

contents. As pointed out by Talmy (2000: 28), however, certain concepts lend themselves to being coded grammatically, i.e., they are assigned to closed classes, whereas others are preferably coded lexically, i.e., they form open classes. It is important to add at this point that there are, of course, also language-specific conventions that may determine whether a given content is coded grammatically or lexically.

Part I of the volume contains nine chapters devoted to motivation in grammar; Part II comprises five chapters addressing aspects of motivation in the lexicon.

4.1 Motivation in grammar

The opening chapter “Semantic motivation of the English auxiliary” by **Ronald Langacker** makes a strong case for the semantic motivation of grammar, using the English auxiliary as a case in point. The term *semantic* is understood in the broadest sense, covering the basic functions of language, in particular, the semiological function of symbolizing conceptualizations and the interactive functions of communication, manipulation, expressiveness, and social interaction. Langacker’s programmatic article focuses on cognitive (conceptual) and communicative motivation. The editors have selected this chapter as the lead article of the volume and will devote some more space to its presentation for the following reasons:

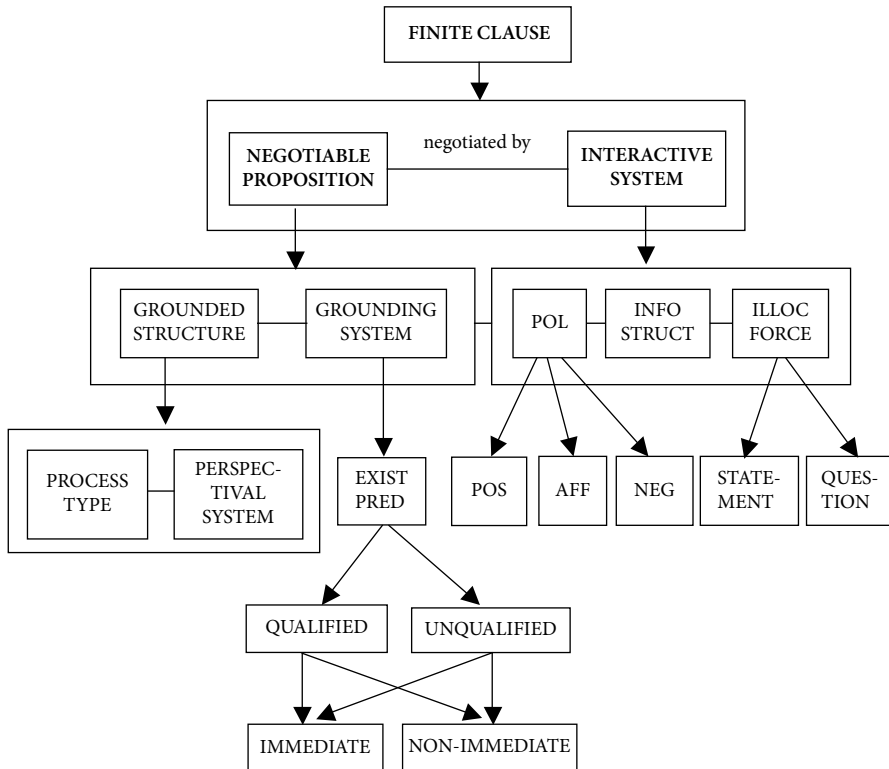
- It proposes a coherent framework of a semantically-motivated grammar.
- It applies this model to the system of English auxiliaries, demonstrating its semantic motivation.

The relevance of semantic motivation for grammar follows from the tenet that grammar as a symbolic system is “meaningful in and of itself”. Meaning motivates grammatical phenomena but, as a rule, does not predict them. The motivational approach to grammar is in stark contrast to radical approaches that advocate predictability of grammar, be it from external factors (e.g. semantic, communicative, etc.) or from internal factors such as formal rules and principles, as postulated in generative grammar. For Langacker, explanations in terms of motivation offer “a viable middle ground to extreme positions that are clearly untenable”.

The grammatical framework proposed by Langacker is based on two functions of language: its semiological and its interactive function. He illustrates these functions with a detailed analysis of the structure of the finite clause. The semiological function of a finite clause is to express a negotiable proposition, while its interactive function is to negotiate the proposition’s validity. The proposition is defined by a grounded structure and the grounding system. The grounded structure includes the process type and elements from the perspectival system, such as aspect, while the grounding system serves to locate the process with respect to the conceptualizer, by default the speaker. In using existential predications, the conceptualizer assesses the existential status of the profiled process with respect to two oppositions: reality vs. potentiality and immediacy vs. non-immediacy. Modals ground the process as potential, i.e. as “qualified”,

while absence of modals portrays it as part of reality, i.e. as “unqualified”. Tense applies to both qualified and unqualified processes and grounds them as either immediate (e.g. present) or non-immediate (e.g. past).

The interactive system subsumes polarity, information structure, and illocutionary force and serves the pragmatic function of relating the propositional content to the interlocutors. The semantically based framework underlying the finite clause may be diagrammed as in Figure 3.



EXIST PRED	Existential Predication
POL	Polarity
INFO STRUCT	Information Structure
ILLOC FORCE	Illocutionary Force
POS	Positive
AFF	Affirmative
NEG	Negative

Boxes within boxes connected by a line represent co-present elements.
Non-connected parallel boxes represent mutually exclusive choices.

Figure 3. Semantic-functional framework underlying the finite clause

The abstract elements of the semantic-functional framework show up in one way or another in the structural organization of the finite clause. According to Langacker, a finite clause has the following functional organization: it consists of an anchor, the existential core, and the “remainder”. In terms of information structure, the clausal anchor roughly corresponds to the topic of the clause within its discourse context. Central to the structure of a finite clause is what Langacker calls the existential core. The functional organization of this core parallels that of the finite clause: it consists of an anchor, an existential verb, and the “remainder”. The anchor is typically the subject of the clause. The existential verb includes a tensed form of an auxiliary (*do*, perfect *have*, progressive *be*, or a modal) or of a lexical verb. The existential verb relates the proposition conveyed by the clause to reality. All these functional elements occur in the topicalized sentence *Me she has seldom waited for*, as shown in Figure 4.

As a result of the operation of the interactive system, specifically information structure (see Figure 3), the oblique pronoun *me* is topicalized and serves as the anchor of the clause. The subject pronoun *she* functions as the anchor of the existential core. The existential verb *has* fulfills two grounding functions and two interactive functions: it grounds the process in reality and immediacy, it assigns a positive polarity to *has* and the clause as a whole, and, due to its non-inverted position in the clause, it also indicates the interactive function of a statement.

In normal Subject-Verb clauses, the anchor of the existential core, i.e. the subject of the clause, coincides with the clausal anchor, as in *She will wait for me*, whose structure is diagrammed in Figure 5.

His semantic-functional framework allows Langacker to offer an elegant motivational analysis of, among other things, subject-auxiliary inversion in *yes-no* questions (e.g. *Will she wait for me?*), *wh*-questions (e.g. *Where did she wait for me?*), and clauses

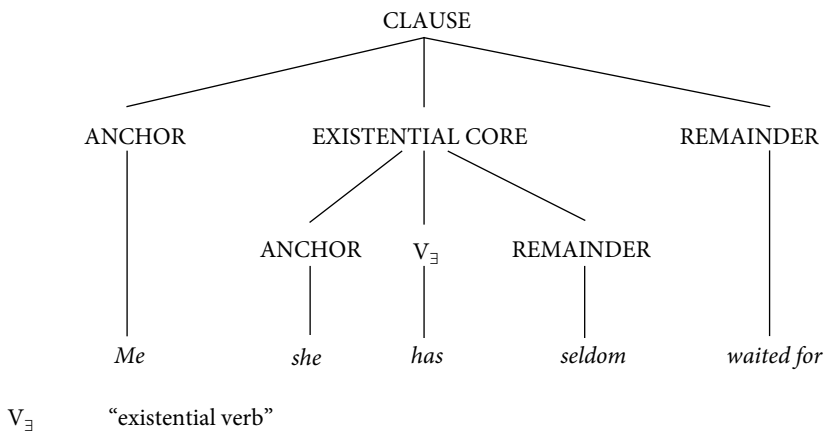


Figure 4. Semantic-functional organization of a topicalized clause

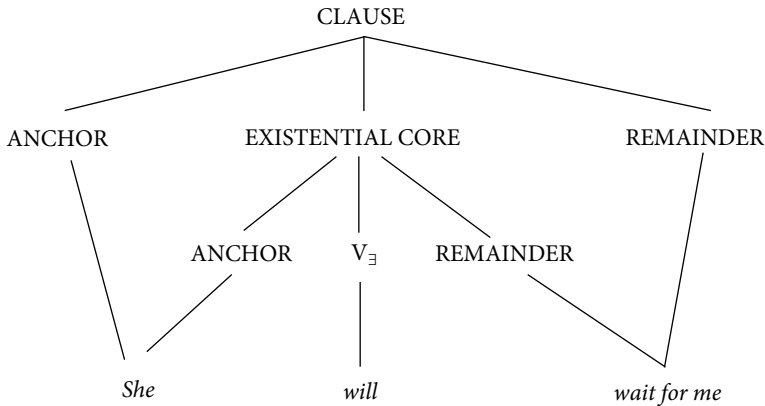


Figure 5. Semantic-functional organization of a non-topicalized clause

with fronted negative polarity items (e.g. *Seldom will she wait for me*). By way of illustration, consider the semantic-functional organization of the *yes-no* question *Will she wait for me?* Here, the inverted auxiliary *will* has, apart from its existential (qualified) function, also the functions of anchoring both the clause and the existential core, as illustrated in Figure 6.

The English auxiliaries are motivated by their crucial role as existential verbs: they schematically predicate the existence of a relationship to be negotiated by the interactive system. The default existential predicate is *do*: it indicates the unqualified existence of a process for negotiating purposes. *Do* is, therefore, needed with e.g. *yes-no* questions (*Did she wait?*), negative statements (*She didn't wait*), and affirmative statements (*She DID wait*), in which the grounded process is negotiated between the interlocutors.

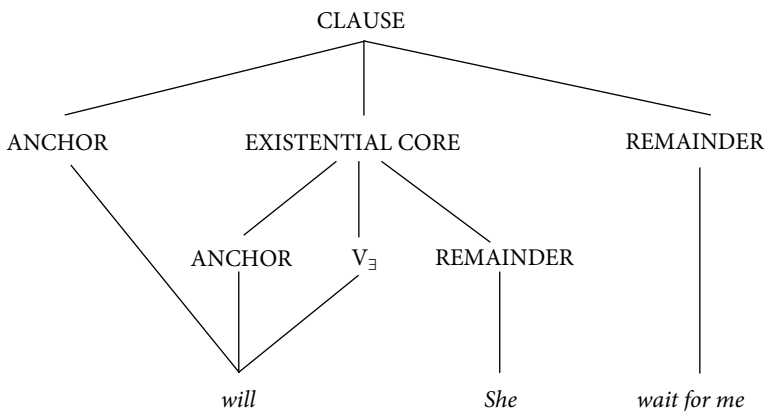


Figure 6. Subject-auxiliary inversion in *yes-no* questions

In questions, for example, the hearer's position is elicited. By contrast, in positive statements the speaker takes the validity of the proposition for granted, i.e. assumes that it is not to be negotiated. Therefore, the existential *do* is not needed and hence not expressed. As a result the sentences **She does be waiting* and **She does love me* with the unstressed form of *do* are ungrammatical.

Langacker modestly describes his account of the English auxiliary as a “preliminary sketch”. However, he has clearly shown that the many facets and peculiarities of the English auxiliary are not arbitrary, but naturally follow from the Cognitive Grammar perspective of language.

Inversion also plays an important role in **Rong Chen's** chapter “The mind as ground: A study of the English existential construction”. While Langacker analyzes the inversion of subject and auxiliary and focuses on the functional and semantic status of the auxiliary, Chen discusses the inversion of subject and lexical verb in sentences like *In the room was a unicorn*. In Langacker's model the prepositional phrase *in the room* would constitute an anchor, while in Chen's approach it functions as a ground before the figure *a unicorn*. Analogous to inversion, the existential construction, as in *There is a stain on your shirt*, presents the ground before the figure. Both constructions are thus rooted in the gestalt-perceptual principle of figure and ground, and their properties are captured in the “Ground-before-Figure” (GbF) model. Each construction, however, has its own function. Inversion is a dual-focus construction: it focuses on both the ground and the figure, as in *NEXT in line is ME*, while the existential is a solo-focus construction that focuses on the figure. The existential is chosen when the speaker wants to draw attention to a figure relative to an unknown ground where anything can exist. Thus, in *There is a stain on your shirt*, the phonologically reduced *there* presents a ground signaling cataphorically that a figure, *a stain*, is to follow. This situation cannot be expressed by double-focus inversion (**On your shirt is a stain*) – nor, in fact, by means of the basic figure-ground order (**A stain is on your shirt*). The perceptual principles of figure-ground gestalt thus motivate the GbF model and its linguistic manifestations in inversion and in the existential. In the latter, it is moreover our cognitive ability to construe the mind as the ground and site for conceptualization that can be said to motivate the English existential *there*-construction.

Within Langacker's Cognitive Grammar framework, **Cristiano Broccias's** chapter “Motivating the flexibility of oriented *-ly* adverbs” discusses participant-oriented uses of adverbs, which exhibit cognitive and perceptual motivation. Usually, at least two types of participant-oriented adverbs are identified, “manner” and “transparent” adverbs. An example of a participant-oriented manner adverb is *Fred ate the sausages ravenously*. This sentence conveys not only a manner adverb reading of *ravenously*, i.e. ‘ravenous eating’, but also a participant-oriented meaning, i.e. the ascription of the property of ravenousness to Fred. An example of a transparent adverb is *Sally painted the house beautifully*, which cannot be interpreted as meaning that the event of painting was beautiful, but rather that the resultant object participant of the action of painting is or looks beautiful. Broccias argues that the participant-oriented manner and

transparent senses define a network where both a schema and a prototype can be recognized and that the difference between manner and transparent adverbs results from a difference in vantage point. Transparent adverbs code either cause or result and imply an internal vantage point, while manner adverbs imply an external vantage point. The prototype of manner adverbs involves some external evaluation of the clausal event on the part of the conceptualizer. The schema is regarded as merely coding temporal coextension between the verbal event and the property hinted at by the adjectival base of the adverb.

Cognitive and perceptual motivations also play a vital role in Naoko Hayase's chapter "The cognitive motivation for the use of dangling participles in English". This study is concerned with a construction frowned upon by traditional grammarians but nevertheless widely used by ordinary speakers, as attested in the rich data culled from the British National Corpus. It thus stands to reason that the dangling participial construction is ecologically well motivated within the grammatical system of English. A representative example of a dangling participial construction is *When leaving the bathroom, the lobby is fitted with wall cabinets*. Here, the dangling participial clause expresses a situation of motion whose agent remains implicit. This fictive agent also serves as the implicit conceptualizer of the state described in the main clause. More generally, sentences with dangling participles typically describe two situations: one in which a fictive agent performs an action (coded in the participial clause), and one in which the same unexpressed participant perceives, or conceives of, a state or non-causative event (coded in the main clause). Understanding such dangling participial constructions requires a complex process of meaning construction: an implicit agent/conceptualizer is supplied, the content of the main clause has to be interpreted as the conceptualizer's perception or cognition, and the two situations have to be coherently linked in terms of figure and ground. The meaning evoked by the dangling participial construction is aptly described as "cognizance scenario", a scenario that is based on our common experience of noticing something while engaged in some activity. The implicit conceptualizer is typically the speaker or a virtual or generic person. The dangling participial construction is thus highly subjective – as opposed to the objective construal associated with the canonical participial construction. Its subjectivity makes the dangling participial construction much more suitable to be used in speech than in writing. In interactive discourse, involving the "joint attention" of speaker and hearer, this construction may also invite the hearer's perspective so that it can even adopt an "intersubjective" function. Normative attempts to eradicate the use of the dangling participle have failed because this construction is well motivated by its specific communicative function within the grammatical system of English.

Mitsuko Narita Izutsu and Katsunobu Izutsu's chapter "What motivates an inference? The emergence of CONTRAST/CONCESSIVE from TEMPORAL/SPATIAL OVERLAP" proposes two kinds of explanation for the semantic shift from the concrete meanings of TEMPORAL/SPATIAL OVERLAP to the abstract senses of CONTRAST/CONCESSIVE. Using experimental methods, the authors show that the motivational factors at work in

this semantic change are both cognitive and perceptual. The semantic change can be observed across genetically and geographically unrelated languages (e.g. English *while*, *where(as)*, German *während*, Japanese *-nagara*, *tokoroga*, Korean *-myeonso*). On the one hand, following Traugott and König, Izutsu and Izutsu claim that the shift is motivated by cognitive factors, more specifically, metonymic inference. On the other hand, three experiments conducted by the authors show that the metonymic inference itself is further motivated by temporal/spatial overlap, which largely corresponds to perceptual overlap in Langacker's viewing arrangement of two situations. The authors conclude that, for the semantic change in question, perceptual motivation is more relevant than cognitive motivation, i.e. metonymic inference.

The role of inferences and their motivation is also empirically researched by **Teenie Matlock** in her chapter "The conceptual motivation of aspect". Matlock investigates the inferences triggered by imperfective and perfective descriptions of past events. In three carefully designed experiments involving imperfective and perfective sentence pairs, subjects associated more individual actions, more completed actions, and longer duration of actions with imperfective than perfective sentences. For example, asked how many houses were painted, subjects estimated that the number of houses painted was significantly higher in *John was painting houses* ($M = 22.1$) than in *John painted houses* ($M = 13.58$). These results conform with the semantics of the imperfective and perfective aspect: the imperfective aspect provides an internal perspective of a situation and focuses on its ongoingness, while the perfective aspect provides an external perspective of a situation and focuses on its completion. However, inferences about more action in imperfective descriptions also occurred when its time window was identical to that of the corresponding perfective descriptions. Matlock therefore conjectures that the "more action" effect of the imperfective is motivated by our ability to mentally simulate events: in taking an internal view of an ongoing situation, our subjective experience of the action increases and engages us in "moment to moment processing".

Annalisa Baicchi's contribution "Metaphoric motivation in grammatical structure: The caused-motion construction from the perspective of the Lexical-Constructional Model" aims to identify metaphorical motivations of caused-motion constructions. Baicchi's analysis of various types of the caused-motion construction is based on Conceptual Metaphor Theory and the Lexical-Constructional Model, which has been developed, among others, by Francisco Ruiz de Mendoza and Ricardo Maioral. This model advocates a decompositional semantics inspired by Role and Reference Grammar (Van Valin) and formal semantics (Dowty). The focus of Baicchi's chapter is placed on non-motion verbs. Once they are inserted into the caused-motion construction, they are coerced into expressing a change of location. The author draws on a wealth of authentic examples of the caused-motion construction such as *He gazed me out of the club*. In this sentence the use of *gaze* as a caused-motion verb is motivated by the metaphor EXPERIENTIAL ACTION IS EFFECTUAL ACTION. Using a decompositional semantic approach, Baicchi is able to account for, among other things, the change in

valency of non-motion intransitive verbs and their construction-coerced change in meaning.

In his chapter “Conceptual motivation of English *must* and Hungarian *kell*”, Péter Pelyvás proposes a conceptual structure of modals that motivates their alternative grammatical construals, using modals of obligation in English and Hungarian as illustrative cases. Conceptually, an obligation consists of two portions that are reminiscent of Langacker’s canonical event model of an energetic action chain as expressed in transitive clauses: the non-autonomous obligation portion, which is characterized by the interplay of forces between imposer and obligee, and the autonomous potential action performed by the obligee, or doer, as a result of the obligation. Crucially, the doer of an obligation plays a dual role: he plays an agent-like role in performing the imposed act and a passive role in the obligation portion, although his reluctance to carry out the action also makes him active to some extent and thus accounts for the potentiality of an obligation. It is this dual role that motivates the doer’s alternative case marking as the subject in languages like Hungarian: unlike English, where the doer is always expressed in the nominative case (*We must go*), Hungarian may express the doer in the nominative or the dative case. This grammatical nominative/dative alternation of the doer is comparable to the expression of the experiencer at the head or tail end of the action chain. Unlike deontic modality, epistemic modality neither involves a force-dynamic opposition nor the non-autonomous portion of the action. Hence the double role of a doer and, concomitantly, the conceptual motivation for its non-nominative construal disappears. Not surprisingly, epistemic modals in standard Hungarian are construed only with the nominative. In informal spoken Hungarian, however, they may also be construed with dative subjects, a grammatical form that appears to be unmotivated on conceptual grounds but may still be accounted for by one or more combined effects of six possible motivation factors suggested by Pelyvás.

The final chapter of Part I, Satoshi Uehara’s chapter “The socio-cultural motivation of referent honorifics in Korean and Japanese”, touches on both grammatical and lexical issues and, in this sense, prepares the ground for Part II on motivation in the lexicon. Uehara discusses a puzzling contrast in the Korean and Japanese systems of referent honorifics. Referent honorifics indicate the speaker’s deference toward the person(s) talked *about* – as opposed to addressee honorifics, which indicate the speaker’s deference toward the person(s) talked *to*. Referent honorifics may relate to the subject participant or a non-subject participant of a sentence. The use of subject referent honorifics (SRH) is highly productive in Korean and Japanese, and both languages express SRH by means of regular affixes to lexical forms. The use of non-subject referent honorifics (NSRH), by contrast, is also productive in Japanese but not in Korean. Korean lacks a morphological pattern and has no more than a handful of verbs to express NSRH, while Japanese has at its disposal a regular derivational pattern and some dozen lexical verbs to code this type of referent honorifics.

Uehara identifies two socio-cultural factors that motivate the higher productivity of non-subject referent honorifics in Japanese: the egocentric viewing arrangement and

the distinction between *uchi* ‘inside’ and *soto* ‘outside’. The ego-centric viewing arrangement is based on the Japanese self-humbling nature of deference: by humbling himself to a participant, the speaker indirectly elevates the target of honorification. The speaker’s act of self-humbling requires neither the mention of the speaker nor that of the respected person and hence may even be expressed in intransitive sentences. The second socio-cultural factor, the distinction between *uchi* and *soto*, refers to the omnipresent boundary between the in-group, to which the speaker belongs, and the out-group. The egocentric viewing arrangement and the *uchi/soto* distinction jointly account for the use and high productivity of non-subject referent honorifics in Japanese.

4.2 Motivation in the lexicon

Elena Tribushinina’s chapter “Conceptual motivation in adjectival semantics: Cognitive reference points revisited” is concerned with the semantics of dimensional adjectives in English and Russian. Traditionally, relative adjectives such as *tall* and *large* are assumed to be interpreted relative to an average norm in the middle of a scale as a reference point. Tribushinina shows, however, that dimensional adjectives do not always evoke a norm as a reference point. Thus, in comparatives and superlatives, the cognitive reference point of dimensional adjectives is an incidental landmark: with measure phrases as in *five feet two inches tall* it is a zero point, and in sentences such as *Giraffes are tall* it is the height of the human body, i.e. EGO. The notion of reference point and reference-point reasoning thus has a much wider application than hitherto assumed. It also motivates the well-known asymmetry of antonymous adjective pairs: the supra but not the sub term can stand for the scale as a whole, as in *How tall is he?*, in contrast to *How short is he?* With a norm as its reference point, as in *He is tall*, a supra term refers to a subscale that starts from normal height and moves up indefinitely, while the sub term, as in *He is short*, refers to a subscale that again starts from the norm but is oriented down towards zero. *Tall* in the sense of ‘height above norm’ can be used to stand for the whole scale because both scales involve upward directionality. In contrast, *short* cannot stand for the whole scale of height scale because their directionalities clash.

Mario Brdar and Rita Brdar-Szábo’s chapter “Metonymy, metaphor and the ‘weekend frame of mind’: Towards motivating the micro-variation in the use of one type of metonymy” investigates the sociocultural motivation of the use of the metonymy CAPITAL FOR GOVERNMENT in Croatian and Hungarian newspapers. The authors first show that this metonymy is used more frequently in English and German than in Hungarian and Croatian newspapers. For the latter two languages, they find that the metonymy is strikingly more frequent in weekend editions than in workday editions. The authors suggest that the skewed distribution of the CAPITAL FOR GOVERNMENT metonymy is motivated by a cultural model which contrasts a weekend frame with an ordinary workday frame. Weekend editions tend to assume a distanced view of the world events that happened during the week, while workday editions tend take a

“closer” look at such events. These two different perspectives can be accounted for by the metaphorical understanding of the spatial concepts of PROXIMITY/DISTANCE in a temporal, social, and mental sense. Indeed, the authors show that the frequency of the CAPITAL FOR GOVERNMENT metonymy can be an indication of mental distancing from a foreign country. For example, Croatian newspapers tend to use the metonymy more often for countries that rank low on a scale of popularity (e.g. Russia) than for the capitals of countries that are held in high esteem (e.g. Germany). Thus the metonymy MOSCOW FOR THE RUSSIAN GOVERNMENT is more frequent than the metonymy BERLIN FOR THE GERMAN GOVERNMENT.

The final three chapters in this volume focus on motivational processes with linguistic sources, i.e. motivational links among lexical items. Daniela Marzo’s chapter “Intrinsic or extrinsic motivation? The implication of metaphor- and metonymy-based polysemy for transparency in the lexicon” investigates Italian native speaker judgments about motivational relations in the lexicon. Following Peter Koch, the author regards a lexical unit as motivated if it is both formally and conceptually related to another lexical unit. This conception of motivation is based on the Peircean semiotic notion of diagram, a structural resemblance between form and meaning. Two kinds of motivation are distinguished: intrinsic and extrinsic motivation. A lexical unit is intrinsically motivated if a cognitive relation is perceived to another lexical unit; it is extrinsically motivated if a formal relation is perceived to another lexical unit. In this empirical study of Italian vocabulary, simple lexical units were judged to be motivated intrinsically, while complex lexical units were judged to be motivated both intrinsically and extrinsically: with intrinsic motivation, the cognitive relation was predominantly based on metaphorical similarity, with extrinsic motivation it tended to be based on metonymic contiguity. An important aspect of Marzo’s conception of motivation is that it is “in the eye of the beholder”, i.e. two lexical units are potentially motivated, i.e. *motivatable*, but may not actually be considered *motivated* by native speakers. Marzo maintains that introspective judgments of linguists are not sufficient to establish motivational relations, but that experimental evidence is needed to gain access to native speaker intuitions about motivation.

Potential motivational relations in the lexicon are also the subject of Birgit Umbreit’s chapter “Motivational networks: An empirically supported cognitive phenomenon”. In contrast to traditional studies, which view motivation as a unidirectional process from a “motivational base” to a more complex unit, Umbreit proposes a multidirectional network of motivated relations. A motivational network represents the total of synchronic motivational partners that ordinary speakers associate with a given lexical unit. The motivational partner may be simple or complex, and the association may be based on a formal or conceptual relation. Typically, a lexical unit can be linked to several motivational partners, i.e. it is characterized by “multiple motivation”. The motivational network of a lexical unit is stored as a word family in the mental lexicon, resulting in the co-activation of all its members. The activated motivational partners may, of course, vary with respect to their salience for individual speakers. The

results of the empirical studies carried out by the author confirm the existence of multiple motivational networks in the minds of non-linguist native speakers.

The issue of motivatability is also central to **Christina Sanchez-Stockhammer's** chapter "The 'meaning-full' vocabulary of English and German: An empirical study on lexical motivatability". She takes up as a challenge de Saussure's assumption "that motivation plays a much larger role in German than in English". In a similar vein, Leisi characterizes German as a "consociated" language and English as a "dissociated" language. In a consociated language, the relationship between words of a word family is transparent, as in German *Mund* and *mündlich*, whereas it is opaque in a dissociated language, as in English as *mouth* and *oral*. The dissociated nature of English is attributed to its large proportion of words of Romance origin. In order to operationalize the notion of consociation, Sanchez-Stockhammer distinguishes between degrees of a lexeme's motivatability as 'fully motivatable' (e.g. *football*), 'partially motivatable' (e.g. *in-come*), 'unmotivatable but transparent' (e.g. *understand*) and 'unmotivatable' (e.g. *leaf*). Her analysis of the motivatability of the 2,500 most frequent words of English and German confirms that the German vocabulary is indeed more motivatable than the English vocabulary – if only marginally so. However, Leisi's assumption that this is due to the larger stock of Romance words in English could not be confirmed: while words of Germanic origin are more motivatable in German than in English, words of Romance origin turn out to be more motivatable in English than in German.

5. Conclusion

The authors of the present volume share the conviction that motivation is a crucial theoretical concept in the description of natural languages. The contributions to this volume provide strong evidence that the grammar and lexicon of natural languages are motivated by various peripheral systems, which, mediated through the central cognitive system, may be reflected in language structure and use. However, there are important open questions that should be addressed in future research. One of them is the question whether motivation is an *explanatory* concept in linguistics. The contributors to the present volume certainly believe so, but linguists working in formalist frameworks will most likely answer this question in the negative. They regard motivational accounts as post hoc and as having often no predictive power. Future research should refine the concept of motivation itself and provide a solution to the problem of *how much* of language is motivated. In other words, researchers will have to give substance to Saussure's claim that language must be *relatively* motivated in order to serve its communicative functions.

References

- Ariel, Mira. 2008. *Pragmatics and Grammar*. Cambridge: Cambridge University Press.
- Boroditsky, Lera. 2003. Linguistic relativity. In L. Nadel, ed. *Encyclopedia of Cognitive Science*, 917–921. London: MacMillan.
- Boroditsky, Lera, Laura Schmidt, and Webb Phillips. 2003. Sex, syntax, and semantics. In D. Gentner and S. Goldin-Meadow, eds. *Language in Mind: Advances in the Study of Language and Cognition*, 61–79. Cambridge, MA and London: MIT Press [Bradford Book].
- Bowerman, Melissa. 1996. The origin of children's spatial semantic categories: Cognitive versus linguistic determinants. In J. J. Gumperz and S. C. Levinson, eds. *Rethinking Linguistic Relativity* [Studies in the Social and Cultural Foundations of Language 179], 145–202. Cambridge: Cambridge University Press.
- Feldman, Jerome. 2010. Embodied language, best-fit analysis, and formal compositionality. *Physics of Life Reviews*, doi:10.1016/j.plrev.2010.06.006.
- Gibbs, Raymond W., Jr. 2005. *Embodiment and Cognitive Science*. Cambridge: Cambridge University Press.
- Huang, Yan. 2007. *Pragmatics*. Oxford: Oxford University Press.
- Humboldt, Wilhelm von. 1979 [1830–1835]. Ueber die Verschiedenheit des menschlichen Sprachbaues und ihren Einfluss auf die Entwicklung des Menschengeschlechts. In Andreas Flitner and Klaus Giel, eds. *Wilhelm von Humboldt: Schriften zur Sprachphilosophie*, Vol. III, 368–756. Darmstadt: Wissenschaftliche Buchgesellschaft.
- Kövecses, Zoltán. 2000. *Metaphor and Emotion: Language, Culture, and Body in Human Feeling*. Cambridge: Cambridge University Press.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago & London: The University of Chicago Press.
- Lakoff, George. 1996. Sorry, I'm not myself today: The metaphor system for conceptualizing the self. In G. Fauconnier and E. Sweetser, eds. *Spaces, Worlds and Grammar*, 91–123. Chicago: The University of Chicago Press.
- Lakoff, George and Mark Johnson. 1999. *Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought*. New York: Basic Books.
- Langacker, Ronald W. 2000. *Grammar and Conceptualization*. Berlin, New York: Mouton de Gruyter.
- Lee, Penny. 1996. *The Whorf Theory Complex: A Critical Reconstruction* [Amsterdam Studies in the Theory and History of Linguistic Science]. Amsterdam & Philadelphia: Benjamins.
- Levinson, Stephen C. 1996. Relativity in spatial conception and description. In J. J. Gumperz and S. C. Levinson, eds. *Rethinking Linguistic Relativity*, 177–202. Cambridge: Cambridge University Press.
- Levinson, Stephen C. 2000. *Presumptive Meanings: The Theory of Generalized Conversational Implicature*. Cambridge, MA: MIT Press.
- McDonough, Laraine, Soonja Choi, and Jean M. Mandler. 2003. Understanding spatial relations: Flexible infants, lexical adults. *Cognitive Psychology* 46: 229–259.
- Newmeyer, Frederick. 2000. *Language Form and Language Function*. Cambridge, MA: MIT Press.
- Panther, Klaus-Uwe. 2008. Conceptual and pragmatic motivation as an explanatory concept in linguistics. *Journal of Foreign Languages* 31.5: 2–19.

- Panther, Klaus-Uwe. In press. Motivation in language. In S. Kreidler, ed. *Cognition and Motivation: Forging an Interdisciplinary Perspective*. Cambridge: Cambridge University Press.
- Panther, Klaus-Uwe, and Linda L. Thornburg. 2009. Introduction: On figuration and grammar. In K.-U. Panther, L. L. Thornburg, and A. Barcelona, eds. *Metonymy and Metaphor in Grammar* [Human Cognitive Processing 25], 1–44. Amsterdam & Philadelphia: Benjamins.
- Panther, Klaus-Uwe, and Linda L. Thornburg. Forthcoming. Antonymy in language structure and use. In M. Brdar, M. Žic Fuchs, and I. Raffaelli, eds. *Cognitive Linguistics between Universality and Variation*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Radden, Günter. 1998. The conceptualisation of emotional causality by means of prepositional phrases. In: A. Athanasiadou and E. Tabakowska, eds. *Speaking of Emotions: Conceptualisation and Expression*, 273–294. Berlin, New York: Mouton de Gruyter.
- Radden, Günter, and Klaus-Uwe Panther. 2004. Introduction: Reflections on motivation. In G. Radden and K.-U. Panther, eds. *Studies in Linguistic Motivation*, 1–46. Berlin: Mouton de Gruyter.
- Sapir, Edward. 1921. *Language*. New York: Harcourt, Brace & World.
- Saussure, Ferdinand de. 1916/1959. *Course in General Linguistics*. New York, Toronto, London: McGraw-Hill.
- Talmy, Leonard. 2000. The relation of grammar to cognition. In Leonard Talmy, *Toward a Cognitive Semantics*, Vol. I: *Concept Structuring Systems*, 21–96. Cambridge, MA: MIT Press.
- Taylor, John. 2004. The ecology of constructions. In G. Radden and K.-U. Panther, eds. *Studies in Linguistic Motivation*, 49–73. Berlin, New York: Mouton de Gruyter.
- Tomasello, Michael, et al. 2005. Understanding and sharing intentions: The origins of cultural cognition. *Behavioral and Brain Sciences* 28: 675–735.
- Traugott, Elizabeth Closs and Richard B. Dasher. 2002. *Regularity in Semantic Change*. Cambridge: Cambridge University Press.
- Whorf, Benjamin Lee. 1964. *Language, Thought, and Reality*, ed. John B. Carroll. Cambridge, MA: MIT Press.

PART I

Motivation in grammar

Semantic motivation of the English auxiliary

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Motivation offers a viable middle ground to extreme positions that are clearly untenable. Here I consider the semantic motivation of grammar, as exemplified by the English auxiliary. Properly characterized in terms of systems of elements serving particular semantic functions, the auxiliary is seen as being efficient and highly motivated. Its apparent idiosyncrasies reflect the functions served and the meanings of the elements employed.

Keywords: anchor, cognitive grammar, existential core, existential verb, functions of language, grounding, interactive function, interactive system, polarity, predictability, semiological function

The **motivation** of language structure is a fundamental notion of cognitive and functional linguistics. General notions of this sort are often resistant to precise definition or consensus about their actual import. I will not offer very much by way of explicit characterization, believing that motivation is best apprehended through specific applications. Thus I will mainly consider just one basic topic – the semantic motivation of grammar – approaching it primarily through its application to the English auxiliary.

1. Motivating motivation

Both positive and negative factors motivate the emphasis on motivation in cognitive and functional linguistics. In retrospect, it is unsurprising – given the social and historical circumstances – that negative factors were prominent early on. Motivation served as a counterweight to two basic tenets of the then-predominant generative paradigm: the autonomy of syntax (and more generally, the modularity of mind and language), as well as the methodological expectation of general rules and strong predictability.

In the outlook which then prevailed, cognitive and functional accounts were commonly rejected on the latter basis – for instance, because a conceptual characterization failed to predict an element's distribution in full, precise detail; or because observed

phenomena ran counter to a proposed functional principle. Being less than fully predictive, such accounts were dismissed as being of little interest. The obvious way to defend against this line of attack was to argue that any expectation of absolute predictability was unreasonable in the first place. Hence the dictum that, while very little in language is strictly predictable, virtually everything is motivated. But despite its negative origin, this dictum has clear positive motivation. It offers a viable middle ground, an eminently reasonable and well-supported alternative to two extreme positions that are obviously untenable: that language structure is wholly predictable, and that it is completely arbitrary.

The issues of predictability and autonomy are closely associated. In regard to the “rules” or patterns of a language, we must first distinguish between **internal** and **external predictiveness**: the former pertains to whether the rules correctly predict the set of well-formed expressions; and the latter, to whether the rules themselves can be predicted on other grounds. The two relate in different ways to the supposed autonomy of grammar. Internal predictiveness depends on autonomy. Only when grammar is viewed as a self-contained formal system can it be characterized as a set of general rules serving to predict (“generate”) all and only the grammatical sentences of a language. On the other hand, autonomy runs counter to external predictiveness. To the extent that grammar is a self-contained system (or mental “module”), it is unconstrained by other factors (e.g. cognition, communication, social interaction), with respect to which the form it takes is essentially arbitrary.

One impetus for what came to be known as the cognitive-functional tradition was the recognition by many scholars that this basic world view was simply wrong. Rather than being an autonomous formal system, the conventional patterns of a language draw on other systems and abilities and are only one resource employed in constructing and interpreting expressions. In particular, since grammar is not independent of meaning, the “grammatical” sentences of a language are neither a clearly delimited nor well-defined set. Grammatical patterns thus serve to motivate (or sanction) expressions without affording full predictability in regard to them. Moreover, it was evident to many scholars that grammar was anything but arbitrary from the standpoint of so-called external factors. Indeed, grammatical systems represent solutions to the problem of expressing an indefinite range of meanings given the constraints imposed by cognitive processing and communicative interaction. Since the problem can be solved in different ways, the grammatical patterns of a language are autonomous in the weak sense that they cannot be strictly predicted from these factors – they have to be specifically learned and explicitly described. But they are not autonomous in the strong sense of being independent of external influence, hence arbitrary in the form they assume. Though not predictable from external factors, grammar is strongly motivated by them.

Once more, positive motivation for this view consists in showing that motivation offers a viable middle ground between two extreme positions that are obviously untenable. The first is that language structure is largely universal owing to innate specification. This account offers no inherent reason for expecting linguistic structure to be

responsive to external factors, and precludes its being responsive to any significant extent in language-specific ways. At the opposite extreme would be the claim that languages exhibit no substantial universals or universal tendencies. This implies that the influence of external factors is wholly language-specific, so that nothing of a general or principled nature can be said about the matter. The middle ground is to recognize that particular external factors common to all speech communities exert a strong shaping influence on language structure, without however dictating any single form it must always assume.

The key, of course, is to demonstrate both the viability and the empirical validity of this middle-ground position. In my own unbiased view, these have been amply supported through the continuing programs of cognitive and functional linguistic research carried out over the last several decades. Without implying any strict separation, I find it helpful to think of this research as being conducted simultaneously on three successively higher levels. There is first the need to develop tools for explicitly describing the full range of structures encountered in natural language. This has been the main emphasis of research in Cognitive Grammar (CG). At the next level, research in typology and universals is aimed at determining how languages are actually distributed within the space of possibilities thus characterized – what kinds of structures are typical or universal, and to what extent. And finally, a basic objective of cognitive-functional linguistic research is to explain what is found at the other two levels, i.e. to demonstrate (in general terms) the motivation of language structure.

Central to this program is the idea that language is shaped and constrained by the functions it serves. Two of these are clearly fundamental: its **semiological function** of allowing conceptualizations to be symbolized by sounds and gestures; and its **interactive function**, involving communication, manipulation, expressiveness, and social communion. These functions reflect our dual nature as highly social creatures with an immense cognitive capacity. The two sides of our nature are of course indissociable, as language and cognition emerge through social interaction, which depends on the conception of other individuals and an assessment of their knowledge, feelings, thoughts, and intentions. The functions are likewise indissociable. Language being a means of **symbolic interaction**, the conceptions symbolized by linguistic expressions are both adapted for and make reference to the interactions which prompt their symbolization. Both conceptual and interactive factors are therefore evident in the functional motivation of language structure.

2. Meaning and grammar

I will focus here on one particular kind of motivation: the semantic motivation of grammar. The familiarity of this expression does not imply, of course, that it is either clearly defined or understood in any consistent way. I must therefore start by indicating

what I do and do not intend by it. My own understanding of the notion involves three basic points.

- i. The most general point concerns the very reason why grammar exists: it allows the expression of meanings. There would be no grammar if, for every conception we wanted to express, a lexical item were available with precisely that meaning. Luckily for grammarians, that is not the case – the conceptions we wish to convey are just too varied and complex for this solution. What a speaker does instead is to dissociate the original conception into overlapping “chunks” of conceptual content susceptible to individual symbolization. The role of grammar is to specify both the expression’s composite form and, crucially, how those chunks are supposed to fit together (their integration to yield the composite semantic structure). On this basis the listener is able to reconstruct some approximation to the original conception (Langacker 1999a).
- ii. Next, grammar is semantically motivated in the sense of being symbolic in nature, hence meaningful in and of itself.¹ Briefly, it is held that all valid grammatical constructs are susceptible to schematic conceptual characterization. Most controversial is the claim that fundamental grammatical notions – like noun, verb, subject, object, possessive, and topic – have general conceptual characterizations (not just semantic prototypes) residing in basic cognitive operations. For example, a verb designates a **process**, i.e. a relationship tracked through time (just as in the real-time observation of events). A noun designates a **thing**, abstractly defined as the product of conceptual grouping and “reification”, whereby a group functions as a unitary entity for higher-level cognitive purposes.² Likewise, the meanings of grammatical markers tend to be independent of specific conceptual content, consisting primarily in the **construal** imposed on the content supplied by other elements (cf. Talmy 1988). For example, the progressive morpheme *-ing* imposes an “internal perspective” on the process designated by a verb, restricting the scope of focused viewing to an arbitrary portion that excludes its endpoints and is thus construed as effectively homogeneous.

Grammatical “rules” are also meaningful. CG is a version of Construction Grammar (Fillmore 1988; Goldberg 1995, 2006; Croft 2001; Langacker 2005a, 2005b). As such, it takes the rules or patterns of a language as residing in **constructions**, i.e. as form-meaning pairings. CG describes constructions as **assemblies of symbolic structures**, where **correspondences** (representing overlapping elements) indicate how simpler, **component** symbolic structures are **integrated** – both semantically and phonologically – to form **composite** symbolic structures. Constructions run the gamut from the

1. Representing the central claim of CG, this view is spelled out and justified in a number of basic works (Langacker 1987, 1990, 1991, 1999b, 2008).

2. While they are posited for nouns in general, these operations are most evident with collective count nouns like *herd*, *constellation*, *row*, *orchestra*, or *group* itself.

fully specific, in the case of particular complex expressions, to the highly schematic, in the case of general patterns. Grammatical regularities are captured by **constructional schemas**, i.e. symbolic assemblies which are wholly or partially schematic. Apart from their lesser specificity, constructional schemas are precisely analogous to the expressions they serve to characterize (originally being abstracted from such expressions). For instance, the constructional schema describing how *-ing* combines with a verb (V) to form a present participle (*Ving*) has the same internal organization as an instantiating expression (e.g. *working*), the only difference being that the verb slot is schematic rather than specific.

- iii. Finally, there is often semantic motivation for grammatical phenomena that might at first seem arbitrary or idiosyncratic. It might seem arbitrary, for example, that *-ing* combines just with perfective (or bounded) verbs in forming the progressive (*be learning*; **be knowing*), but with both perfectives and imperfectives in the case of noun modifiers (*anyone {learning/knowing} this procedure*). This makes perfect sense, however, when the meanings of the relevant constructions are properly characterized (Langacker 1991: §5.2.2). The progressive, reflecting the meanings of both *be* and *-ing*, serves to derive an imperfective process (i.e. one construed as unbounded and homogeneous), so its combination with imperfectives would be superfluous. On the other hand, a noun modifier has to be non-processual.³ And since both perfective and imperfective verbs designate processes, both need the deprocessualizing *-ing* to serve in this capacity.

To counter common misconceptions, several points must also be made concerning what semantic motivation does **not** imply.

- i. First, the semantic **motivation** of grammar does not – in any strong or absolute sense – imply the semantic **predictability** of grammar.⁴ From the meaningfulness and functional motivation of grammar, it does not follow that it has to assume any particular form (external predictiveness). Hence the conventional patterns of a language still have to be learned by children and described by linguists. Despite their common confusion (e.g. in Newmeyer 1983), this weak version of autonomy does not entail the stronger, modular version whereby grammar is independent of meaning. CG claims instead that grammar is fully describable by meaningful structures (symbolic assemblies).
- ii. This view of grammar does not imply that it is fully regular, that nothing at all is idiosyncratic or even totally arbitrary from the standpoint of meaning and function. CG is a **usage-based** approach (Barlow & Kemmer 2000; Langacker 2000;

3. See Langacker (2008: §4.3.3). Finite relative clauses are a motivated(!) exception to this generalization.

4. From the CG standpoint this latter notion is actually incoherent. Y can only be predictable from X if X is established independently. But they are not independent, since the construal imposed by grammar is an essential aspect of an expression's meaning.

Bybee & Hopper 2001), in which grammatical patterns are characterized at different levels of schematicity (hence different levels of generality). Even when global generalizations can be abstracted, they are usually not sufficient by themselves to specify precisely the set of conventionally sanctioned expressions (internal predictiveness). Normally they coexist with arrays of less schematic assemblies – including constructional subschemas, specific instantiating expressions, and even alternative constructions – which determine their actual implementation in conventional usage. While there is often some semantic or functional rationale for distributional details and particular idiosyncrasies, the motivation thus afforded does not obviate the need for individual description. And some things simply lack synchronic motivation, but can nonetheless be characterized by means of symbolic assemblies.

- iii. Finally, semantic motivation does not imply that every formal element has a definite, salient meaning when considered individually. This is due to certain properties of constructions (symbolic assemblies). In a construction, the relation between component and composite structures is one of motivation rather than (full) compositionality. The composite form and meaning are structures in their own right, often with properties not inherited from either component. The modal *should*, for example, is not the expected outcome of combining *shall* and the past-tense morpheme *-d*, either semantically or morphologically. But neither is their relationship totally arbitrary – while the composite expression has to be learned as such, its form and meaning are not unrelated to those of its components. Composite structures are motivated by components to varying degrees, with full compositionality being the limiting case.⁵ Moreover, because the composite structure exists in its own right, it has the potential to be evoked independently. Thus fixed expressions also vary in their degree of semantic and formal **analyzability**: the extent to which component elements are activated and their contributions recognized (Langacker 1987: 8.2.2). *Should*, for instance, is less analyzable than *told*.⁶ Since *should* ranks low in both analyzability and compositionality, its components are meaningful individually only to the extent (perhaps quite negligible) that they are recognized as motivating the expression's composite meaning.

3. The English auxiliary

To further explore the semantic motivation of grammar, I will look in some detail at the English auxiliary system. In his classic analysis, Chomsky (1957) revealed some

5. In general, component structures are more aptly described as “stepping stones” for arriving at the composite structure than as “building blocks” for constructing it.

6. While the two are comparable in their degree of morphological compositionality, *told* is fully compositional semantically. Non-compositionality at either pole tends to diminish analyzability.

basic regularities of the system by means of the phrase structure rule in (1),⁷ together with the transformations later known as Affix Hopping, Subject-Auxiliary Inversion, and *Do* Support.

- (1) AUX → TNS (M) (*have* + *-en*) (*be* + *-ing*) (*be* + *-en*)

Due to its neat efficiency and manifest insight, this account had a major impact. Nonetheless, from a broader perspective the analysis has major shortcomings (Langacker 1991: 197–198).

For example, the phrase structure description provides no basis for identifying the elements affected by certain transformations (Chomsky merely lists them). The elements fronted by Subject-Auxiliary Inversion are TNS + M, TNS + *have*, TNS + *be*, and TNS alone (in the absence of M, *have*, and *be*). In addition to this listing being awkward, the fronted elements are not even constituents on this account. In the case of Affix Hopping, *v* is adopted as an ad hoc label for *have*, *be*, any M (modal), or any V (main verb). Likewise, *Af* is simply defined as *-en*, *-ing*, or a tense marker. No semantic, functional, or formal rationale is offered that would make these lists of elements non-arbitrary.⁸

A more serious problem is that there is no evidence whatever for the elements grouped under AUX being a syntactic constituent. Whereas constituency has fundamental importance in generative theory, in CG it is seen as being non-essential, flexible, and often variable (Langacker 1995, 1997). The English auxiliary does in fact show quite nicely that the same elements can sometimes participate in alternate constituency groupings. But if any grouping is fundamental, it is not the one in (2)(a), as implied by Chomsky's analysis, but rather that in (2)(b), where auxiliary elements are split between two main constituents.

- (2) a. [NP] [[TNS M *have -en be -ing be -en*] [V]]
 b. [NP TNS M] [*have -en be -ing be -en* V]

One manifestation of this basic division is the placement of sentence-level adverbials:

- (3) a. ?*She may have been, unfortunately, waiting.
 b. She may, unfortunately, have been waiting.

The grouping [NP TNS M] is further evident in both ellipsis and tag questions:

- (4) I hope she will be waiting for us. She will, won't she?

On the other hand, the grouping [*have -en be -ing be -en* V] appears in non-finite complement clauses, where TNS and M are excluded:

7. I have slightly adjusted some notations and have also included the passive *be* + *-en*, which Chomsky introduced by transformation.

8. Without such a rationale, labeling these elements with syntactic features like [+V] and [+Af] serves only to disguise the difficulty.

- (5) a. She is likely [to have been being criticized].
 b. She dislikes [having been being criticized].

I am unaware of any syntactic phenomenon where the putative auxiliary constituent functions as such.

From the CG perspective, the most basic shortcoming of Chomsky's original account is the absence of any attempt to deal with meaning.⁹ This omission has negative descriptive consequences. Without considering the meanings involved, one cannot characterize certain sets of elements that behave alike, and some basic organizational features of the auxiliary system remain mysterious.

For instance, tense and modality are precisely the elements characterized semantically as serving the function of clausal **grounding** (Langacker 2008: ch. 9). Since grounding is a defining property of finite clauses, tense and modals are naturally excluded from non-finite complements, as in (5), in contrast to all the other auxiliary elements. A striking feature of the latter is their occurrence in pairs: the perfect *have* + *-en*, the progressive *be* + *-ing*, and the passive *be* + *-en*. Why should this be the case? And why these particular elements? I have argued elsewhere (e.g. Langacker 1991: ch. 5) that each of these elements is meaningful, and that the perfect, progressive, and passive meanings are largely compositional with respect to their parts. Moreover, *have* and *be* are highly schematic verbs (they profile processes), while *-en* and *-ing* are de-processualizing elements that impose a particular perspective on the verbal processes they apply to. Though based on verbs, the resulting participles are themselves non-processual and can thus be used to modify nouns (e.g. *crying baby*; *nation destroyed by civil war*). But since a finite clause designates a process, when used to head such a clause participial expressions have to combine with *have* or *be*, which impose their processual nature on the composite structure.

In the CG analysis, the various elements that inflect as verbs – through tense or participial morphology – all have a common semantic characterization: they are simply verbs, i.e. they designate processes.¹⁰ Included are lexical verbs (v), *have*, *be*, *do* (considered later), and the modals (m). The elements fronted by Subject-Auxiliary Inversion can likewise be characterized in a principled way (not just by listing them). As a first approximation, we can say that the fronted structure is a grounded auxiliary verb, which as such designates the process profiled by the clause as a whole. It is an “auxiliary” verb in the sense of being highly schematic (in contrast to “lexical” verbs). Modals represent the special case where the fronted verb is itself a grounding element

9. By contrast, the CG account in Langacker 1991 describes the meanings of all the auxiliary elements.

10. They are further characterized as being phonologically **autonomous**, i.e. stems (whereas affixes and other inflections are phonologically **dependent**, requiring an autonomous element to support their manifestation). This distinguishes them from the tense inflections, which also designate processes and thus satisfy the most general definition of a verb.

(further grounded by TNS). I will later suggest another dimension to the conceptual characterization of the fronted element.

4. Functional and systemic organization

Language has both a semiological function – allowing the symbolization of conceptualizations – and a multifaceted interactive function. To this end, each language makes available a vast array of conventional units for constructing expressions. One dimension to the characterization of expressions pertains to more specific conceptual and interactive functions served by particular aspects of their structure. To some extent the units of a language are organized into **systems** comprising alternate means of fulfilling these functions. Though it has not much been emphasized, this organization is subsumed under the CG definition of a language as a **structured** inventory of conventional linguistic units (Langacker 1987: §2.1).

For example, nominals (“noun phrases”) serve the function of nominal reference – the directing of attention to particular facets of our mental world conceived as things. One strategy for achieving this is through a combination of **type specification** and **grounding**,¹¹ which are also functions. Often such functions are directly reflected in grammatical structure. Thus it is usual for the elements effecting nominal reference to form a continuous linear sequence (a classical constituent). Perhaps the most basic structural pattern, moreover, is for a nominal to consist of a determiner plus a noun. What linguists call a “determiner system” is (roughly at least) a set of alternative grounding elements. The lexical nouns they combine with can likewise be regarded as a system of options for making a type specification. But structure and function do not always dovetail in this fashion. There may be alternate strategies subserving the same global function (as with proper names). Or the same strategy may have different means of morphosyntactic expression (e.g. *those with several wives*, where a prepositional phrase is used to specify a non-standard type). So while function motivates grammatical structure, there is no strict correlation between them.

Overall, a finite clause serves the function of expressing a **negotiable proposition**. Structurally this is reflected in overlapping systems corresponding to two dimensions of functional organization. Along one axis, we observe the structural division into **grounding** plus **grounded structure**; together these define the proposition to be negotiated. Along the other axis is an **interactive system** involving such factors as polarity, information structure, and illocutionary force. These subserve the function of negotiating the proposition’s validity.

The grounded structure specifies a process type. The content verb (v) specifies a basic type that usually has sufficient cultural salience to be lexically coded (hence the

11. Grounding relates a thing or process type to the **ground**, i.e. the speech event and its participants. (See Langacker 1991, 2002, 2004b.)

term “lexical” verb). This basic type can be further specified in various ways, notably through adverbial modification (ignored here) and the specification of processual participants. From the basic type *tickle*, for example, we can use the nominals *she* and *her sister* to elaborate the schematic trajector and landmark, thus producing the more detailed type specification *she tickle her sister*. Note that the grounded structure need not be a grammatical constituent in the classical sense. In particular, the subject is often separate from the rest in the linear sequence (e.g. *She might tickle her sister*). But regardless of constituency, the grounded structure represents a functional grouping and is describable as an assembly of symbolic structures.¹²

Non-grounding auxiliary elements are also part of the grounded structure. Starting from the lexical verb, English permits the derivation of more complex structures by means of the perfect, progressive, and passive constructions, reasonably described as constituting a **perspectival system**. These perspectival incrementations are optional, and occur in any combination, but when all are chosen they exhibit the following layering: (Perfect (Progressive (Passive (Lexical Verb)))).

This structure has numerous kinds of semantic and functional motivation. The conceptual basis for the bipartite nature of the passive, progressive, and perfect – the fact that each consists of a participial morpheme plus a schematic verb – was discussed in Section 3. There is, moreover, a clear rationale for describing them as forming a perspectival system. Without introducing any substantial new content, they all affect how the lexical content is viewed: with an alternate choice of trajector (primary focal participant), by restricting the profile to some internal portion of the base process, or by viewing it from a temporally posterior vantage point. In this manner they all effect a shift in profile, deriving a higher-level process designated by the resulting expression as a whole. However, since they pertain to different facets of the lexical process, they can occur together; they do not form a system in the strict sense of being mutually exclusive ways of fulfilling the same, narrowly defined function. In a somewhat looser sense, their systemic nature is nonetheless still evident from their fixed layering, their common overall function of deriving the grounded verb, and the fact that none of them occur with the auxiliary *do*: **She does have waited*; **She does be thinking*; **She did be insulted*; **She is doing think*; etc. Note further that the layering has iconic motivation, corresponding to how intrinsic the affected property is to the lexical process (choice of focal participant being most intrinsic, posterior vantage point the most extrinsic). The layering also has a semantic basis: it follows from the passive requiring a transitive verb (thus excluding *have* and *be*), and the progressive a perfective verb (thus excluding *have*).¹³

12. That is, strict constituency hierarchies are just one form symbolic assemblies can assume (Langacker 1995, 1997).

13. Passives formed on perfectives are themselves perfective, hence they can be progressive: *She was being criticized*.

I conclude that these central features of English grammar are not at all arbitrary but have a high degree of semantic and functional motivation. And despite being less transparent and having a measure of idiosyncrasy, much the same can be said for clausal grounding. The English grounding system serves to locate the profiled process with respect to the deictic center. At the center is a conceptualizer (C), by default the actual speaker, who apprehends the process and makes an assessment concerning its occurrence or realization. I will refer to this as its **existential status**.

The close-knit grounding system comprises two binary oppositions, each of which has an unmarked member with zero coding. The “tense” opposition, where “present” is the zero member, more generally indicates whether the profiled occurrence is **immediate** or **non-immediate** with respect to the center.¹⁴ The other basic opposition is the absence vs. the presence of a modal. With the absence of a modal, C makes an **unqualified** existential predication, thereby portraying the profiled process as part of **reality** (the established history of occurrences). The function of modals is to qualify the existential predication. With the different modals, realization of the grounded process is described as having various shades of potentiality.

The core grounding system is thus as shown in Table 1. Since one of these mutually exclusive options must always be chosen, every finite clause makes a specification in regard to both immediacy and reality. Immediacy plays out differently depending on the latter. Reality being what C accepts as the history of occurrences – up through the current moment, where C and the ground are located – immediacy vs. non-immediacy amounts to present vs. past in time. These are the two basic positions **within** reality. But with modals the grounded process lies **outside** reality, where “location” is construed as a matter of (typically future) potentiality. Here the import of immediacy vs. non-immediacy is that reality – as presently constituted – functions either directly or only indirectly as the basis for modal assessment (Langacker 2009: ch. 7). For instance, *might* attenuates the force of *may* by indicating that the current conception of reality is not quite sufficient to support the degree of potentiality it expresses: *She may wait for us* vs. *She might wait for us*. More blatantly, *would* cancels the predictive force of *will* by basing the prediction on a fictive (or counterfactual) version of reality: *She will wait for us* vs. *She would wait for us (if she could)*.

Table 1.

	Reality	Non-Reality
Immediate	Ø, -s	<i>may, can, will, shall, must</i>
Non-Immediate	-d	<i>might, could, would, should</i>

14. The immediate form is zero with the glaring exception of third-person singular in non-modal expressions.

Although the parameters of this system are still evident in the forms, meanings, and grammatical behavior of the modals, each has developed and specialized in its own way and carved out its own niche in usage. A certain amount of polysemy has to be acknowledged. Besides its general predictive force, for instance, *will* has a well-entrenched variant that specifically indicates future time. Moreover, the non-immediate modals are considerably less than fully analyzable and compositional (a case in point being the counterfactuality of *would*). Further complicating the basic system is the use of modals for both **effective** and **epistemic** purposes, as part of a broad pattern of duality in English grammar (Langacker 2010). Both involve a striving for control, the difference residing in whether the modal force is aimed at influencing the course of events (the root or deontic senses) or at gaining knowledge of events (the epistemic senses).

5. Existence, negotiation, and interaction

Together, grounding and the grounded structure produce a negotiable proposition, i.e. a process instance with a putative status vis-à-vis reality. Note that C is not necessarily to be identified with the actual speaker; in general terms, the conceptualizer invoked by clausal grounding is a **virtual** (or **fictive**) one. Propositions are negotiable precisely because they can be apprehended by different conceptualizers, each from their own vantage point. Finite clauses are used for varied purposes, notably as complements, where the position expressed is often quite distinct from that of the speaker (e.g. *It's simply not true that she waited*). So despite its default-case status, full identification of C with the actual speaker reflects the special circumstance where the speaker purports to make a true statement describing her own conception of reality (Langacker 2004a). In addition to grounding plus grounded structure, finite clauses thus exhibit a dimension of functional organization pertaining to the negotiation of existential status. Along this axis, we can posit a loosely-knit **interactive system** subsuming grounding, polarity, and illocutionary force.¹⁵ Collectively these serve the function of relating propositional content to the interlocutors in the current speech event.

Finite clauses and the basic speech acts incorporating them (statements and questions) are used for talking about what happens or obtains, for negotiating the status of events and situations that constitute conceptions of reality. Reflecting this global function, a finite clause pivots grammatically on what I will call an **existential verb**, which predicates the existence of a relationship. What constitutes existence in the case of relationships is simply realization through time (i.e. occurrence).¹⁶ This is in fact the schematic CG characterization of a process: a relationship viewed as evolving through time. For this reason the lexical verb can itself be pressed into service as the existential

15. There is some similarity here to the “interpersonal” system in Halliday’s Systemic Functional Grammar (cf. Verstraete 2007).

16. Analogously, realization in space constitutes existence in the case of objects.

predicate, even though its primary function is to specify a process type. Under most circumstances, the existential verb in a finite clause is one of the auxiliaries: *do*, *have*, *be*, or a modal. Since these highly grammaticized verbs are quite schematic in regard to content, their existential role is primary and actually fairly evident. The auxiliary *do* is essentially equivalent to the schema for verbs (Langacker 1999a), so its main import is realization through time per se. Across languages, *have*- and *be*-type verbs are commonly used for predications of existence (e.g. French *il y a*; English *there is*). And as grounding elements, modals profile the schematically characterized grounded process (Langacker 2002), so they too count as existential verbs. Moreover, while modals **qualify** the existential predication by indicating that the grounded process is not yet accepted as real, the offstage grounding relationship specifically concerns the prospect for its realization.

Grammatically, the existential verb is identifiable as the word inflected for tense (\emptyset , *-s*, *-d*). Semantically, it can thus be characterized as indicating either immediacy or non-immediacy of the existential relationship profiled at the highest level of organization. This may be the process designated by the lexical verb (*She waited*). With perspectival elements, the existential relationship designated by *have* or *be* is the one profiled at the highest level (*She has waited*; *She was waiting*). In the case of *do* and the modals, the profiled existential relationship is likewise the schematic process designated by these elements themselves (*She did wait*; *She might wait*); this process, however, is identified with the one designated by their complement. So in all cases the (possibly qualified) predication of existence pertains to either the lexically specified occurrence itself or one derived from it by perspectival adjustment.¹⁷

A predication of existence is not an assertion of existence, but is merely set forth as something to be negotiated by the interlocutors. At the core of the interactive system are specifications regarding two basic aspects of the negotiation: **polarity** and **speech act**. Polarity concerns the validity of the clausal proposition, i.e. whether a conception of reality containing it is congruent with that of an interlocutor. The core polarity system has three values: **positive**, **affirmative**, and **negative**. The basic types of speech act are **statement** and **question**, which differ as to whether the speaker's or the hearer's reality conception is taken as the basis for assessment.¹⁸

Crucial here is the default-case status of positive statements. These represent the minimal, most neutral circumstance in regard to negotiation: the speaker merely directs attention to something she accepts as real, with nothing more than the baseline interactive expectation that the hearer will understand and attend to it. A positive statement, then, is one which presents the proposition as a routine matter not requiring

17. Since the existential verb represents a different dimension of functional organization, it has varied roles with respect to grounding plus grounded structure. Its characterization as a **word** reflects the exploitation of word order for interactive purposes.

18. These belong to the epistemic level. I must leave aside imperatives, which represent the effective level and provide an alternate means of clausal grounding.

Table 2.

	Q	NEG	AFF	POS
<i>m</i>	<i>Will she wait?</i>	<i>She won't wait.</i>	<i>She WILL wait.</i>	<i>She will wait.</i>
<i>have</i>	<i>Has she waited?</i>	<i>She hasn't waited.</i>	<i>She HAS waited.</i>	<i>She has waited.</i>
<i>be</i>	<i>Is she waiting?</i>	<i>She isn't waiting.</i>	<i>She IS waiting.</i>	<i>She is waiting.</i>
<i>do</i>	<i>Did she wait?</i>	<i>She didn't wait.</i>	<i>She DID wait.</i>	<i>*She did wait.</i>

negotiation.¹⁹ The other polarity and speech-act options accommodate departures from this default-case circumstance, thereby bringing negotiation into the picture. With affirmative and negative statements, the speaker contrasts her own position with either actual or potential discursive alternatives (cf. Verhagen 2005), and with questions she specifically elicits the hearer's position.²⁰

What I take to be the core interactive system is illustrated in Table 2. Besides the existential verb, the expressions include a subject as well as a complement – either a lexical verb or a participle – that specifies the relationship whose existence is being predicated. These expressions form a regular paradigm, with existential verbs along one axis and negotiative stance along the other. Polarity is marked on the existential verb itself, in the form of contracted negation, accent (indicated by small caps), or the absence of both.²¹

The striking feature of this paradigm is the gap in the lower right-hand corner: *do* is not employed in (non-affirmative) positive statements (**She did wait*). To fill this gap, the lexical verb occurs in lieu of a separate existential predicate: *She waited*. It may now be evident that this is not an arbitrary formal idiosyncrasy, but has clear semantic and functional motivation. The interactive system serves the purpose of negotiating an existential predication. *Do* can be characterized as the default existential predicate for this purpose. Being schematic for the class of verbs, it is purely existential, specifying only that a process is realized. It also represents the default in regard to both the modal and perspectival systems: being mutually exclusive with the modals (**She will do wait*), it indicates **unqualified existence**; and being mutually exclusive with perspectival elements (**She does be waiting*), it indicates **neutral perspective** in viewing the lexical process. *Do* is thus the default expression of existence for negotiating purposes. Observe, however, that this role renders *do* superfluous when negotiation is not a factor

19. This is its value within the grammaticized interactive system itself. Given its neutrality, nothing prevents a positive statement from being used for negotiative purposes in discourse.

20. I will ignore here the special problem posed by negative questions.

21. When uncontracted (e.g. *She will not wait*), negation is not part of the existential verb, which is partially defined in terms of wordhood. The accent here is not the strong one marking explicit contrast (*She WILL wait, I tell you!*), but a weaker one merely indicating that existence is viewed in relation to the possibility of non-existence (*She WILL wait, I think*).

– cases where the speaker merely directs attention to something accepted as real. When existence is taken for granted, there is no need for a separate existential predicate to make it explicit. This minimally interactive situation calls for nothing more than the existence inherent in the lexical verb itself (its schematic characterization as a relationship realized through time). Reflecting the default-case status of positive statements, the occurrence of *v* alone instead of the paradigmatically expected sequence *do* + *v* thus indicates **unnegotiated existence**.

6. The existential core

A clause has an **existential core** that minimally comprises the subject and the existential verb. Together these provide a schematic characterization of the proposition and negotiative stance expressed by the clause as a whole. It can therefore stand alone as an elliptic representation of a clause, both anaphorically and as a tag (*She will, won't she?*). In full clauses with unmarked structure, the existential core comes first, serving as a kind of schematic foundation on which to build a more elaborate clausal conception (cf. Gernsbacher and Hargreaves 1992). I will say that it **anchors** the clause. Within the core itself, the subject functions as anchor for the existential predication. Thus derivatively – as anchor within the anchor – the subject anchors the clause as a whole.²²

I analyze a finite clause and its existential core as having parallel functional organization pertaining to discourse, as shown at the top in Table 3. A clause consists of an anchor, the existential core, and the remainder. Analogously, the core itself has an anchor, a core consisting of an existential verb (V_{\exists}), and the remainder. The first example, with a clause-internal topic, is a case where all these elements are distinct. Normally, though, the existential core comes first, so effectively the subject – the core's anchor – anchors the clause as well. There are also cases where, for discourse purposes, some other core element is chosen as clause-level anchor. Examples of such elements are *seldom*, *never*, and question words. As core elements with anchoring function, these assume the dual anchoring role normally reserved for the subject, which then appears as part of the remainder. It can thus be seen that “subject-auxiliary inversion”, rather than being a formal syntactic operation, is simply a matter of alternate elements fulfilling semantic functions.²³

In practice, elements of the core other than the subject and existential verb are identified by the very fact that they displace the subject from anchor position, suggesting their close affinity with the existential predication and the basic interactive system. And indeed, these elements can be described semantically as bearing directly on the

22. This is congruent with the subject's characterization in CG as **trajector** (i.e. initial reference point for purposes of conceptualizing a profiled relationship) and by Chafe (1994) as the **starting point** for discourse purposes.

23. Observe that uncontracted negation is part of the remainder. As part of a word like *never* it can also function as anchor.

Table 3.

Clause				
Anchor	Existential Core			Remainder
	Anchor	V _∃	Remainder	
<i>Me</i>	<i>she</i>	<i>has</i>	<i>seldom</i>	<i>waited for.</i>
<i>She</i>		<i>will</i>	<i>seldom</i>	<i>wait for me.</i>
<i>She</i>		<i>didn't</i>		<i>wait for me.</i>
<i>She</i>		<i>may</i>	<i>not</i>	<i>wait for me.</i>
<i>She</i>		<i>hasn't</i>	<i>ever</i>	<i>waited for me.</i>
<i>She</i>		<i>has</i>	<i>never</i>	<i>waited for me.</i>
<i>Seldom</i>		<i>will</i>	<i>she</i>	<i>wait for me.</i>
<i>Never</i>		<i>has</i>	<i>she</i>	<i>waited for me.</i>
<i>Where</i>		<i>did</i>	<i>she</i>	<i>wait for you?</i>

existential predication and refining the specifications made by the basic interactive system. They include more specific kinds of negation (*never, nor, neither, in no way*) as well as the positive *so* (*So will I*). Moreover, a number of them are negative in the sense of restricting some specification to a minimal value, thus ruling out most options (*seldom, hardly ever, only X, little, few, barely, scarcely*). And obviously, question words involve the speech act of questioning.

What about polarity questions? For these I suggest that the existential verb itself is pressed into service as anchor, thus conflating the existential and anchoring functions, as shown by the first two examples in Table 4. This is not unreasonable given that polarity questions focus so strongly on existence per se. Question words and other non-default anchors limit the existential predication to a certain spatial or abstract location; this location thus serves as reference point providing mental access to the existential target. But polarity questions are concerned with existence for its own sake, not in reference to something else, so the existential predication in effect serves as its own reference point – the initial focus as well as the target. Existence being pivotal, the existential verb supplants the subject in the anchor role.²⁴

24. The same can be said for exclamations: *Were they ever angry!* This analysis is basically consistent with Goldberg's characterization of subject-auxiliary inversion as a radial category with "non-prototypical sentence" as its prototype, a prototypical sentence being (in her words) positive, declarative, and assertive (Goldberg 2006: ch. 8).

Table 4.

Clause				
Anchor	Existential Core			Remainder
	Anchor	V _∃	Remainder	
	<i>Did</i>		<i>she</i>	<i>wait for you?</i>
	<i>Hasn't</i>		<i>she ever</i>	<i>waited for you?</i>
<i>Who</i>		<i>is</i>		<i>waiting for you?</i>
<i>Who</i>		<i>didn't</i>		<i>wait for you?</i>
<i>Who</i>		<i>DID</i>		<i>wait for you?</i>
<i>Who</i>		<i>waited</i>		<i>for you?</i>

If subject-auxiliary inversion is simply a matter of a non-default choice of anchor, and question words belong to the set of alternate anchors, why does inversion not occur in questions formed on the subject, e.g. the third example in Table 4? The answer, of course, is that in subject questions the same nominal functions as both the subject and the question word, i.e. in both the default and the non-default anchor roles. So instead of being displaced from anchor position, the subject's location there is doubly motivated.

A final matter concerns the non-occurrence of *do* in subject questions, as in the last example in Table 4. Since questions involve negotiation, and *do* is the default existential predicate for that purpose, why do we say *Who waited?* and not **Who did wait?* Actually, *do* does appear in subject questions when the polarity is negative or affirmative, as the other examples show. It is absent only in cases of default polarity, i.e. simple positive, just as in statements. Evidently, the preemptive pattern whereby *v* alone occurs in lieu of the paradigmatically expected sequence *do + v* has been extended from positive statements to positive subject questions. In statements preemption indicates that existence is not being negotiated, hence there is no need for a separate existential predicate. Might this also hold for positive subject questions? It does, for in such questions what is being negotiated is not the occurrence of the clausal process, but rather the identity of a participant: *Who waited?* presupposes that someone waited, so existence per se is not at issue.²⁵

25. The same is true for non-subject questions, where *do* nonetheless appears: *Where did she wait?* I attribute this to the subject intervening between *do* and the lexical verb. Since we are dealing with discourse-related phenomena marked by word order, it seems plausible that the preemption would be limited to cases where *do* and *v* would be adjacent.

7. Conclusion

My description of the English auxiliary does not purport to be any more than a preliminary sketch.²⁶ Nevertheless, I hope to have shown that its many peculiarities are not just arbitrary formal quirks – indeed, they all have semantic motivation. The constructions in question belong to overlapping systems representing alternate ways of fulfilling semantic functions. Though hardly predictable, they do their job with efficiency and even a certain elegance. What seem to be arbitrary grammatical properties are plausibly explicated in terms of the functions served and the meanings of the elements employed.

References

- Barlow, Michael, and Suzanne Kemmer, eds. 2000. *Usage-Based Models of Language*. Stanford: CSLI Publications.
- Bybee, Joan, and Paul Hopper, eds. 2001. *Frequency and the Emergence of Linguistic Structure* [Typological Studies in Language 45]. Amsterdam and Philadelphia: John Benjamins.
- Chafe, Wallace. 1994. *Discourse, Consciousness, and Time: The Flow and Displacement of Conscious Experience in Speaking and Writing*. Chicago and London: University of Chicago Press.
- Chomsky, Noam. 1957. *Syntactic Structures* [Janua Linguarum 4]. The Hague: Mouton.
- Croft, William. 2001. *Radical Construction Grammar: Syntactic Theory in Typological Perspective*. Oxford: Oxford University Press.
- Fillmore, Charles J. 1988. The mechanisms of “Construction Grammar”. *Proceedings of the Annual Meeting of the Berkeley Linguistics Society* 14: 35–55.
- Gernsbacher, Morton Ann, and David Hargreaves. 1992. The privilege of primacy: Experimental data and cognitive explanations. In D. L. Payne, ed. *Pragmatics of Word Order Flexibility* [Typological Studies in Language 22], 83–116. Amsterdam and Philadelphia: John Benjamins.
- Goldberg, Adele E. 1995. *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago and London: University of Chicago Press.
- Goldberg, Adele E. 2006. *Constructions at Work: The Nature of Generalizations in Language*. Oxford: Oxford University Press.
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar*. Vol. 1: *Theoretical Prerequisites*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1990. *Concept, Image, and Symbol: The Cognitive Basis of Grammar* [Cognitive Linguistics Research 1]. Berlin and New York: Mouton de Gruyter.
- Langacker, Ronald W. 1991. *Foundations of Cognitive Grammar*. Vol. 2: *Descriptive Application*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1995. Conceptual grouping and constituency in Cognitive Grammar. In I.-H. Lee, ed. *Linguistics in the Morning Calm* 3, 149–172. Seoul: Hanshin.
- Langacker, Ronald W. 1997. Constituency, dependency, and conceptual grouping. *Cognitive Linguistics* 8: 1–32.

26. It is spelled out a bit more fully in Langacker 2009: ch. 8.

- Langacker, Ronald W. 1999a. Correspondences, compositionality, and grammar. In F. Toda Iglesia et al., eds. *Actas del XXI Congreso Internacional de A.E.D.E.A.N.*, 55–74. Seville: Secretariado de Publicaciones de la Universidad de Sevilla.
- Langacker, Ronald W. 1999b. *Grammar and Conceptualization* [Cognitive Linguistics Research 14]. Berlin and New York: Mouton de Gruyter.
- Langacker, Ronald W. 2000. A dynamic usage-based model. In M. Barlow and S. Kemmer, eds. *Usage-Based Models of Language*, 1–63. Stanford: CSLI Publications.
- Langacker, Ronald W. 2002. Deixis and subjectivity. In Frank Brisard, ed. *Grounding: The Epistemic Footing of Deixis and Reference* [Cognitive Linguistics Research 21], 1–28. Berlin and New York: Mouton de Gruyter.
- Langacker, Ronald W. 2004a. Aspects of the grammar of finite clauses. In M. Achard and S. Kemmer, eds. *Language, Culture and Mind*, 535–577. Stanford: CSLI Publications.
- Langacker, Ronald W. 2004b. Remarks on nominal grounding. *Functions of Language* 11: 77–113.
- Langacker, Ronald W. 2005a. Integration, grammaticization, and constructional meaning. In M. Fried and H. C. Boas, eds. *Grammatical Constructions: Back to the Roots* [Constructional Approaches to Language 4], 157–189. Amsterdam and Philadelphia: John Benjamins.
- Langacker, Ronald W. 2005b. Construction grammars: Cognitive, radical, and less so. In F. J. Ruiz de Mendoza Ibáñez and M. S. Peña Cervel, eds. *Cognitive Linguistics: Internal Dynamics and Interdisciplinary Interaction* [Cognitive Linguistics Research 32], 101–159. Berlin and New York: Mouton de Gruyter.
- Langacker, Ronald W. 2008. *Cognitive Grammar: A Basic Introduction*. New York: Oxford University Press.
- Langacker, Ronald W. 2009. *Investigations in Cognitive Grammar* [Cognitive Linguistics Research 42]. Berlin and New York: Mouton de Gruyter.
- Langacker, Ronald W. 2010. Control and the mind/body duality: Knowing vs. effecting. In Elżbieta Tabakowska, Michał Choiński, and Łukasz Wiraszka, eds. *Cognitive Linguistics in Action: From Theory to Application and Back* [Applications of Cognitive Linguistics 14], 165–207. Berlin and New York: De Gruyter Mouton.
- Newmeyer, Frederick J. 1983. *Grammatical Theory: Its Limits and Its Possibilities*. Chicago and London: University of Chicago Press.
- Talmy, Leonard. 1988. The relation of grammar to cognition. In B. Rudzka-Ostyn, ed. *Topics in Cognitive Linguistics* [Current Issues in Linguistic Theory 50], 165–205. Amsterdam and Philadelphia: John Benjamins.
- Verhagen, Arie. 2005. *Constructions of Intersubjectivity: Discourse, Syntax, and Cognition*. Oxford: Oxford University Press.
- Verstraete, Jean-Christophe. 2007. *Rethinking the Coordinate-Subordinate Dichotomy: Interpersonal Grammar and the Analysis of Adverbial Clauses in English* [Topics in English Linguistics 55]. Berlin and New York: Mouton de Gruyter.

The mind as ground

A study of the English existential construction

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Working within the cognitive linguistics theoretical framework (Langacker 1987, 1991; Talmy 2000a, 2000b) and based on the Ground-before-Figure (GbF) model developed in Chen (2003), this paper argues that the *there*-existential construction presents a ground before a figure. As such, the construction is motivated by perceptual considerations (Radden & Panther 2004), resulting in the kind of cognitive efficiency that aids the processing of information for the hearer.

Keywords: cognitive motivation, figure and ground, GbF model, gestalt, inversion, mental space, perceptual motivation, there-existential

1. Introduction

The existential construction in English is known to possess some “peculiarities”, to use a term by Milsark (1977). The most important of these marked features have to do with *there*. Structurally, it functions in the same way as does a subject NP: it goes through subject/auxiliary inversion in questions (*Is there a unicorn?*) and question tags (*There's a unicorn, isn't there?*), and it can be raised to the subject position of a matrix clause (*It appears there's a unicorn* → *There appears to be a unicorn.*). However, it does not control the agreement morphology of the verb, at least most of the time.¹ If this “split personality” is a sign of markedness, the existential construction defies a cardinal principle in the markedness theory, that a marked construction often has an unmarked

1. The agreement morphology on the verb, however, is not entirely controlled by the existent NP either, as acknowledged by virtually all authors and supported by corpus-based studies (Meechan & Foley 1994; I. Martinez & P. Martinez 2003; Riordan 2007; Walker 2007).

counterpart (e.g. the *it*-cleft, the *wh*-cleft, and inversion), as the existential reading of *there* exists only when it is placed to the left of the verb.²

Grounded in the cognitive linguistics framework (Langacker 1987, 1991; Talmy 2000a, 2000b) and built on Chen's (2003) work on English inversion, this paper proposes that the existential construction in English functions to represent the Ground-before-Figure (GbF) cognitive model: to provide a ground for the upcoming figure. Since inversion has been analyzed as a special type of instantiation of GbF, the existential construction is seen as a default representation of it: *there* "helps" inversion to do the job of presenting a ground before a figure in cases where inversion is unable due to its many constraints. This versatility is a direct result of its designation of the mind as the ground: as the site for conceptualization, the mind *is* the ground for anything and everything.

Since the figure/ground gestalt is a notion of visual perception, this paper supports the contention that linguistic constructions can be motivated by factors outside the sphere of language (Radden & Panther 2004). Specifically, I defend the view that perceptual considerations offer a better explanation for the English existential construction than other approaches hitherto proposed in the literature.

Section 2 provides a summary of Chen's (2003) GbF model and how it is instantiated by English inversion. Section 3 presents the thrust of the paper, that the existential construction is the default construction mapped onto the GbF model. Section 4 compares the current proposal with other approaches. Section 5 concludes the paper with a discussion of topics for further research.

2. The GbF model and English inversion

The figure/ground dichotomy originates in Koffka (1935) as a law of Gestalt psychology. The basic tenet of the theory is that humans visually organize objects into figure and ground, the former being the object that is focused on; the latter being the rest of the objects in the visual field. This principle of perceptual organization finds its physiological basis in the fact that human receptor organs that permit visual acuity are concentrated (and properly arranged) in the fovea of the retina. In other words, a clear image of an object can be obtained only when the perceiver stares directly at it (Monaco 1981: 124). Since one can only stare at a small area in the visual field at any given time, one ends up differentiating different objects into figure and ground.

This suggests that the figure/ground gestalt in visual perception is ubiquitous. If, as key proponents of cognitive linguistics – most notably Langacker (1987, 1991) and Talmy (2000a, 2000b) – contend, language is part of cognition and cognition is

2. To these can be added another "peculiarity" of the construction: its remarkable frequency of use in speech and writing. A search for "there is" on Google produced 1.1 billion hits and "there are", 1.7 billion hits.

achieved first and foremost through the senses, the figure/ground gestalt would be manifested in language, motivating particular linguistic structures.

Indeed, the figure/ground gestalt has been found to motivate a multitude of linguistic structures (Townsend & Bever 1977; Wallace 1982; Croft 1990; Langacker 1987, 1991; Talmy 2000a, 2000b). Based on this line of research, Chen (2003) proposes that there are times when a speaker wants her hearer to locate and/or pay attention to an entity (figure) in a location (ground), but the hearer does not know the existence of that figure in the ground. So the speaker can present the ground first by anchoring it with a landmark that has been established in the discourse context. This will result in an order of ground-before-figure presentation in language, called the GbF model, which has the following elements:

- (1) Elements of the GbF model
 - Basis: the gestalt of figure and ground
 - Conditions:
 - A. Ground is anchorable;
 - B. Figure is not known to the hearer as present in the ground.
 - Purposes:
 - C. To anchor the ground with a landmark known to the hearer, which is often done for the purpose of
 - D. helping the hearer to locate the figure and/or drawing her attention to it.
 - Results: increased focus of attention on figure and ground.

An inverted sentence in which the order of the subject and the (full) verb is reversed is seen as an instantiation of the GbF model. Consider Example (2):

- (2) Eddie looked out of the window as they taxied to their mooring. (a) *On one side was the island, low and bare: he saw a small white house and a few sheep.* (b) *On the other side was the mainland.* He could see a sizable concrete jetty with a fishing boat tied up to its side; several big oil-storage tanks; and a straggle of gray houses. (Chen 2003: 216, Ex. 14)

In the first inversion in (2), marked (a), the preverbal element, *on one side*, presents the ground – the area on one side of Eddie, the character in the story – while the postverbal element, *the island*, is the figure. The same applies to (b).³

3. This approach is decidedly different from the information-packaging accounts, most notably Birner (1996). On the GbF view, the function of inversion is not to present given information before the new. In (i), for instance, the postverbal element, *Shaq*, refers to the speaker himself, hence cannot possibly be “new” in any sense.

(i) Don't cry. Wipe your eyes dry. Here come Shaq and his four little guys.

That inversion presents new information in the postverbal NP in the majority of cases (Birner 1996) is seen as a consequence of the GbF model.

The advantages of inversion are many, chief among which is cognitive efficiency, that it provides information in a way that is easier for processing. This can be seen in a comparison of (2) and its uninverted counterpart, (3), below:

- (3) Eddie looked out of the window as they taxied to their mooring. (a) *The island was on the one side, low and bare: he saw a small white house and a few sheep.* (b) *The mainland was on the other side.* He could see a sizable concrete jetty with a fishing boat tied up to its side; several big oil-storage tanks; and a straggle of gray houses.

Native speakers of English who were shown the two versions of the text judged (2) to be better than (3), as (3) sounded “bumpy” and “takes a bit more effort to recreate the scene being described.” According to the GbF model, this is because the inverted structures in (2) provide the grounds first, and the grounds are anchored with an entity that has been activated in the previous discourse: *Eddie* the character. Eddie is looking out of the window and the preverbal elements in (a) and (b) invite the reader to do the same, as *on the one side* and *on the other side* make sense only when one imagines the position of Eddie: the *sides* are defined in relation to Eddie’s position. Therefore, the preverbal element of an inversion provides navigational directions for the hearer, directing her to a particular ground in which to search for a figure. But (3) interrupts that natural cognitive progression, although its word order is the typical SV: We follow Eddie’s direction of looking out of the window but, when we reach (a), we read *the island* without knowing where it is.

The effort in searching seems to produce the effect of focus on both the ground and the figure, but particularly the latter. The ground is focused because the hearer searches it for the figure; the figure is focused because once it is located, it becomes the only entity in the hearer’s attention: the ground, having served its function of directing the hearer to her destination, can be safely discarded from the memory. This is supported by the fact that the figure in an inversion is typically the topic of the following discourse, as it is seen in (2), whereby the following sentences continue with figures as their topics in both (a) and (b).

Chen (2003) classifies inversion into three types. The first type – the prototype – is Locative (LOC) BE,⁴ as exemplified by (2), above. This type has two variations. The first is LOC Non-BE, whereby the verb is not *be* but one that denotes existence plus the manner of existence, as is seen in (4). The second variation is Participial Phrase (Part) + LOC BE, as seen in (5).

- (4) In the room stood a unicorn.
 (5) Standing in the room was a unicorn.

4. Since the postverbal NPs in all inverted constructions are constant across all types, they are omitted from the names of the types in the classification.

The second major type of inversion, according to GbF, is an adverbial of PATH plus a verb of motion (PATH Vm), whereby the verb of motion is analyzed as a metaphorical extension from *be*: a verb of motion denotes the coming into (6) or going out of (7) *being* in a particular location:

- (6) Into the room came a unicorn.
- (7) With it went my last hope.

The spatial PATH is then metaphorically extended to a temporal adverbial, giving rise to the pattern TEMP Vm, a variation of the PATH Vm inversion:

- (8) First came embarrassment. Now comes the insult.

The last type of inversion is Non-Spatial (NSPAT) BE:

- (9) Leading the herd is a unicorn.
- (10) Far more important is the fact that ...
- (11) At issue is a law suit filed by the district office ...

In these examples, the preverbal elements are still seen as presenting a ground. In (10), for instance, *far more important* designates an abstract region on the scale of importance (Langacker 1987) that has been established in the previous context. By presenting the ground first, the sentence directs the hearer's attention to that region to locate the figure, which comes immediately after the verb: *the fact that...*

These three types of inversion are subjected to a set of stringent semantic restrictions, chief among which is the semantic congruity between the preverbal element and the verb: the locative goes with *be* or a verb of existence plus manner of existence, PATH goes with a verb of motion, and a non-spatial element goes with *be*. These combinational requirements are consequences of the GbF model exerting its influence on its linguistic manifestation. Consider (12) and (13).

- (12) *In the room jumped the unicorn.
- (13) Up jumped the unicorn.

In (12), the locative *in the room* forced the reading of *jump* as an activity verb, denoting a series of repeated vertical movement. But the GbF model dictates that if the ground is locative, the hearer will be looking to locate the figure, not to see what that figure does. Example (13), on the other hand, forces the motion reading on *jump*: it can only mean that a single act of jumping took place, resulting in the change of location of the referent of the NP. This is acceptable to the GbF model because PATH, which entails a beginning and ending point, directs the hearer to a spatial region, preparing her for the movement of the figure that will eventually lead to the locating of it.⁵

5. This fact is among those that would cause difficulty for an information-packaging account of inversion. Proponents of this approach have typically avoided issues like this.

3. The existential construction as a default instantiation of GbF

It should be clear from the foregoing discussion that the GbF model is an intermediary between the figure/ground gestalt and a linguistic construction: the perceptual necessity of presenting a ground before a figure motivates the GbF model, which in turn motivates (or is instantiated by) a particular linguistic construction: inversion.

As will be clear in Section 3.2, below, however, inversion cannot fully instantiate the GbF model. For example, it cannot present a figure in a ground that is not anchored in a previously established landmark, a restriction stemming from (1A), above. If GbF is as prevalent as Chen (2003) argues, there must be another device – a more versatile device – to instantiate it in English. I propose that that device is the existential construction: that the existential construction is a default means for the speaker to present a ground before a figure. Seen thus, the English inverted construction and the existential construction serve the same function but in different ways, the former being a specialized means to do so while the latter, a generic means for the same task.

This entails that the two constructions have to have the same structure at the highest level of organization. As it turns out, they do. Compare (14) and (15).

(14) In the room was a unicorn.

(15) There was a unicorn.

Notice that the two constructions both contain three elements. The prototype of inversion, as exemplified in (14), includes a locative, the verb *be*, and an NP. A typical existential sentence like (15) includes the lexeme *there*, the verb *be*, and an NP. The only difference is that the pre-verbal element in an inversion has discernible semantic content, be it a directional, a temporal, a participial, an adjective, or a locative. The existential, on the other hand, is the same lexeme *there* occupying the preverbal slot always.⁶

Recall that the GbF model requires an ordered tripartite structure: an element that presents the ground, a verb of existence (or a variation of it), and the element that presents the figure. The *there*-existential fits the requirement perfectly. This implies that *there* presents the ground in the GbF representation, an issue of considerable importance to which I now turn.

3.1 What is *there*?

Regarding *there*, many previous studies either assume that it is semantically empty or ignore the issue of its semantics altogether. Those who assign *there* the expletive status are primarily generative linguists (Chomsky 2000; Hazout 2004; Lasnik 1992, 1995;

6. In fact, the close affinity between the two constructions has been either explicitly noted or assumed by most authors working on one construction or the other (Birner 1996; Bolinger 1977; Breivik 1981; Dorgeloh 1997; Erdmann 1976; Lakoff 1987; Ward & Birner 1995; to name just a few).

Safir 1985; Williams 1984, 1994, 2006). Those who give it little attention are scholars working in the discourse-oriented and information structure framework (Abbott 1992, 1993; Erdmann 1976; Hannay 1985; Lumsden 1988; Ward & Birner 1995).

This study, on the other hand, proposes that *there* is every bit semantically contentful, albeit in a very abstract sense. *There* is analyzed as a lexeme that designates the ground for the figure in an existential sentence. That ground is the mind of the conceptualizer. In the sense that a prototypical ground is a location, *there* is a conceptual location in which is found the figure designated by the existent NP.

While the view that *there* has semantics is a departure from those works cited so far in this section, I do not claim originality for it. The first scholar to make such an explicit proposal is possibly Bolinger (1977), who argues that existential *there*-constructions present something “to our minds (bring a piece of knowledge to our consciousness)” (1977: 94). The word *there* designates the “awareness” which the piece of knowledge is brought into. Furthermore, awareness is locative: “We may never be able to reconstruct existential *there* from a demonstrative locative referring to physical space. No matter. As I view it, it is still locative” (Bolinger 1977: 92).

Another writer who assigns semantic content to *there* is Lakoff (1987). His central argument is that the existential *there* represents the farthest point of a process of metaphorical and metonymical extension from the central type of the deictic *there*, as exemplified by (16), through a series of intermediate steps.

(16) There's Harry with his red hat on.

For Lakoff, then, the existential *there* is linked with the deictic *there* to form a radial category, based on prototype theory, with the former at the peripheral and the latter at the center. As a result, “Existential *there* designates a mental space in which a conceptual entity is to be located” (Lakoff 1987: 542). Moreover, “The existential is generally concerned with conceptual existence, which may or may not coincide with ‘real’ physical existence” (Lakoff 1987: 543).

Diachronic evidence suggests that existential *there* may have been derived from locative *there*. Authors before 1977 had speculated that existential *there* had historically evolved from locative *there* in the early history of the English language (Churchward 1956; Jespersen 1937; Lyons 1967, 1977). But Breivik (1977) finds instances of both *theres* in OE texts. In Breivik (1981), Breivik proposes that the two *theres* “are ultimately derived from a common source” (19), possibly in Proto-Germanic, with the existential *there* derived from the locative *there* by analogy.

Obviously, the possible historical link between the two *theres* does not a priori demonstrate that existential *there* has any locative semantics remaining. However, such evidence does offer indirect support for the proposal that existential *there* means something, as the fact that it is *there*, not any other word, that is used in the existential construction begs for explanation.

One other lexeme that has enjoyed the same status as a dummy is *it* in sentences like *It's snowing* or *It's a unicorn that was in the room*. *It* is seen as a semantically empty

place holder for the subject position so that the notional subject can appear later, after the verb. However, Bolinger (1977) demonstrates that *it* is meaningful in these very constructions in which it occurs as a dummy, either as a subject or otherwise. Bolinger's (1977: 85) conclusion that "Our mistake has been to confuse generality of meaning with lack of meaning" with regard to the semantics of *it* may very well apply to the semantics of *there*.

In the discussion that follows on the difference between the existential construction and inversion, I will argue that the former is a solo-focus construction, with the existent NP receiving all the focus and attention while the latter is a dual-focus construction, with both the preverbal and the postverbal elements receiving focus. This suggests that the GbF model as proposed in Chen (2003), represented as (1), above, needs a slight revision: that the "result" be discarded.

3.2 The existential representing the GbF where inversion fails

With the mind designated as a ground for a figure, the existential construction promises to be more versatile than inversion in representing the GbF model, further adding to the pool of evidence for perceptual motivation in language. In an inversion, the ground coded in a preverbal element denotes a location that is "out there" in the world the mind conceptualizes. Even a highly abstract "location", such as a point along a temporal axis as exemplified in (8) or a region in the scale of importance as seen in (10), can be seen as something existing in the world independent of, and external to, the mind of the speaker, although the mind of the speaker is the essential tool to imagine it. Since the mind is the very site for conceptualization, outside the discourse context, the lexeme that designates it, *there*, has no semantic equivalent inside the sentence in which it occurs, as observed by many previous authors (Bolinger 1977; Breivik 1977, 1981; Davidse 1999; Lakoff 1987; Lyons 1977; Milsark 1974, 1977; among others).

The consequence of this difference is manifested in the versatility of the two constructions in their respective instantiation of the GbF model: inversion is highly restricted while the existential is highly versatile. In this section, I discuss how the existential construction presents a figure before a ground in cases where inversion cannot do it. Three such cases will be discussed.

Firstly, inversion cannot present a ground without a pre-established landmark. Suppose I want to tell you about a unicorn that was in the room in which I was having a party (you knew about the party but not the room). I cannot say (17):

(17) What a party! *In the room was a unicorn!

What I could say, among a host of possibilities, is (18):

(18) What a party! There was a unicorn in the room!

According to the GbF model, this is because *in the room* in (17) anchors the ground with the landmark ROOM, but the landmark has not been sufficiently established. The

existential sentence in (18), on the other hand, releases me of the obligation to anchor the ground with anything in the discourse context, as *there* draws your attention to the mind, the site of conceptualization in which anything can be anchored. This explains why inversions are poor discourse starters.

Secondly, in an inversion, once the ground is provided, the figure has to come. This means that inversion cannot occur with negation on the verb, as is seen in (19):

- (19) *In the room was not a unicorn.

In the spirit of GbF (Chen 2003: 123–124), a negated inversion essentially presents a ground without a figure. However, the very purpose of presenting the ground in an inversion is to lead to the figure. The presence of a ground, therefore, constitutes a “promise” on the part of the speaker that a figure is to come. Quite often the text prior to an inversion functions to prepare for the upcoming inverted sentence:

- (20) One morning after the Bird had welcomed the Sun with her song, she heard a voice. “You there, bird!” On the ground was a frog, a great green creature with yellow toes and bulging eyes each of which looked in a different direction.

(Chen 2003: 124–125, Ex. 11).

In (20), the first sentence narrates that the bird hears a voice. The bird looks down to discover the source of the voice. We the readers are then presented a ground – *on the ground* – in an inverted sentence. The author cannot go back on her word: the voice has to come from some entity and the fact that the ground is presented first is enough indication that a figure is to come.⁷

This constraint on inversion has turned out to be more stringent: an inversion does not even allow uncertainty about the existence of the figure. Neither Example (21), with adverbials of possibility/probability, nor Example (22), with hedging verbs of cognition, is acceptable:

- (21) *In the room was probably/possibly/likely/perhaps a unicorn.
 (22) *In the room seemed/appeared to be a unicorn.

Here again, the existential construction comes in handy, as it readily accepts negation, adverbials of possibility/probability, as well as hedging verbs of cognition:

- (23) There wasn't a unicorn in the room.
 (24) There was probably/possibly/likely/perhaps a unicorn in the room.
 (25) There seemed/appeared to be a unicorn.

The fact that negation, probability, and hedging can occur in the existential construction naturally follows from the current proposal. The existence of negation in a sentence presupposes the possibility of the affirmative: if I tell you that there was no

7. Native speakers reported that if they negated the verb in this example (*On the ground was not a frog [...]*), they had to add something after the negation, such as *but a lizard*.

unicorn in the room, I must have reasons to assume that you might suspect there was one. When I inform you of the incorrectness of your prior assumption, I am bringing the non-existence of a unicorn in the room as a figure to the ground – your mind. Being the ground, the mind most certainly has no problem handling negation. Once I use *there*, you know that something is to be presented to your mind. Whatever I end up presenting is *something*, and that something can be anything, including nothing.

Thirdly, inversion is highly restricted in its occurrence in embedded clauses. According to Chen (2003), the appearance of inversion in embedded clauses is subject to two conditions. The first is that the matrix verb be a predicate of cognition such as *think*, *believe*, *deny*, and *admit*:

- (26) Marino admitted that maybe tougher than the decision to quit football was figuring out how to properly announce his retirement.

The second type of subordinate clause that allows inversion includes those that are no more backgrounded than the matrix clause (which entails that inversion can – and often does – occur in syntactically subordinate but semantically foregrounded clauses). The *for*-clause in (27), for instance, is foregrounded semantically although it is structurally subordinate:

- (27) Apparently, the lunch bell had sounded at the local high school around the corner, for into the fast-food establishment began to flood a sea of rowdy teenagers.

The reason for this is that, since inversion is a construction of focus, to be embedded in a semantically backgrounded subordinate clause would constitute a violation of the focus requirement of inversion. This is also why in all instances of embedded inversion, the subordinate clauses occur at the end of the sentence, after the matrix clause, in accordance with the end-focus principle of English (Quirk & Greenbaum 1973, Quirk et al. 1972). Therefore, sentences such as (28), in which the *since*-clause provides a reason, and (29), in which the *if*-clause provides a condition, are impossible.

- (28) *Since in the room was a unicorn, I stayed there for a long time.
 (29) *If in the room were a unicorn, I would have stayed longer.

Once again, the existential construction saves the day:

- (30) Since there was a unicorn in the room, I stayed for a long time.
 (31) If there were a unicorn in the room, I would have stayed longer.

The fact that the existential construction can occur in all complex sentence environments is another natural consequence of *there* designating the mind as the default ground. As the default, the mind is always there for one to use regardless whether one wants to focus on the figure or not. In other words, unlike inversion whereby both the ground and the figure are in focus, the ground designated by *there* is not in focus and the decision to focus on the figure is independent of the use of the existential

construction. In a backgrounded clause such as (30) and (31), the figure is out of focus because the speaker has decided to construe the propositional content of the subordinate clause as background information.

To summarize, because of the various stringent constraints, inversion presents the GbF model only partially. On the other hand, the existential construction, being the default structure to instantiate GbF and designating the mind as the ground with *there*, “helps” inversion whenever it fails.

3.3 More on the versatility of the existential construction

It has been observed by many (Breivik 1975, 1981; Bolinger 1977; Lakoff 1987; Milsark 1974; Ward & Birner 1995) that the following sets of alternation exist:

- (32) a. *In the house was no sign of life.
 b. There was no sign of life in the house. (Breivik 1975: 75, also cited in Bolinger 1977: 96; Lakoff 1987: 542)
 c. *No sign of life was in the house.
- (33) a. *At the party was dancing.
 b. At the party there was dancing. (Lakoff 1987: 542)
 c. *Dancing was at the party.
- (34) a. *In the room is space.
 b. There is space in the room.
 c. *Space is in the room. (Breivik 1981: 12)
- (35) a. *On your shirt is a stain.
 b. There is a stain on your shirt
 c. *A stain is on your shirt.

The (a) versions of these examples demonstrate the impossibility of inversion and the (c) versions reveal that the SV order is almost as hopeless as their inverted counterparts. The reason for the unacceptability of the (c) sentences has to be semantic and/or pragmatic, as their syntactic structure conforms to the most basic rules of the language.⁸ This suggests that in a Subject + *be* + LOCATIVE construction, whereby LOCATIVE is truly spatial and physical, some sort of congruity has to exist between the subject and the locative, such that the referent of the subject has to be concrete and has well-defined physical properties like shape and visibility. But there is no problem with the existential sentences in these examples, as is seen in the (b) versions. Let me belabor the point a bit more with (33). Suppose I want to report to you my experience at the party that you knew about, particularly dancing that took place on the occasion. What can I say besides (33b)? The following are possibilities, after a starter such as “Remember I told you I was going to a party last weekend? I did and it was really wild”:

8. Generative linguists typically give up on their attempt at an explanation (Milsark 1974: 135).

- (36) Dancing took place at the party.
 (37) People danced at the party.

Example (36) requires that *dancing* be predictable or known to you. If it is not, the sentence would be awkward at best. Example (37), on the other hand, places *people* in the subject position, highlighting it to a degree, which may also be unnecessary. Recall that my purpose is to describe the dancing, not the actors that are engaged in the act of dancing. This suggests why the existential structure – *There was dancing at the party* – is the best choice: I start out from the conceptual space, a ground in which anything can exist, and move on to the figure, *dancing*, bringing to your awareness that dancing took place at the party. The existential construction therefore helps me to avoid beginning my sentence with *dancing*, as in (36), or the dancers, as in (37), because it provides me with a means to use the mind as the ground for the figure (dancing).

Most importantly, the existential construction can present a figure as the sole participant in a sentence. If I want to let you know that something is not entirely hopeless – that *hope* is the only thing I want you to know about – the existential construction comes handy indeed:

- (38) There's still hope. (Lakoff 1987)

because English does not offer the alternative:

- (39) *Hope still is.

All this is due to the simple fact regarding the structure of the existential construction: *There V NP*, where NP can designate anything. The construction allows a slot into which anything can go as a figure because its ground designated by *there* is the mind of the speaker and the hearer.

3.4 The existential construction paralleling inversion

The proposed hypothesis also explains the well-known fact that the existential construction and inversion are interchangeable sometimes. If the existential construction is the default means to instantiate the GbF model, it *should* be able to alternate with inversion, a special means for GbF representation. In cases where both can be used, however, there is a difference in meaning between them. This difference is best categorized as one of stylistic effect. Specifically, inversion produces visual impact, suspense, and vividness while the existential construction does not.

The major reason for this difference, according to the GbF model, is that inversion is a dual-focus construction while the existential is a solo-focus construction. As noted by many authors (Bolinger 1977; Davidsen 1999; Breivik 1981; Ward & Birner 1995; among others), for instance, existential *there* is phonologically reduced as a lexeme, cannot be stressed under any condition, and is frequently contracted with *is* to form *there's*. Inversion, on the other hand, forces the hearer to search the ground to locate

the figure, which leads to an increased focus on both the ground and the figure. Chen (2003) reports that his native speaker informants all stressed both the preverbal and the postverbal elements of an inverted sentence, regardless how phonologically light the lexeme is otherwise, as is illustrated below (where capitals indicate stress):

(40) IN comes a Unicorn.

(41) NEXT in line is ME.

In terms of intonation, inversion displays two categorical patterns: (a) there is a slight pause between the preverbal element and the verb; (b) the preverbal element is phonologically rendered as high-low-high (HLH), as is seen in (42) (where the slash symbolizes pause).

(42) IN/ comes a unicorn.

H L H

Chen (2003: 102–112) contends that these patterns are results of the GbF model being mapped onto the phonological pole of the language (Langacker 1987). The preverbal element is stressed, displaying an HLH intonation, and is separated from the rest of the sentence because it represents the ground which the hearer will search for the figure. Such phonological elaborations translate into attentional elaboration and eventually focus. The postverbal element is stressed because it is the figure, the locating of which is the purpose of the speaker's choosing the inverted construction over its SV counterpart in the first place.

As I will be demonstrating shortly, focus on the ground and figure in inversion leads to increased stylistic effects while the lack of focus on *there* does not do so. Although he credits Atkinson (1973) with a similar observation about the existential construction in French, Bolinger (1977) is the first writer to give attention to such effects. So I begin with his observations.

Bolinger (1977: 94–95) writes that if we were speaking of the history of the Hawaiian Islands, we might talk about a variety of things: royal successions, agricultural problems, and volcanic eruptions. Therefore we would say (43), with an existential sentence.

(43) In the first year of Kamehaneha II's reign there occurred an eruption of Mauna Loa, fortunately for the later condition of the soil which was depleted from overcropping. (Bolinger 1977: 95, ex. 27).

On the other hand, if eruptions or disasters were already the general topic and one more occurred, inversion would be the preferred choice:

(44) Mauna Loa erupted in 1856 but things remained more or less quiet until 1862; in that year occurred two eruptions of Kilauea, destroying several villages. (Bolinger's ex. 28).

Hence Bolinger speaks of “preparation” in inversion and concludes that inversion presents something “on the immediate stage (bring something literally or figuratively BEFORE OUR PRESENCE)” whereas the existential construction “presents something to our minds (brings a piece of knowledge into consciousness)” (1977: 74). According to the GbF model, the ground – specifically the landmark with which the ground is anchored – in an inversion is a discourse participant, existing outside the mind of the speaker and hearer, hence able to help set up what Bolinger aptly calls the “immediate stage”. In (44), for instance, the stage is a temporal one: *in that year* (1862), which has been set up by the previous sentence, *Mauna Loa erupted in 1856 but things remained more or less quiet until 1862*. The existential construction, on the other hand, designates the mind as the ground, and the mind is outside the sphere of and hence independent of discourse. When we choose to use the mind as the ground, therefore, we are asking our hearer to step out of the context of the discourse and step back to where conceptualization takes place. Hence vividness diminishes or completely disappears.

Breivick (1981) makes more or less the same point about inversion except that he calls the effect of inversion “visual impact constraint”. Example (45) is from him:

- (45) The old rocks which make up Wales stretch eastwards into the English countries of Shropshire and Herefordshire. In the north are the rugged mountains ... of Snowdonia; IN THE CENTER AND SOUTH ARE EXTENSIVE MOORLANDS.
(Breivick 1981: 14, ex. 54)

About the inverted sentence in capitalization, Breivick comments: “We are, as it were, viewing the whole scene from above, from a bird’s-eye view” (1981: 14). Example (46), with an existential, however, does not have the same visual impact. It only “represents a piece of information to our minds”, per Bolinger (1977: 94):

- (46) From its summit, 2,927 ft high, there are some of the finest views in Wales, north to Snowdonia, and south over the Plynlimmon mountains.
(Breivick 1981: 14, ex. 55)

Chen (2003) examines the effects of inversion in relation to discourse types. I found there that description is a favorite site for the LOC BE inversion, and the function of inversion in description is to manage space: to link the ground with previously established landmarks. In particular, I discovered several patterns of ground linkage: ground-chaining (the current inversion links to the previous inversion with its preverbal element, dovetailing each sentence with the immediately preceding sentence), center linking (clusters of inversions whose grounds are anchored with a common ground), and multiple-anchoring (an inversion with more than one ground, each anchored with a different landmark). Example (47) illustrates center-linking, because the grounds of the inverted sentences, *on one side* and *on the other side*, are both anchored with *the room*.

- (47) The room is about ten feet by eight feet. *On one side was a twin-sized bed, with two pillows lying at one end, against the wall. On the other side was a seven-foot couch that had apparently seen its better days.* (Chen 2003: 220, ex. 20)

The effect of the inverted sentences in (47) is very much like the visual image Breivik (1981) speaks of: they help create a scene of the room right in front of our eyes.

Both the LOC BE type and the PATH Vm type are found to occur frequently in narration. The former type functions to present a long-awaited figure, enabling the narrator to create suspense and tension, as exemplified in (48). The latter type directs the hearer's attention to view an event in increments, thus creating vividness, as exemplified in (49).

- (48) There, lying on the black velvet lining, was the Delhi Suite.⁹ (236)
 (49) Francesca stepped off the porch and walked unhurriedly through the grass toward the gate. And out of the pickup came Robert Kincaid, looking like some vision from a never-written book. (240)

Example (48) occurs when the protagonist of the novel finds the diamond he has been searching for for a long time. The inverted sentence further delays the appearance of the diamond to the very end of the sentence. The tension that has been built over the previous 262 pages of text reaches its climax. The insertion of existential *there* is impossible (**There, lying in the black velvet lining, there was the Delhi Suite*): the readers are drawn too deeply into the scene. They cannot be asked to step outside it. Example (49), with a PATH Vm inversion, invites readers to observe the scene as Francesca observes it. Again, the insertion of *there* is quite difficult: *?And out of the pickup there came Robert Kincaid, looking like some vision from a never-written book* would force the reader to retreat from the immediate scene that has been carefully set up by the previous sentence. This is like a cognitive contradiction: the reader is brought to the scene of the story, ready to participate, but then is told to pull back to her mind, a ground outside the discourse context, to find Robert Kincaid, who had been on the scene in the first place.

The comparison between inversion and the existential construction in this section shows that inversion is a construction that has a lot to offer the speaker in terms of expressiveness and effect. It is a highly stylistic device that appears more in the written media than in speech (Birner 1996; Chen 2003; Green 1980, 1982). As such, however, it needs careful planning and set up. The existential construction does not possess this kind of stylistic luster. However, what it lacks is more than made up by its versatility. With the mind as the ever-present ground, it can present any figure one wishes. It is hence an indispensable work horse for the English language.

9. This *There* is locative.

3.5 The existent NP: Definite or indefinite?

Now I move to another notorious problem of the existential construction: the definiteness and indefiniteness of the NP. Known in the literature as the “definiteness restriction” or “definiteness effect”, the English existential construction is said to disallow definite NPs (Bresnan 1970; Jenkins 1975; Lasnik 1992, 1995; Milsark 1974; Quirk & Greenbaum 1973; Safir 1985). At the same time, however, just as many others were showing the opposite: that definite NPs do occur in existentials (Abott 1992, 1993; Breivik 1975, 1977, 1981, 1999; Bolinger 1977; Davidse 1999; Erdmann 1976; Hannay 1985; Lakoff 1987; Lumsden 1988; Prince 1992; Rando & Napoli 1978; Ward & Birner 1995; Ziv 1982). Facts are clearly in favor, though, of the second group of writers: there is little doubt that definite NPs occur in English existential constructions.

The reason that the definiteness of NPs in the existential construction has come up in the first place is linguists’ intuition that the existential construction presents new information. And it does most of the time, a point I will turn to in Section 4. The question remains how to account for cases in which definite NPs do occur, as definiteness suggests a given status of the information the NPs carry. I will turn to a few approaches to this aspect in Section 4 when I compare the GbF theory to other theories. In this section, I merely argue that the issue of definiteness is adequately explained within the framework defended in this paper.

First, the fact that the majority of NPs in existential constructions are found to be indefinite poses no problem for the current proposal. Recall that one of the requirements of the GbF representation is that the figure is not known to the hearer as existing in the ground. Being unknown, a referent is most likely to be coded by an indefinite NP. If you tell me that “There’s a problem in your analysis”, *a problem in your analysis* would refer to something I, the hearer, did not know at the time of speaking. In other words, the occurrence of indefinite NPs in the existential construction is a natural consequence of the GbF model.

How about definite NPs, which often suggest givenness of their referents? As it has turned out, the appearances of definite NPs are far more restricted than those of their indefinite counterparts. Firstly, they often appear as a list:

- (50) Q. What’s worth visiting here?
 A. There’s the park, a very nice restaurant, and the library.
 (Rando & Napoli 1978, ex. 4, also cited in Ward & Birner 1995: 724)
- (51) Q. Who can help us?
 A. There’s always Henry. You might give him a ring.

List sentences (Rando & Napoli 1978) like (50) and (51) are typically answers to questions (Abott 1992, 1993; Breivik 1981, 1999; Lakoff 1987; Lumsden 1988; Ward & Birner 1995, but most explicitly Quirk & Greenbaum 1973: 419). The fact that a question is asked indicates that the questioner does not know the answer to it. As a speech act, questioning seeks information to be furnished in the mind – where else does one

install information if not the mind? – thus setting up the mind as the ground. Moreover, the information being sought by the question – the things that are worth visiting in (50) and the person(s) who can help in (51) – can be said to carve out a specific mental space in the mind. The answer, when provided, fits into the carved-out mental space as figure. As a result, the issue of definiteness in existentials does not arise: the hearer (the questioner in the foregoing examples) may know the identity of the referent of a definite NP in an existential; she does not know, however, that that referent fits into a specific mental space. Using the parlance of GbF, she does not know the existence of the figure in the ground.

The same can be said about what has been dubbed “reminder existentials” (Bolinger 1977; Hannay 1985; Ward & Birner 1995). Consider (52), from Bolinger (1977):

- (52) I would say let’s take our vacation this month, but there’s John to consider.
 And there’s the election to keep in mind – I don’t want to skip voting this time.
 And also there’s the supervisor’s proposal to think over – it might mean missing out on that deal. (Bolinger 1977: 119, ex. 360)

The function of the existentials used in this example, according to Bolinger (1977: 115), is to “bring something BACK into awareness” [emphasis original]. This is in line with the current proposal that *there* designates the mind as the ground for a figure. Put simply, the referents of the NPs in the existentials in (52) are *re*presented to the ground – the mind. But, on the GbF view, there is not much difference between presenting something for the first time and representing it: once something is forgotten, it leaves the mind. When it is brought back to the mind, it is just as new as something that is presented to the mind for the first time.

4. The current proposal and other proposals

This section offers a comparison between the GbF theory of the English existential construction and other theories. Absent from the following paragraphs, however, will be the series of studies undertaken in the generative orientation, as these studies, most notably Chomsky (2000), Hazout (2004), Lasnik (1992, 1995), Safir (1985), and Williams (1984, 1994, 2006), are concerned only with ways to describe the internal structures of the construction within the generative framework, a purpose decidedly different from the one assumed in this study. What I will compare the present proposal to are the cognitive approach and the information structure approach.¹⁰

10. I have drawn heavily on Bolinger’s (1977) work in this study. But the difference between the two accounts is significant. While Bolinger’s concern about the existential construction seems to be only to explain facts, the present analysis is interested in providing a unified account of the construction within a particular theoretical framework, that of cognitive linguistics. As such, the proposal hereby advanced assumes that the existential construction is motivated by cognitive and perceptual factors.

The first cognitive approach to the study of the existential construction is Lakoff (1987), to whom I have referred many times thus far. Both Lakoff and I propose that *there* designates a conceptual or mental space, or, as I have called it most of the time, the mind. But the current proposal departs from Lakoff's significantly. It not only proposes that *there* means *something*, but also that the existential construction is motivated by the GbF model, a result of perceptual considerations motivating language. As a result, the current study is able, for instance, to compare the difference between inversion and the existential construction, explaining the stylistic effects of the former and the lack of them in the latter.

Another notable cognitive account of the existential construction is Davidse (1999). For Davidse, the conceptual import of existential constructions is "to quantify instances of a general type [...]. A cardinal existential such as *There are five weak spots in the human body* counts the instances of the 'weak spots' to be found in the human body." (Davidse 1999: 203). However, it is not clear what distinguishes quantification of NPs in an existential construction from that in other constructions. Consider the following fabricated example:

(53) All five weak spots in the human body have been discussed in this paper.

It seems that one can easily apply what Davidse says about *all five weak spots* in her existential example to the same NP in (53).

The information-structure approach (Abott 1992, 1993; Breivik 1981; Holmback 1984; Lumsden 1988; Rando & Napoli 1978; Ward & Birner 1995) may have had the most success in accounting for the existential construction. I will concentrate on Breivik (1981), whose relatively unknown work uniquely uses the theory of Communicative Dynamism to account for the existential construction, and Ward and Birner (1995), who offer the most recent account in the long information structure tradition.

Based on the Prague school linguists' theory of functional sentence perspective (Firbas 1964, among others), Breivik (1981) proposes, in consonant with Kohonen (1978), that *there* is essentially a semantically empty lexeme inserted in the subject position to occupy the slot required by the SV word order requirement. Since it is a dummy subject, it carries the lowest degree of communicative dynamism (CD) there is in the language. So it does the job of presenting new information represented in the postverbal NP. As such, the definite effect discussed in the previous section does not pose a problem: even an NP that is both definite and specific, such as a proper name, would carry more CD than *there*.

The elegance of the CD theory is that it assumes no information whatsoever for *there* so that anything can be presented in the postverbal NP. But *there* is not completely meaningless to Breivik (1981: 15): "It carries a kind of pragmatic information which I will call SIGNAL INFORMATION: *there*₁ [existential *there*] functions as a signal to the addressee that he must be prepared to direct his attention toward an item of new information." This signal function is much analogous to Bolinger's (1977)

proposal that *there* designates awareness. Neither is it much different from saying that it designates the mind as the ground for the upcoming figure.

Ward and Birner (1995) is the most comprehensive treatment of the English existential construction within the information structure framework. Using the newer taxonomy developed by Prince (1992), Ward and Birner argue that the existential construction in English presents HEARER-NEW entities. In the sense that the majority of NPs found in existential constructions are indefinite (Milsark 1974), the thorniest issue for an information structure approach to the study of the existential is of course definite NPs. Ward and Birner's (1995) proposal is capable of accounting for them. Consider their example of a "list" existential (1995: 735, ex. 30b):

- (54) A. Who was at the party last night?
 B. There was John, Mary, Fred, Susan, Hilda, Xavier, and Ethel.

To account for the information status of the coordinated proper-name NPs in (54)B, the authors invoke the notion of OPEN PROPOSITION, that "presents PRESUPPOSED or BACKGROUNDED information" (734). The open proposition in (54)B hence is "those who were at the party last night". The proper-name NPs in the existential sentence instantiate the open proposition by being a variable in that proposition. Such instantiation is considered hearer-new.

Putting Breivik's and Ward and Birner's information structure accounts together, one finds that the information structure approach has been the most promising in explaining the existential construction in English. But the GbF model developed in Chen (2003) is superior for two reasons. First, what is explained by the information structure accounts is better explained by the GbF model. In order for Breivik to account for the construction in terms of CD, he had to assume that *there* is semantically empty but pragmatically meaningful. Ward and Birner, on the other hand, have to resort to things like open proposition to supplement Prince's (1992) taxonomy of information statuses. The approach of the current study makes neither necessary. The only thing that GbF requires is that the figure be not known to exist in the ground at the moment of speaking. Since the ground is the mind, all the GbF model has to demonstrate is that at the moment of speaking, the hearer does not know that the referent of the NP fits the slot of that information gap.

More importantly, the information-structure approach to the study of the existential construction does not capture its uniqueness. One can ask Breivik, for instance, what distinguishes *there* from the dummy *it* as in *It is raining* or *It is tough to move*, since both of them are supposed to serve the purpose of delaying the appearance of new information. For Ward and Birner, a similar question could be posted, regarding the difference between the existential construction and inversion. Birner's (1996) account of English inversion is virtually identical to Ward and Birner's (1995) account of the existential construction. But, as we have seen, the two are different constructions with different effects.

5. Conclusion

Drawing on insights from cognitive linguistics and working from the GbF cognitive model proposed in Chen (2003), I have in this paper argued that the existential construction in English is best accounted for as an instantiation of GbF.

Radden and Panther (2004: 24–31) propose six language-independent factors of linguistic motivation: ecological, genetic, experiential, perceptual, cognitive, and communicative. The thrust of this paper, that the English existential construction is an instantiation of the GbF model, offers support for Radden and Panther's insight on how perceptual principles motivate linguistic structures. As indicated at the outset, the figure/ground gestalt motivates the GbF model, creating a need to present the ground before the figure in language. The GbF model, in turn, forces itself onto language to create structures to match that particular order of figure/ground presentation. The existential construction is hence seen as a device for the need to provide a default ground – the mind – for any figure. The frequent occurrence of the structure suggests the ubiquity of the GbF model and the prevalence of the figure/ground gestalt as a motivating factor in the architecture of language.

If the hypothesis defended in this study is correct, would it be applicable to other languages, or even all languages? After all, the notion EXISTENCE is found to exist in all languages (Wierzbicka 1996) and the figure/ground gestalt is based on human physiology. However, given that human languages are hugely diverse in their respective architectures, universal language-independent motivating factors may work in different languages via different interfaces. But would the general idea behind it, that the existential construction is “designed” to help speakers of languages to use the mind as the ground in which to locate and to which to bring a figure, hold true cross linguistically? It may sound too lofty, but it does not seem to be much loftier than Breivik's (1981: 22) declaration that the existential construction functions crosslinguistically to present new information.

References

- Abbott, Barbara. 1992. Definiteness, existential, and the 'list' interpretation. *Ohio State University Working Papers in Linguistics* 40: 1–16.
- Abbott, Barbara. 1993. A pragmatic account of the definiteness effect in existential sentences. *Journal of Pragmatics* 19: 39–55.
- Allan, Keith. 1972. In reply to 'there₁, there₂'. *Journal of Linguistics* 8: 119–124.
- Atkinson, James. 1973. *The Two Forms of Subject Inversion in Modern French*. The Hague: Mouton.
- Birner, Betty. 1996. *The Discourse Function of Inversion in English*. New York: Garland.
- Bolinger, Dwight. 1977. *Meaning and Form*. London: Longman.
- Breivik, Leiv Egil. 1975. The use and non-use of existential *there* in present-day English. *Forum Linguisticum* 7: 57–103.

- Breivik, Leiv Egil. 1977. A note on the genesis of existential *there*. *English Studies* 58: 334–348.
- Breivik, Leiv Egil. 1981. On the interpretation of existential *there*. *Language* 57(1): 1–25.
- Breivik, Leiv Egil. 1999. On the rhetorical function of existential *there*. *Nordlit* 6: 3–14.
- Bresnan, Joan. 1970. An argument against pronominalization. *Linguistic Inquiry* 1: 122–123.
- Chen, Rong. 2003. *English Inversion: A Ground-before-Figure Construction* [Cognitive Linguistics Research 25]. Berlin and New York: Mouton de Gruyter.
- Chomsky, Noam. 2000. Minimalist inquiries: The framework. In R. Martin, D. Michaels, and J. Uriagereka, eds. *Step by Step: Essays on Minimalist Syntax in Honor of Howard Lasnik*, 89–115. Cambridge, MA: MIT Press.
- Churchward, C. Maxwell. 1956. The unstressed ‘there’. *English Language Teaching* 11: 19–27.
- Croft, William. 1990. *Syntactic Categories and Grammatical Relations: The Cognitive Organization of Information*. Chicago: University of Chicago Press.
- Davidse, Kristin. 1999. The semantics of cardinal versus enumerative existential constructions. *Cognitive Linguistics* 10(3): 203–250.
- Dorgeloh, Heidrun. 1997. *Inversion in Modern English: Form and Function*. Amsterdam: John Benjamins.
- Erdmann, Peter. 1976. *There Sentences in English*. Munich: Tuluv.
- Fillmore, Charles. 1968. The case for case. In E. Bach and R. T. Harms, eds. *Universals in Linguistic Theory*, 1–88. New York: Holt, Rinehart, and Winston.
- Firbas, Jan. 1964. On defining the theme in functional sentence analysis. *Travaux Linguistiques de Prague* 1: 267–280.
- Green, Georgia. 1980. Some wherefores of English inversion. *Language* 56: 582–601.
- Green, Georgia. 1982. Colloquial and literary uses of inversions. In D. Tannen, ed. *Spoken and Written Language: Exploring Orality and Literacy*, 119–153. Norwood, NY: Ablex.
- Hannay, Michael. 1985. *English Existentials in Functional Grammar*. Dordrecht: Foris.
- Hazout, Ilan. 2004. The syntax of existential constructions. *Linguistic Inquiry* 35(3): 393–430.
- Holmback, Heather. 1984. An interpretive solution to the definiteness effect problem. *Linguistic Analysis* 13: 195–215.
- Jenkins, Lyle. 1985. *The English Existential*. Tübingen: Niemeyer.
- Jespersen, Otto. 1937. *Analytic Syntax*. London: Allen & Unwin.
- Koffka, Kurt. 1935. *Principles of Gestalt Perception*. London: Routledge and Kegan Paul.
- Kohonen, Viljo. 1978. *On the Development of the English Word Order in Religious Prose around 1000 and 1200 A.D.: A Quantitative Study of Word Order in Context* [Publications of the Research Institute of the Abo Akademi Foundation, 38]. Abo.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago: University of Chicago Press.
- Langacker, Ronald. 1987. *Foundations of Cognitive Grammar*, Vol. 1, *Theoretical Prerequisites*. Stanford: Stanford University Press.
- Langacker, Ronald. 1991. *Foundations of Cognitive Grammar*, Vol. 2, *Descriptive Application*. Stanford: Stanford University Press.
- Lasnik, Howard. 1992. Case and expletives: Notes towards a parametric account. *Linguistic Inquiry* 23: 381–405.
- Lasnik, Howard. 1995. Case and expletives revisited: On greed and other human failings. *Linguistic Inquiry* 26: 615–633.
- Lumsden, Michael. 1988. *Existential Sentences: Their Structure and Meaning*. London: Croom Helm.

- Lyons, John. 1967. A note on possessive, existential, and locative sentences. *Foundations of Language* 3: 390–396.
- Lyons, John. 1968. Existence, location, possession and transitivity. In V. Rootselaar and J. F. Staal, eds. *Logic, Methodology, and Philosophy of Science III*, 495–504. Amsterdam: North-Holland.
- Lyons, John. 1975. Deixis as the source of reference. In E. L. Keenan, ed. *Formal Semantics of Natural Language*, 61–83. Cambridge: Cambridge University Press.
- Lyons, John. 1977. *Semantics*. Cambridge: Cambridge University Press.
- Martinez Insua, Ana E., and Ignacio M. Palacios Martinez, 2003. A corpus-based approach to non-concord in present day English existential *there*-constructions. *English Studies* 84(3): 262–83.
- Meechan, Marjory, and Michele Foley. 1994. On resolving disagreement: Linguistic theory and variation. *There's bridges. Language Variation and Change* 6: 63–85.
- Milsark, Gary Lee. 1974. *Existential Sentences in English*. Doctoral dissertation, MIT. Cambridge, MA.
- Milsark, Gary Lee. 1977. Toward an explanation of certain peculiarities of the existential construction in English. *Linguistic Analysis* 3(1): 1–29.
- Monaco, James. 1981. *How to Read a Film: The Art, Technology, Language, History, and Theory of Film and Media*. Oxford: Oxford University Press.
- Prince, Ellen. 1992. The ZPG letter: Subjects, definiteness, and information-status. In S. Thompson and W. Mann, eds. *Discourse Description: Diverse Analysis of a Fundraising Text*, 295–325. Amsterdam: John Benjamins.
- Quirk, Randolph, and Sidney Greenbaum. 1973. *A University Grammar of English*. London: Longman.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1972. *A Grammar of Contemporary English*. London: Longman.
- Radden, Günter, and Klaus-Uwe Panther. 2004. Introduction: Reflections on motivation. In G. Radden and K.-U. Panther, eds. *Studies in Linguistic Motivation*, 1–46. Berlin: Mouton de Gruyter.
- Rando, Emily N., and Donna Jo Napoli. 1978. Definites in *there*-sentences. *Language* 54: 300–313.
- Riordan, Brian. 2007. 'There's two ways to say it': Modeling nonprestige *there's*. *Corpus Linguistics and Linguistics Theory* 3(2): 233–279.
- Safir, Ken. 1985. *Syntactic Chains*. Cambridge: Cambridge University Press.
- Talmy, Leonard. 2000a. *Towards a Cognitive Semantics*. Vol. 1: Cambridge, MA: MIT Press.
- Talmy, Leonard. 2000b. *Towards a Cognitive Semantics*. Vol. 2: Cambridge, MA: MIT Press.
- Townsend, David J., and Thomas G. Bever. 1977. *Main and Subordinate Clauses: A Study in Figure and Ground*. Bloomington: Indiana University Linguistics Club.
- Walker, James. 2007. 'There's bears back there': Plural existentials and vernacular universals in (Quebec) English. *English World Wide* 28(2): 147–166.
- Wallace, Steven. 1982. Figure and ground: The interrelationships of linguistic categories. In Paul Hopper, ed. *Tense and Aspect: Between Semantics and Pragmatics*, 201–223. Amsterdam: John Benjamins.
- Ward, Gregory, and Betty Birner. 1995. Definiteness and the English existential. *Language* 71(4): 722–742.
- Wierzbicka, Anna. 1996. *Semantics: Primes and Universals*. Oxford: Oxford University Press.
- Williams, Edwin. 1984. *There*-insertion. *Linguistic Inquiry* 15: 131–153.
- Williams, Edwin. 1994. *Thematic Structure in Syntax*. Cambridge, MA: MIT Press.
- Williams, Edwin. 2006. *The Subject-Predicate Theory of There*. *Linguistic Inquiry* 37(4): 648–51.
- Ziv, Yael. 1982. Another look at definites in existential. *Journal of Linguistics* 18: 73–88.

Motivating the flexibility of oriented *-ly* adverbs

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This paper discusses participant-oriented uses of adverbs and tries to motivate their conceptual flexibility within a framework largely inspired by Langacker's Cognitive Grammar. Usually, at least two types of participant-oriented adverb are identified, manner and transparent adverbs. It is argued here that they define a network where both a schema and a prototype can be recognized and that the difference between manner and transparent adverbs results from a difference in vantage point. Transparent adverbs, which code either cause or result, imply an internal vantage point while manner adverbs imply an external vantage point. The prototype is identified with those (manner) adverbs which involve some (external) evaluation of the clausal event on the part of the conceptualizer. The schema is regarded as merely coding temporal coextension between the verbal event and the property hinted at by the adjectival base of the adverb. Finally, the relation between participant-oriented adverbs, on the one hand, and depictive adjectives and resultative adverbs is also briefly addressed.

Keywords: consequence, depictive adjective, disjunct, event/participant orientation, external/internal vantage point, manner adverb/adjunct, motive, oriented adverb/adjunct, prototype, resultative adverb, schema, subjective evaluation, temporal coextension, transparent adverb

1. Introduction

This paper deals with *-ly* adverbs, see (1), from a cognitive linguistic perspective.

- (1) a. Sally nodded *sadly*.
- b. I got up *painfully*.

Following Geuder (2000) and Himmelmann and Schultze-Berndt (2005), this chapter shows that *-ly* adverbs are not simply predicated of events but can also be predicated of participants, thus engendering a variety of possible interpretations. For example, in

(1a), the event of nodding is possibly accompanied by some facial features of Sally's which suggest sadness on her part. That is, the adjectival base of the adverb *sadly*, "sad", can be predicated of Sally (she looks sad) and can be taken to refer to a property which is temporally coextensive with the verbal event (Sally looks sad while nodding). In (1b), the event of getting up caused me to feel pain. In other words, the former event and the latter sensation are only coextensive in a derivative sense because there is also a causal relation between the two, i.e. some, possibly very short, part of the getting up event must have preceded the feeling of pain. Still, as in (1a), the adjectival base of the adverb *painfully*, "painful", can be related to the clausal subject: I was in pain (i.e. in a painful condition).

The present paper aims to try to account for such conceptual flexibility by appealing to basic cognitive operations. It will first provide a few general remarks on the cognitive linguistic treatment of adverbs, Section 2, and then discuss manner adverbs, Section 3, and so-called transparent adverbs, Section 4, in some detail. Sections 5 and 6 will highlight the importance of viewing arrangements for the characterization of *-ly* adverbs. Section 7 will sum up the discussion by offering a schematic/network description of *-ly* adverbs and Section 8 will sum up the major points of the present investigation.

2. Previous cognitive linguistic studies

Cognitive linguists have paid little attention to *-ly* adverbs so far. Among the exceptions is of course Langacker, who has dealt with them to some extent in his semantics-based approach to word classes. Langacker (see e.g. Langacker 1987: 219) views adverbs as symbolizing a relation between a relational trajectory – all the elements which adverbs modify, i.e. verbs, prepositions, adjectives and adverbs themselves, symbolize relations in Langacker's Cognitive Grammar – and a region along a comparison scale (the landmark). In the sentence *She works quickly*, for instance, the adverb *quickly* relates the process of working to a region corresponding to rapidity along a scale of rate. The merit of Langacker's analysis is its ability to motivate why adverbs modify the word classes they do. What all the word classes that adverbs modify have in common is, as pointed out above, their nature as (processual or nonprocessual) relations. That is, "they constitute a natural grouping in C[ognitive]G[rammar]" Langacker 2008: 116).

However, the need for a finer-grained analysis becomes apparent when one considers well-known cases like (2):

- (2) a. Sally spilled the beans *stupidly*.
 b. *Stupidly*, Sally spilled the beans.

Although *stupidly* is classifiable as an adverb in both cases (at least in formal terms), its function is not the same, see e.g. Ernst (2002: 8–11) for a useful summary. In (2a), *stupidly* functions as a (**manner**) **adjunct** or **predicate-level manner adverb**. The way

in which Sally spilled the beans was stupid. In (2b), *stupidly* functions as a **disjunct** or **sentence-level adverb**, expressing the speaker's evaluation of the action carried out by the sentential subject: it was stupid of Sally to spill the beans rather than saying nothing, for example.

Nakamura (1997) tries to capture this distinction within a Cognitive Grammar framework by relating it to Langacker's scanning modes known as sequential and summary scanning. Langacker (see e.g. Langacker 2008: 108–112) has proposed that we can view a (complex) scene as either a film, i.e. sequentially (each "frame" developing into a new one), or as a multiple exposure photo, i.e. summarily (all "frames" being active simultaneously). In the former case, the scene is said to have a positive temporal profile, i.e. to be scanned sequentially, while in the latter case, the scene is said to have a null temporal profile, i.e. to be scanned summarily. Nakamura claims that in the adjunct use, as in (2a), the adverb symbolizes a relation which has a positive temporal profile while in the disjunct use, as in (2b), the adverb symbolizes a relation with a null temporal profile.

A potential problem with this analysis is that the distinction between the two scanning modes for the structuring of complex scenes has recently been called into question, at least in the way Langacker currently envisages it (see Broccias & Hollmann 2007). Still, Nakamura's suggestion is commendable because it aims to capture, within a Cognitive Grammar framework, the intuition that the "comparison classes" (see e.g. Ernst 2002: 58–59 on the use of this term) for *stupidly* in (2a) and (2b) are different. In (2a), one is comparing different ways of doing the same action: one could spill the beans intelligently rather than stupidly. By contrast, in (2b) one is comparing different possible actions, one of which is telling a secret, rather than, for example, keeping silent. It may be the case, however, that such different comparison classes can be handled by Cognitive Grammar without recourse to the difference between the two scanning modes. After all, a disjunct involves a clause whereas an adjunct "targets" a verb. And clauses and verbs are two different conceptual entities in Langacker's theory, see e.g. Langacker (2008: Ch. 11). But this is not a point I will elaborate on any further because my main concern will be predicate-level adjuncts.

More important, therefore, is the fact that Nakamura's analysis, like Langacker's, is still too general in that all predicate-level adverbs (i.e. adjuncts) are lumped together. But adjuncts are not all the same functionally. As is pointed out by Quirk et al. (1985: 560) and is detailed in Geuder's (2000) perspicacious but formal (neo-Davidsonian) study, adjuncts are not always simply predicated of (i.e. take as their trajector) a relation but can also be **participant-oriented**. Consider the example in (3):

- (3) a. Sally painted the house *red*.
 b. Sally painted the house *beautifully*.

(3a) is a straightforward instance of the resultative construction (see Broccias 2003; Goldberg & Jackendoff 2004 *inter alia*). The adjective *red* is predicated of *the house* or, more correctly, of some part of the house such as its exterior. But what about (3b)? Can

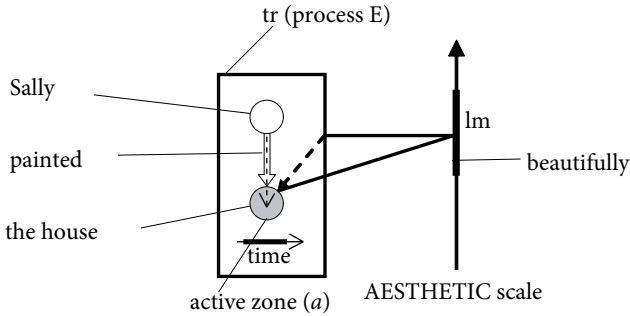


Figure 1. Profile/active zone asymmetry for *Sally painted the house beautifully*

we say that the painting event took place in a beautiful manner (manner adverb reading or **event-oriented** reading)? Not really. *Beautifully* is used here to signify that the result of the action of painting the house, i.e. the painted house, which Geuder would call a *resultant object*, is beautiful. Although formally the *-ly* adverb is to be related to the painting event, from a semantic point of view it is the base of the adverb (“beautiful”) which is involved in a predicative relation. This relation involves the ascription of the property of beauty to the resultant object, i.e. what comes “out of” the event of painting, which in (3b) corresponds to the painted house.

In Broccias (2004) I proposed that this asymmetry between form and meaning can be viewed as an instance of Langacker’s profile/active zone asymmetry, see e.g. Langacker (2008: 331–334). Although the adverb *beautifully* profiles, formally, a relation between a processual trajector (the event of painting the house) and a region along a scale of aesthetic evaluation, the adverb is in reality targeting through its base an active zone of the processual trajector, namely the resultant object “painted house”. For the sake of completeness, I have reproduced in Figure 1 a pictorial representation of my analysis in the style of Cognitive Grammar diagrams. However, the interested reader is referred to Broccias (2004) for more details (but see also Section 7 below). Here it will suffice to say that the longest dashed arrow in Figure 1 makes visually explicit the rerouting of *beautifully* from the process as a whole (the rectangular box) to one of its parts, i.e. “the painted house”, which is represented as a grey-shaded circle with a short dashed arrow inside. (This arrow stands for the change of state that the house undergoes.) More generally, the crucial point that I am interested in making here is that adjuncts can be **participant-oriented**, as will be further detailed in the next section. This observation must be captured in cognitive linguistic analyses in one way or another.

3. Manner adverbs

The issue of orientedness is not only limited to so-called resultative adverbs but, in fact, involves adjuncts in a much more general way and has of course already been

commented on in the literature. For example, Himmelmann and Schultze-Berndt (2005: 13) quote Platt and Platt's (1972: 237) analysis of examples such as (4) below:

- (4) Fred ate the sausages *ravenously*.

Platt and Platt contend that “[t]he manner of eating is an outward and visible sign of an inner ravenous quality of the eater”. Rephrasing this into Cognitive Grammar terms, one can say that *ravenously* in (4) exhibits profile/active zone asymmetry. In this case, the adjunct does seem to have an **event-oriented** reading: it is possible to say that the eating took place in a ravenous manner. This contrasts with (3b) above, where the event-oriented reading is disfavored (the result, rather than the process itself, is deemed to be beautiful). Still, as in (3b), the quality of being ravenous can also be predicated of one of the participants, i.e. the subject referent here, Fred. And the subject is of course an active zone with respect to *ravenously*'s processual trajector, i.e. the process of Fred's eating the sausages. The ambivalent nature of manner adjuncts is stressed forcefully in Himmelmann and Schultze-Berndt (2005) and Schultze-Berndt and Himmelmann (2004), who regard event- and participant-orientation as a continuum and place manner adjuncts in the middle of this continuum.

Related to the observation concerning the ambiguous orientation of manner adverbs is the issue of how to characterize “manner” more explicitly. Both Geuder (2000) and Ernst (2001) observe that manner readings for adverbs like *stupidly* which can function both as disjuncts and as adjuncts seem to “describe some sort of external manifestation that may or may not reflect the internal reality” (Ernst 2001: 56). In (2a) above, for example, Sally's spilling the beans “manifests” the property of “silliness”, which the conceptualizer (the speaker) attributes to her. This does not mean however that Sally is necessarily silly: she might have spilled the beans in a stupid manner quite intentionally for some devious purpose of hers, of course. A naturally occurring example illustrating this point clearly is (5):¹

- (5) ‘She is not a *stupid* woman, I think. Yet she behaves *stupidly*.’

(C. J. Sansom 2007: 279).

1. Himmelmann and Schultze-Berndt (2005) call manner adverbs such as *stupidly* “pure manner” adverbs so as to distinguish them from manner adverbs that are only participant-oriented, see the next section. This may be confusing to some since the label “pure manner” is usually applied to adverbs which are predicated of events “directly”. (These are adverbs which involve perceptual qualities such as light, sound, taste, physical action, see Ernst 1987: 84.) For example, considering (i)

- (i) a. John walked sadly off the stage.
b. John walked loudly off the stage.

Schäfer (2002) claims that the event in (ib) can be said to be loud but the event in (ia) cannot be said to be sad. “Rather, it expresses sadness” (Schäfer 2002: 314). He would therefore call *loudly*, but not *sadly*, a pure manner adverb, contrary to Himmelmann and Schultze-Berndt's analysis.

4. Transparent adverbs

Geuder (2000) and Himmelmann and Schultze-Berndt (2005) point out that adjuncts can sometimes exhibit only participant-orientation, rather than both event- and participant-orientation. A case in point are resultative adverbs, like *beautifully* in (3b), where a manner paraphrase does not seem to be feasible. But there are also non-resultative, participant-oriented uses, such as those in (6):

- (6) a. Sally *angrily* shouted at them.
 b. Sally *angrily* read the letter.

Angrily in (6a) can be paraphrased as “out of anger”. It stands for the **motive** which drove Sally to shout. *Angrily* in (6b), by contrast, refers to the **consequence** of the action of Sally’s reading the letter: reading the letter made Sally angry. Geuder (2000) and Himmelmann and Schultze-Berndt (2005) call such uses *transparent*. In such cases, an event-paraphrase (e.g. “Sally shouted at them in an angry manner” and “Sally read the letter in an angry manner”) does not convey the intended interpretation.

Although I have not investigated the distribution of manner and transparent adverbs quantitatively, naturally occurring examples similar to those in (6) can indeed be found (see below in the text for examples), at least in narrative texts, and one can also come across interesting “minimal pairs” like the following:

- (7) a. All those times we were in the bathroom, and she was just three toilets away,” *said Ron bitterly* at breakfast next day [...].
 (J. K. Rowling 1998: 210)
 b. Of course, he [i.e. Harry Potter] *thought bitterly*, Uncle Vernon was talking about the stupid dinner party. (J. K. Rowling 1998: 10)

Bitterly in (7a) can (but need not) be considered an instance of the manner adverb use. Using Ernst’s (2001) definition mentioned above, one can safely claim that Ron’s voice seems to suggest or manifest bitterness on his part. By contrast, in (7b), it is rather nonsensical to claim that the thinking process manifests or suggests bitterness on Harry Potter’s part for the obvious reason that thinking is not an externally observable phenomenon (see also below). Rather, one could claim that the thinking process results in Harry Potter’s bitterness. This would then count as an example of the transparent adverb use, where the adverb is recruited to convey a **consequence** of the event of thinking.²

Admittedly, it may sometimes be difficult to offer a clear-cut interpretation of the use of *-ly* adjuncts. Note that one could also interpret (7a) as a transparent use since

2. Incidentally, observe that the position of the adjunct in (7) is post-verbal. That is, although transparent uses may be easier to detect if the adjunct precedes the verb, as in the examples in (6), the post-verbal position does not exclude a transparent reading.

bitterly could hint at the **motive** for Ron's utterance. One more example will suffice to illustrate this point. Consider (8):

- (8) Donna is clueless when she *drunkenly* falls into Ross' arms and doesn't react when he fixes her with a passionate stare. (from the summary of an episode of the British soap *Emmerdale* published on www.digitalspy.co.uk on 26 October 2007)

Possible interpretations for *drunkenly* in (8) could be "Donna falls in Ross' arms because she is drunk" (a transparent motive use) and "Donna falls in Ross' arms in a way that suggests that she is drunk" (a manner use). In either case, there is some sort of temporal coextension between the event of Donna's falling into Ross' arms and her known (under the motive reading) or presumed (under the manner reading) state of drunkenness. Such interpretative indeterminacy must of course be accounted for (see the next section).

As Himmelmann and Schultze-Berndt (2005: 9) observe, transparent cases involve **tight factual links** (i.e. motive, consequence). I believe that this can be viewed, from a cognitive linguistic perspective, as an instance of blending (see Fauconnier & Turner 2002). In (7b), for example, it is possible to identify two input spaces: a "thinking" input space and a "bitterness" input space. The two are merged by way of the vital relation (see Fauconnier & Turner 2002: 93–102) dubbed Cause-Effect so that bitterness is construed as the consequence or Effect of the event of thinking.

One attractive feature of the blending analysis is that it readily motivates the possibility of multiple readings for identical structures since a blend can be run in many different ways. The same structure can be related to various different integration strategies. In (8), for example, the two input spaces involved are the "falling" input space and the "being drunk" input space. As in (7b), they can be merged by way of the Cause-Effect vital relation. But unlike in (7b), the "being drunk" space would stand here for the Cause rather than the Effect of the event denoted by the verb. Further, one could claim that the two input spaces in (8) are (also) merged thanks to the vital relation of Time, i.e. the state of "being drunk" overlaps with the event of "falling". I will return to these possibilities later on, in Section 7.

5. Vantage point

The proposal I would like to submit in this paper is that the two different interpretations of *-ly* adjuncts, manner and transparent, can easily be motivated conceptually by appealing to the cognitive linguistic notion of viewing arrangement, see for example Langacker (2008: 73–78). In particular, I contend that the vantage point of the conceptualizer turns out to be crucial in distinguishing between manner and transparent uses. Let us consider (7) again, which I have reproduced below for the sake of clarity:

- (7) a. All those times we were in the bathroom, and she was just three toilets away,” *said* Ron *bitterly* at breakfast next day [...].
(J. K. Rowling 1998: 210)
- b. Of course, he [i.e. Harry Potter] *thought bitterly*, Uncle Vernon was talking about the stupid dinner party.
(J. K. Rowling 1998: 10)

First of all, it is worth remarking that the two examples differ structurally only for the choice of verb, *say* vs. *think*. However, the latter verb like the former involves some sort of speaking. Thinking is viewed as an internal or reflexive kind of saying, as the words meant to reproduce Harry’s thinking make apparent. The recipient of this “thought-utterance”, so to speak, is merely the speaker himself. There is, in other words, both structural and semantic motivation for the occurrence of cases like (7b) if one views them as extensions of manner uses such as (7a).

But this is not the end of the story. Granted that (7b) reproduces Harry’s verbal thinking, the conceptualizer (i.e. the writer) must have access to Harry Potter’s mind because she can conclude that the thinking process results in Harry’s experiencing resentment. That is, the conceptualizer is **omniscient** by virtue of her “privileged” access to the character’s internal (emotive) world. I will therefore say that the **vantage point** that is most likely used in (7b) is **internal**. The subject of conceptualization (the writer) has access to the internal reality of the object of conceptualization (the character). By contrast, in the case of (7a), an internal vantage point, although possible, is not necessarily the most likely. It can be the case, of course, that *bitterly* describes an emotive state of Ron’s that the narrator can “see” by virtue of her privileged access to her characters’ internal world. This would count as a transparent use of *bitterly*. But it is also plausible to assume that “bitterness” is deduced by the narrator by observing and evaluating the way in which Ron’s words are delivered. Similarly, the reader conjures up a mental representation where Ron’s words are delivered in the way someone would if they were experiencing bitterness. If one opts for the interpretation that Ron’s words “manifest”, in Ernst’s (2001) sense, bitterness on his part, then the manner interpretation obtains. Crucially, this interpretation relies on an **external vantage point**. The conceptualizer, i.e. either the writer or the reader, does not have access to the character’s internal world but infers some property of his by evaluating some perceptual evidence.

The idea that the internal vantage point correlates with the transparent reading and the external vantage point goes hand in hand with the manner reading goes some way towards motivating the difficulty in interpreting examples like (8) above, which has been reproduced below:

- (8) Donna is clueless when she *drunkenly* falls into Ross’ arms and doesn’t react when he fixes her with a passionate stare.

The verb *fall* activates an external vantage point but *drunkenly* is compatible with both the external and the internal vantage points. Its base, “drunken”, can refer to a property of Donna’s which is inferred on the basis of some visual evidence (e.g. she is staggering)

or is part of the conceptualizer's knowledge, i.e. the conceptualizer knows that Donna hasn't sobered up yet. Importantly, we should not discount the possibility that both perspectives, and hence interpretations, are active simultaneously. This ambivalence is also found for example when the narrator is also a character as in (9) below:

- (9) 'There!' I said *triumphantly*. (C. J. Sansom 2006: 3)

Since the narrator has obviously access to his own internal world, *triumphantly* could be regarded as a transparent adjunct coding motive. Further, the reader can identify herself with the narrator and therefore use his vantage point. But both the narrator and the reader can also opt for an external vantage point, which means that *triumphantly* can be analysed as a manner adverb: the action of saying "manifests" the property of being triumphant on the part of the narrator/character. Once more, it is probable that both perspectives coexist to some degree, at least.

6. External states

What all the various *-ly* cases examined so far have in common are tight connections between some property/state alluded to by the adverb and the verbal event. When an internal vantage point is selected, tight links are obtained by virtue of a Cause-Effect vital relation. When an external vantage point is opted for, the verbal event can be a "pointer" to some internal state. In fact, the "manifest" relation taken by Ernst to underlie manner uses of adverbs involving internal (e.g. psychological) states may also be extended to states which are not necessarily definable as "internal". Consider (10):

- (10) I fling the J-cloth at him. It lands *wetly* in his lap. (Lewycka 2006: 33)

The base of the adverb *wetly* describes a property of the J-cloth, that of being wet but, intuitively, the use of the adverb is much more "dynamic" than that of an adjective (cf. "It lands wet in his lap."). In other words, the event of the cloth's landing in the lap **points to** or **shows** that the cloth is wet even though one is not probably dealing with an internal state here.

It must also be stressed that there are some instances which imply an external vantage point but are not captured by Ernst's "manifest" analysis. Consider (11):

- (11) a. Sally nodded *silently*.
b. The sun was shining *brightly*.

In (11a), it sounds odd to say that the event of Sally's nodding "manifests"/"points to" silence. Quite more simply, (11a) seems to describe some overlap between the event of nodding, which is foregrounded by virtue of the fact that the clause inherits its relation profile (the sentence is about nodding), and the event of keeping silent. Notice that two perceptual domains are involved here: one involving vision, i.e. the perception of

bodily motion, and the other involving hearing. In (11b) too, the adverb refers to an externally observable property or state. The difference with (11b) is that only one perceptual domain is involved, namely that of vision. *Brightly* is used as an intensifier, hinting at the fact that the degree of brightness was considerable, relative to some standard.

Although the examples in (11) do not involve internal states, see also (10), **participant-orientation** still obtains: one can safely say that Sally was silent while nodding and that the sun was bright. Such uses can probably still be described as **manner** since the comparison classes are different ways in which one can nod and different ways in which the sun can shine. However, what is really important is that instances like (11) are similar to **depictive adjectives** (see Himmelmann & Schultze-Berndt 2005: Ch.1 for extensive discussion) in that they merely describe temporary states. Consider (12):

- (12) She walked home *drunk*.

Drunk in (12) is a depictive adjective which describes a temporary state overlapping with the verbal event. (Note however that *drunk*, unlike *silently* and *brightly*, refers to some internal state albeit one with possible external correlates.) It is interesting to mention at this juncture that Killie (2007) has shown that *-ly* adjuncts and depictives are sometimes used interchangeably, especially in the literary language. This occurs for example with “appearance/attribute” adverbs like *redly* in (13a) below, which is clearly interchangeable with the adjective *red*, as the very similar example in (13b) shows.

- (13) a. In a large side-chapel a candle winked *redly* in a lamp ...
 (C. J. Sansom 2006: 460)
 b. The high brick walls shone *red* in the setting sun. (C. J. Sansom 2006: 483)

The similarity between some *-ly* adjuncts and depictive adjectives must also be motivated. This is what the next section tries to do.

7. A schematic description

I would like to argue that the commonality between all the examples considered in this paper amounts simply to a relation of **temporal coextension** between the verbal event and the property/state referred to by the adjunct. In other words, it is possible to recognize an overarching **schema** which subsumes all instances as finer-grained realizations. This is obvious where a “pointer”/“manifest” relation between the verbal event and the adjunct-property/state obtains as well as in the case of (11). But even with instances of the transparent use, where the adverb hints at some state as either motive/Cause or consequence/Effect of the verbal event, it is intuitively clear that there must be some temporal overlap between the two. In (6a), for example, some portion of the shouting event must happen while Sally is angry and in (6b) some portion of the reading event must be coextensive with Sally’s experiencing anger.

It may be useful to sum up the analysis put forward here diagrammatically, as I tried to do in Figure 2.³ However, readers of a non-visual disposition and/or with little familiarity with Cognitive Grammar-style diagrams can move quickly through this section. Still, they should pay some attention to the difference between oriented *-ly* adjuncts and depictives as well as the point about the conceptual similarity between the flexibility of *-ly* adjuncts and resultative constructions.

Figure 2 includes various diagrams. The two at the bottom, (a) and (b), are intended to represent visually the transparent motive (or Cause) use and the transparent consequence (or Effect) use, respectively. (a) shows that the clause *Sally angrily tore the letter up* is obtained by merging a verbal process, that of tearing the letter, which is visualized as the right-hand side box at the bottom, with a relation between an entity (corresponding to *Sally*, visualized as the circle in the left-hand side square box at the bottom), and a scale (corresponding to levels of anger). The latter relation places Sally in the “angry region” along a scale of psychological states. Importantly, in keeping with the pictorial conventions of Broccias (2003), the order of the two boxes at the bottom is meant to represent the existence of a causal relation between them. The relation “anger” (of which *Sally* can be taken to be the trajector and the region along the scale the landmark) causes the verbal event of Sally’s tearing the letter. Notice that the identity between *Sally* as a trajector in the “anger” relation and *Sally* as the trajector in the tearing event is depicted by way of the dashed arc connecting the two. Further, the causal relation has been represented explicitly using a block arrow between the two bottom boxes. The diagram also shows the conceptualizer (C), who has access to Sally’s mental world, as the dashed arrow ending up inside the circle in the bottom left-hand box is meant to show. The box at the top in the diagram is identical to the bottom right-hand box because the former is meant to visualize that the composite expression profiles the relation symbolized by the verb *tear*. In other words, the verbal predication is the profile determinant of the composite expression. This has been shown by using a heavy line for the box representing it at the bottom of the diagram. However, the composite expression also contains an adverb (*angrily*), hence the arrow connecting the “angry region” on the scale to the relation in the top box. Notice that the arrow points to the latter relation. This is meant to capture the relation of causality represented at the bottom level by way of the linear arrangement of the boxes and the block arrow between them: Sally’s being angry causes her to destroy the letter, or to put it differently, the event of Sally’s tearing the letter “comes out” of the “angry region” where she (metaphorically speaking) is located. This is the visual import of the arrow connecting the scale to the box at the top of the diagram. The fact that both the process of Sally’s destroying the letter and Sally herself are connected to the “angry region” along the scale accounts for the active-zone interpretation that oriented adjuncts have.

3. I would like to stress that Figure 2, as is the case with pictorial representations in Langacker’s Cognitive Grammar, is intended merely as a visual aid which I have included to make my analysis as clear as possible.

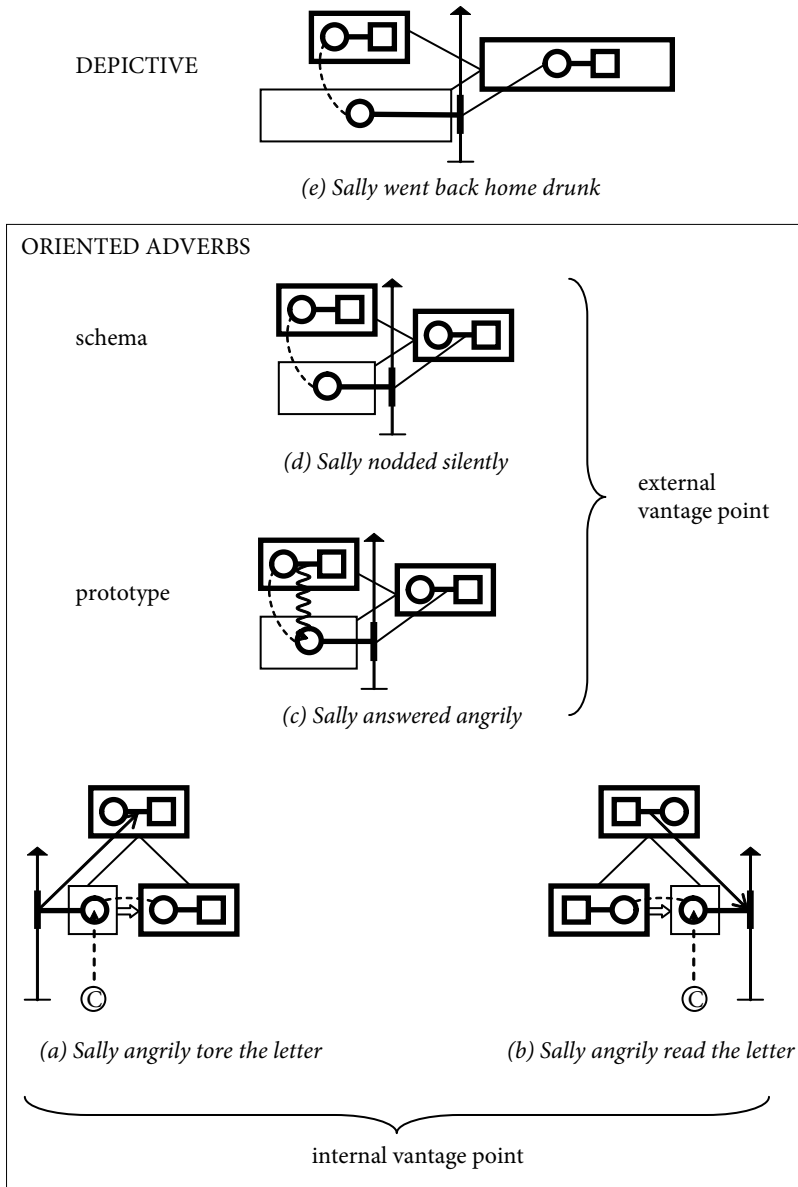


Figure 2. Oriented adverbs and depictives

Although formally they are predicated of the verbal process, they actually refer (to a greater or lesser extent) to one of the participants involved in the process, *Sally* in the case at hand. *Sally* is an active zone with respect to the process of her tearing the letter because it is targeted by the adjectival base of the adverb *angrily*.

The diagram in (b) is similar to the one in (a). The major difference is the order of the two boxes at the bottom, which represents the opposite order of causality compared to (a). It is the verbal event (of reading) that causes Sally to end up angry. This different directionality in the causal relation between the two relations is also represented by way of the arrow connecting the composite expression (the box at the top) with the “angry region”. The arrow points to the “angry” region because reading results in anger on Sally’s part.

I would like to point out that, in both (a) and (b), the box at the top should be taken to represent the fact that, at least to some extent, the property of Sally’s being angry and her actions are coextensive. This is important because I have proposed that this is precisely the minimum common denominator for all oriented adjuncts. In the case of (c), this has been shown explicitly by arranging the two major components of *Sally answered angrily* (under the reading “Sally’s answering manifests anger on her part”) in parallel, one above the other, and by representing them by way of two boxes having the same length. The top box is the one whose profile (the profile of the verbal component) the composite expression inherits. I have represented the composite expression as the rightmost box, rather than as a box above the two components as I did in (a) and (b), for the sake of clarity. Notice that I haven’t shown the conceptualizer in (c) – nor in the following diagrams for that matter – because the conceptualizer is external to Sally’s internal world. Rather, as was discussed above, the conceptualizer, by using the adverb, suggests a hypothesis about some internal state of Sally’s on the basis of the verbal event. This is what the squiggly arrow from the verbal event to the bottom box representing Sally is meant to depict. Observe that the squiggly arrow ends up within the circle standing for Sally because we are dealing here with an internal emotional state. As was remarked above, however, this does not need to be the case, see the discussion of (10), and the notion “manifest” should probably be intended in a more general sense. Finally, (c) differs from (a) and (b) in that there is no arrow connecting the composite expression to the “angry region” but rather a line. This line visualizes the fact that the conceptualizer doesn’t know if e.g. Sally answered (the way she did) out of anger. The conceptualizer can only observe external reality and infer a possible property/state of one of the participants in the event, e.g. the state of Sally’s being angry in the case under discussion.

I have also labelled the diagram in (c) as “**prototype**” because it may be the case that, at least under a frequency-based definition of prototype (see e.g. Gilquin 2006 for

some discussion), this is the most common pattern exemplified.⁴ But this is of course a matter for further investigation.

The diagram in (d) is almost identical to the one in (c) but lacks the squiggly arrow used in the latter. In (d), we are not inferring some property/state of one of the participants but, rather, merely describing a simultaneous event, that of e.g. Sally's being silent (while nodding). As I observed above, the diagram in (d) can be viewed as a schema capturing the commonality of all oriented cases, namely the coextension between two processes.

The discussion so far can be summed up by saying that the conceptual arrangements between the verbal and adverbial components can be of three types. Either the adverbial component determines the verbal component, see (a), or the verbal component determines the adverbial component, see (b), or neither determines the other, see (c). Interestingly, these three types of conceptual arrangement are not only limited to sentences with oriented adjuncts but are symptomatic of a more general process of merging of conceptual components. For example, so-called resultative constructions (see e.g. Broccias 2003; Goldberg & Jackendoff 2004 *inter alia*), which are also based on the merger of two conceptual components, also exhibit the three possible arrangements observed here. Consider the resultative examples in (14):

- (14) a. They punched him dead.
 b. The module clicked into place.
 c. The fans booed the players off at the interval.

(14a) involves a causal relation between the verbal event of punching and the event (metonymically alluded to by the adjective) of somebody ending up dead. By contrast, in (14b), the conceptual order is the opposite. The motion event, i.e. the module's moving into place, causes the verbal event of clicking. Finally, there is no causal relation between the verbal event of the fans' booing the players and the players leaving the pitch in (14c), since they must leave the pitch at the interval (see Broccias 2006 for further details). Still, there is an important difference between *-ly* adjuncts and resultatives. In the former case, the prototype is probably the structure in (c), while in the latter case, the prototype seems to be similar to (b), i.e. the verbal event determines some property of one of its participants, see example (14a).

The schematic characterization I have offered for oriented *-ly* adjuncts can also be useful to distinguish them from depictives, which I have represented diagrammatically in (e). Although depictives are somewhat similar to oriented adverbs cases of the (d) type, as Figure 2 shows, depictive adjectives seem to refer to properties which

4. Although a detailed quantitative study is needed, consider for example that in the first two chapters of C. J. Sansom's novel *Sovereign* (which are about 31 pages long in total), I have counted 18 instances of the "prototypical" use, 7 of the schematic use, 2 of the transparent use and 1 of the resultative use. (I have ignored cases where the adverb is related to a first person subject because it may be difficult to decide whether the reading is either a manner one or a transparent one.)

activate a larger temporal frame than that of the verb. For example, in *Sally went home drunk*, the event of Sally's going home is intuitively contained within the (longer) state of Sally's being drunk. The temporal frame for the verbal event seems to be included in that of the adjective rather than merely being (roughly) coextensive with it. This has been shown by representing the box for *Sally* in (e) as being longer than that for the event of going back home. Notice also that in the composite expression in (e), unlike the other diagrams, the region corresponding to drunkenness along the scale of soberness has been connected to the circle representing *Sally* rather than the line standing for the predicate *go back*. This is meant to indicate that the predicative relation between *Sally* and the property of being drunk is direct rather than involving a profile/active zone asymmetry as in the case of *-ly* adverbs.

One last observation is in order. I must stress that the schematic analysis I have proposed here does not necessarily apply to resultative adverbs (see Section 2 above), where coextension between the verbal event and the property hinted at by the adverb does not seem to obtain. The adjectival base of the adverb just targets the final stage of the verbal event, as was hinted at in Section 2. However, the occurrence of adverbs can be motivated by noticing (see Broccias 2004) that resultative adverbs involve some sort of **subjective evaluation** (on the part of the conceptualizer) in a similar way to prototypical manner uses, where the conceptualizer uses the verbal event to infer some property of one of the participants. One cannot paint a house "redly" because colors are taken to refer to objective properties in our naïve view of the world, hence an adjective, e.g. "red", is to be selected.⁵ Conversely, one can paint a house beautifully because beauty is, as the proverb goes, in the eye of the beholder.

8. Conclusion

In this paper I have tried to motivate the conceptual flexibility of oriented *-ly* adverbs by arranging them into a network which has both a schema and a prototype. The schema depicts the temporal coextension between the verbal event and the state/property alluded to by the (adjectival base of) the adverb. The prototype differs from the schema in that the state/property is inferred by the conceptualizer on the basis of some perceptual input. The remaining cases, the so-called transparent uses, in addition imply a causal relation between the verbal event and the state/property. Importantly, however, one can still construe the two as being coextensive to some extent. Further, I have argued that the difference between the transparent uses and the non-transparent ones can be related to the vantage point of the conceptualizer. If she is external to the participants, then a non-transparent reading ensues. If she has access to the participants'

5. But a candle can "wink redly", see example (13a), because there is some dynamicity involved here (i.e. what I referred to as coextension before), which is clearly lacking in resultative examples. In resultative examples, adverbs only target a final state, not the process as a whole.

internal world, then a transparent reading obtains. Finally, I have pointed out the existence of conceptual and interpretative similarities between oriented *-ly* adverbs, on the one hand, and adjectival resultatives and depictives, on the other.

I believe that this analysis is still preliminary in the sense that, although it maps out some important uses of oriented *-ly* adverbs and tries to motivate them by relating to both a schema and a prototype, a more thorough investigation of further categories may be needed. This can be achieved by detailed corpus analyses, which must be the focus of future research on this topic. Still, even the present cursory analysis reveals the importance of basic conceptual “ingredients” such as profile/active zone asymmetry, vantage point and blending operations in motivating the flexibility of grammatical categories.

References

- Broccias, Cristiano. 2003. *The English Change Network*. Berlin: Mouton de Gruyter.
- Broccias, Cristiano. 2004. The cognitive basis of adjectival and adverbial resultative constructions. *Annual Review of Cognitive Linguistics* 2: 103–126.
- Broccias, Cristiano. 2006. The construal of constructions: Causal and temporal interpretations in change constructions. *Constructions* SV1–4/2006. (www.constructions-online.de)
- Broccias, Cristiano, and Willem Hollmann. 2007. Do we need scanning in (Cognitive) grammar? *Cognitive Linguistics* 18: 487–522.
- Ernst, Thomas. 1987. Why epistemic and manner modifications are exceptional. In *Proceedings of the 13th Annual Meeting of the Berkeley Linguistics Society*, 77–87. Berkeley: Berkeley Linguistics Society.
- Ernst, Thomas. 2001. *The Syntax of Adjuncts*. Cambridge: Cambridge University Press.
- Fauconnier, Gilles, and Mark Turner. 2002. *The Way We Think: Conceptual Blending and the Mind's Hidden Complexities*. New York: Basic Books.
- Geuder, Wilhelm. 2000. *Oriented Adverbs: Issues in the Lexical Semantics of Event Adverbs*. Ph.D. Thesis, Universität Tübingen.
- Gilquin, Gaëtanelle. 2006. The place of prototypicality in corpus linguistics: Causation in the hot seat. In Stefan Gries and Anatol Stefanowitsch, eds. *Corpora in Cognitive Linguistics: Corpus-based Approaches to Syntax and Lexis*, 159–191. Berlin: Mouton de Gruyter.
- Goldberg, Adele, and Ray Jackendoff. 2004. The English resultative as a family of constructions. *Language* 80: 532–567.
- Himmelman, Nikolaus, and Eva Schultze-Berndt, eds. 2005. *Secondary Predication and Adverbial Modification: The Typology of Depictives*. Oxford: Oxford University Press.
- Killie, Kristin. 2007. On the development and use of appearance/attribute adverbs in English. *Diachronica* 24: 327–371.
- Langacker, Ronald. 1987. *Foundations of Cognitive Grammar*. Vol. 2: *Descriptive Application*. Stanford: Stanford University Press.
- Langacker, Ronald. 2008. *Cognitive Grammar: A Basic Introduction*. New York: Oxford University Press.
- Lewycka, Marina. 2006 [2005]. *A Short History of Tractors in Ukrainian*. London: Penguin Books.

- Nakamura, W. 1997. A cognitive approach to English adverbs. *Linguistics* 35: 247–287.
- Platt, John, and Heidi Platt. 1972. Orientation of manner adverbials. *Papers in Linguistics* 5: 227–249.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1985. *A Comprehensive Grammar of the English Language*. London: Longman.
- Rowling, J. K. 1998. *Harry Potter and the Chamber of Secrets*. London: Bloomsbury.
- Sansom, C. J. 2007 [2006]. *Sovereign*. London: Pan Books.
- Schäfer, Martin. 2002. Pure manner adverbs revisited. In Graham Katz, Sabine Reinhard, and Philip Reuter, eds. *Sinn & Bedeutung VI: Proceedings of the Sixth Annual Meeting of the Gesellschaft für Semantik*, 311–323. University of Osnabrück.
- Schultze-Berndt, Eva, and Nikolaus Himmelmann. 2004. Depictive secondary predicates in crosslinguistic perspective. *Linguistic Typology* 8: 59–131.

The cognitive motivation for the use of dangling participles in English*

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Dangling participles are considered incorrect usage in written Standard English. Nonetheless, dangling participles enjoy widespread usage, particularly in spoken English. This paper argues that the use of dangling participles is semantically and cognitively motivated. In adopting a usage-based view and analyzing attested data from the British National Corpus, this study shows that constructions with a dangling participle describe a coherent “cognizance scenario” as their constructional meaning. The dangling participial construction evokes a conceptualizer who conceives the situation described in the main clause. Thanks to its constructional semantics, the dangling participle is especially common in text genres which focus on the interaction with the hearer.

Keywords: cognizance scenario, coherence, corpus, fictivity, figure/ground, implicit conceptualizer, intersubjectification, prototype category, subjectification, subjective viewpoint, usage-based

1. Introduction

In English, the subject of a participial clause is generally supposed to be identical with that of the main clause. Following the prescriptive guide, some grammarians claim that the examples in (1) are “semantically anomalous”.

- (1) a. #*Jogging through the park*, a brilliant idea suddenly came to me.
b. #[since] *seeing her off at the station*, life has been dreary and unbearable.
(Declerck 1991: 463)

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Prescriptive grammars consider such expressions “bad English” because in (1a) *a brilliant idea* would not jog nor would, in (1b), *life* see someone off. Due to their “logical” inconsistency, participles of this type are generally avoided in written English.

However, corpora like the British National Corpus (BNC) abound with dangling participles, as in (2). Some are even conventionalized, as in (3).

- (2) a. *Walking along the foot of the crag to the right*, the area of golden stalactites forming the Secteur Maelstrom is equally impressive. (ECH 616)
 b. *Arriving at the park office early in the morning*[,] things looked grim at first. (CHK 873) (punctuation N.H.)
- (3) a. *Strictly speaking*, Mr. Smith is going to retire at the end of this year.
 b. *Taking everything into account*, the thing seems to be going fine.

Why should some dangling participles be acceptable while others are not, when all are supposed to be formally unacceptable?

As is well known, the grammatical conditions governing the equi-subject rule are overridden in certain cases. Givón (1990) looks at the conditions from the point of view of cohesion and assumes that they may be relaxed in some contexts:

- (4) The equi-subject conditions may be relaxed in some cases, in contexts where *the other components of cohesion are rigidly maintained*.
 (Givón 1990: 838; italics N.H.)

The question which this view of dangling participles poses is this: Which components of cohesion are rigidly required? The goal of this study is to identify the conditions that license, or at least increase the acceptability of, the dangling participial construction. The assumption underlying this paper is that the dangling participial construction is well motivated and subject to certain constraints. The data on which this study is based are authentic usages extracted from the BNC. In adopting a usage-based approach, I will show that the licensing conditions for dangling participles are governed by certain implicit inferences which will be formulated as their constructional meaning.

The paper is structured as follows: Section 2 surveys previous analyses of dangling participles and points out their shortcomings. In Section 3, the data extracted from the BNC is examined and, as a result, the meaning of the dangling participial construction is obtained. Section 4 argues that the meaning of the dangling participial construction is closely related to Langacker’s notion of subjectification and Traugott’s notion of intersubjectification. Section 5 presents the conclusion.

2. Previous approaches to dangling participles

Most previous studies of dangling participles have been concerned with the cohesion of the main clause and participial clause, focusing on the search of the implicit controller

subject of the dangling participial clause. The possible candidates for the controller that have been proposed and discussed so far are summarized and exemplified in (5)–(7):

- (5) either the first or second person (<“I (we)” or “you”>) (Jespersen 1933; Kortmann 1995: 206). (e.g. *Frankly speaking*, the conference hotel was the pits.
(Kortmann 1995: 206))
- (6) those participants that are recoverable from somewhere in the main clause (e.g. Kortmann 1995: 206). (e.g. *Adopting this plan*, the first thing that the French thought of was [...])
- (7) those participants that are recoverable from the context (Ido 2001). (e.g. [w]e caught our horses, saddled, harnessed, and resumed our journey. *Fording the creek*, the low roofs of a number of rude buildings appeared [...]
(Ido 2001: 34))

In (5), the implicit subject would be assumed to be the first person (*I*), while in (6) it is embedded in the main clause (*the French*). In (7), the implicit subject is understood to be the *we* of the preceding sentence.

It is certainly true that the identification of the implicit subject plays a key role in increasing the acceptability of dangling participles. However, the above-mentioned criteria for searching the implicit subject only provide a vague picture about finding the implicit subject “somewhere” in the context. The following example shows that the acceptability of a dangling participial construction is not just a matter of finding the subject referent in a given context.

- (8) #*Reading the evening newspaper*, a dog started barking.
(Quirk et al. 1985: 1122)
- (9) Then he fetched some newspapers from the kitchen table, went into the study, and settled down in his favorite armchair, looking forward to a quiet and undisturbed evening.
 - a. *Reading the evening paper*, a dog started barking. (Kortmann 1991: 46)
 - b. ##*Reading the evening paper*, a dog closed its eyes on the sofa.

In (9a), the contextual information increases the acceptability of (8): the preceding context explicitly introduces a possible candidate (*he*) for the implicit subject of *reading the newspaper*. However, the same contextual information does not increase the acceptability of (9b). Therefore, the identification of the implicit controller of the subject alone is not sufficient to account for the acceptability of the dangling participial construction.

The contrast between (9a) and (9b) shows that certain aspects of coherence between the two situations related may also be relevant in improving the construction’s acceptability. Not all combinations of situations will be judged coherent, even though referential cohesion is met. Some restriction for the sequence pattern between the situations should be satisfied. If this is the case, then the coherence of a dangling participial construction may be seen as its “constructional meaning” in Goldberg’s (1995, 2006) sense, with a pairing of a specific meaning and form.

In sum, what is important in accepting a given dangling participial construction is the coherence of the situations described in the main clause and the participial clause. The following section will examine some attested data of dangling participles and specify the scenario-like semantics attributed to the construction.

3. A usage-based study of situation patterns in dangling participial constructions

This section explores the semantics of the dangling participial construction. The examples of this construction have been culled from the British National Corpus. First, the pattern of distribution among the situation types in dangling participial clauses will be investigated. To make explicit what kinds of situations are preferred in dangling participial clauses, their frequency will be established. Second, the types of situations that are typically described in the main clauses will be examined. After revealing the pattern of situations depicted in both clauses, the constructional meaning as a whole will be discussed.

3.1 Corpus material and search method

For a preliminary search, 96 types of verbs in the present participial form were selected.² The study was restricted to those participles that occur at the beginning of the sentence. From the results, non-participial adjunct usages were manually excluded and, next, the dangling participle examples were distinguished from so-called “related” or “non-dangling” free adjuncts (e.g. *Entering the railway hotel, he ordered a pot of coffee.*). In total, 956 examples of dangling participles were extracted to serve as our data.

3.2 Types of situation described in the dangling participial clause

The first aim of our examination was to investigate the distribution of the semantics of the situations described by the dangling participial clauses. The attested dangling

2. The participial forms searched for are as follows (note that those in parentheses are non-attested): *approaching, arriving, ascending, bringing, choosing, classifying, coming, comparing, crossing, descending, entering, estimating, examining, falling, feeling, getting, going, hearing, keeping, leaving, listening, looking, lying, moving, observing, opening, pondering, putting, reading, returning, running, searching, seeing, sitting, standing, staring, studying, supposing, taking, talking, thinking, touching, travelling, turning, walking, watching, (annoying, astonishing, comforting, creeping, crying, dancing, discovering, drinking, dropping, eating, enjoying, exciting, explaining, eyeing, fearing, finding, flowing, frightening, hitting, holding, imagining, irritating, jumping, kicking, liking, loving, maintaining, missing, motoring, perceiving, pleasing, rambling, rising, rushing, shaking, shocking, sleeping, slipping, smiling, smelling, sounding, surprising, tasting, terrifying, up-setting, waiting, wandering, wearing, weeping, wondering).*

participial clauses are classified into five categories according to the type of situation they describe: Cognition, Motion, Perception, State, and Action.³ To capture the range of linguistic variation expressed by the dangling participles, each instance of a situation type and the frequency thereof are also listed, as shown in Table 1.

The most frequently occurring type of situation in dangling participial clauses is that of Cognition (e.g. *comparing, examining, supposing*), as in (10).

Table 1. Classification of situations described in the dangling participial clause

Situation type	Number of dangling participial clauses (total: 956)	Type frequency	Instances of situation types (Token frequency)
Cognition	726 (75.94%)	Cognition-based	<i>Comparing</i> (17), <i>Supposing</i> (13), <i>Thinking</i> (8), <i>Examining</i> (5), <i>Pondering</i> (1), <i>Estimating</i> (1), <i>Classifying</i> (1)
		Motion-based	<i>Turning</i> (78), <i>Moving</i> (39), <i>Returning</i> (35), <i>Going (back, on, further)</i> (24), <i>Coming</i> (15), <i>Leaving</i> (9), <i>Running</i> (4), <i>Bringing</i> (3), <i>Approaching</i> (1), <i>Entering</i> (1)
		Perception-based	<i>Looking {back, ahead, at}</i> (132), <i>Seeing</i> (7), <i>Watching</i> (5), <i>Taking (a view)</i> (4), <i>Observing</i> (2)
		Action-based	<i>Taking</i> (141), <i>Leaving (aside)</i> (89), <i>Talking</i> (48), <i>Putting</i> (21), <i>Reading</i> (13), <i>Keeping</i> (5), <i>Getting</i> (2), <i>Searching</i> (1), <i>Choosing</i> (1)
Physical Motion	92 (9.62%)	16	<i>Moving</i> (16), <i>Walking</i> (14), <i>Coming</i> (12), <i>Returning</i> (9), <i>Going</i> (9), <i>Approaching</i> (8), <i>Arriving</i> (6), <i>Travelling</i> (4), <i>Crossing</i> (4), <i>Entering</i> (3), <i>Descending</i> (2), <i>Ascending</i> (1), <i>Turning</i> (1), <i>Running</i> (1), <i>Leaving</i> (1), <i>Falling</i> (1)
Physical Perception	85 (8.89%)	9	<i>Looking</i> (54), <i>Listening</i> (10), <i>Watching</i> (10), <i>Seeing</i> (4), <i>Staring</i> (2), <i>Feeling</i> (2), <i>Keeping an eye</i> (1), <i>Hearing</i> (1), <i>Touching</i> (1)
Physical States	31 (3.24%)	3	<i>Standing</i> (12), <i>Sitting</i> (11), <i>Lying</i> (8)
Physical Actions	22 (2.31%)	6	<i>Reading</i> (10), <i>Opening</i> (6), <i>Keeping</i> (3), <i>Giving</i> (1), <i>Putting</i> (1), <i>Looking after</i> (1)

3. It is not appropriate to classify the dangling participles according to their aspectual type, for, as shown in the following, all the aspectual types are attested: accomplishments (*Walking up to him...*), achievements (*Returning to...*), activities (*Walking along...*) and states (*Sitting...*). Moreover, even within the same aspectual class of events, some are attested while others not. Therefore, a finer-grained classification based on semantic situation types is needed here.

- (10) a. *Comparing them to the English Baroque woodwinds*, it is clear that they became the prototype and standard for English makers well into the 18th century. (J1A 601)
- b. *Examining the effects of histology, histological type*, the early mortality patient with benign [unclear] was point three percent [...]. (FUS 29)

A noticeable characteristic of the Cognition group used in participial clauses is that they are agentive, i.e. they involve an intentionally acting human agent. Non-agentive situation types such as *perceiving*, *discovering*, or *finding* were not found in the data.

The token frequency of the Cognition group amounts to over three quarters of the total examples (75.94%). Their high token frequency indicates that agentive Cognition represents the prototypical type of situation used in dangling participial clauses.

Another point to be noted is their high type frequency due to metaphorical extension. The Cognition group in dangling participial constructions is often expressed metaphorically in terms of perception, motion and action, as illustrated in the following examples:

- (11) a. *Looking ahead*, nuclear power has the best growth prospects [...].
 <perception-based> (AT8 562)
- b. *Going a step further*, the idea [...] suggests that those who are relatively powerless may be unwilling or unable to translate their interests into claims on public policy. <motion-based> (CM5 1469)
- c. *Putting these together*, it would mean that a life-saving service would not have by any means the highest priority [...]. <action-based> (ASK 656)
- d. *Reading between the lines*, Doddie Weir and Michael Dods look likely to be left out. <action-based> (K5J 4821)

The sense of Cognition in (11a) is based on the metaphor COGNITION IS PERCEPTION. The use of the motion verb *go* in (11b) is metaphorical in that the speaker conceptualizes the shift of the topic in terms of motion. The speaker's cognitive contribution is even more perceptible in the participial clauses in (11c) and (11d), where actions are used to express metalinguistic comments on the situations described in the main clauses. Both the metaphorical and metalinguistic usages increase the type frequency of the Cognition group. Following the usage-based approach proposed by Bybee (2003), the high type frequency of the Cognition group among the dangling participial clauses suggests that it represents a prototypical and productive semantic category and attracts further usages.

The second most frequent group is that of Physical Motion. Most of the attested examples describe relatively straightforward directed motion, as in (12), or a change in the direction of motion, as in (13). Here again, agentivity comes into play, since less agentive motions (e.g. *falling* or *dropping*) have not been attested.

- (12) a. *Walking along the path* it was fascinating to see how the sea and wind was slowly eroding the coastline [...]. (G2S 1611)

- b. *Going back inside the house*, the two staircases up to the first and second floors were dark. (B22 1541)
- (13) a. *Turning south in some 6 km* the Biberbrugg crossroads are reached. (FYU 1136)
- b. *Leaving the grassland behind*, the terrain became more barren with cliffs and rocks tumbling down into the sea. (CME 36)

What deserves attention is that many of the above instances of motion are fictive, i.e. a static scene is construed as motional by the conceptualizer. The fictive interpretation of motion in the participial clause is triggered by the present tense of the main clause, as illustrated in the following examples.

- (14) a. *Moving further north*, the United States has rather fewer volcanoes [...]. (ASR 41)
- b. *Walking upstream*, the finest aspect of Ben Nevis is revealed [...]. (CJH 1108)
- c. *Entering the monastery*, the ticket office is on the left [...]. (APT 603)

Moving in (14a) describes subjective movement in that the conceptualizer mentally scans the map of the United States toward the north. Likewise, the participles in (14b) and (14c) depict the conceptualizer's imaginary motion along a path to a location. Interestingly, in none of the examples does any actual motion take place. Sixty-eight of the 92 examples of motion attested in the corpus, i.e. more than two thirds, are fictive. This strongly suggests that most instances of motion denoted by dangling participles are to be interpreted as instances of Cognition.

The fictivity of motion further motivates a conditional sense of dangling participial clauses, as in (15).

- (15) ("If you were falling into the black hole with the clock, when would the hands appear to stop? [...]") "*Falling into the black hole with the clock*, time seems to pass normally. The clock keeps going as usual even as you go through the boundary. It only stops when it (and you!) are crushed out of existence at the central point of the hole (or a little earlier when the stretching and crushing forces wreck it)." (FNW 3505, 3507–09)

Falling usually denotes involuntary motion, so it is marginal among the predominantly agentive cases of motion. Note, however, that the interpretation of the motion event here is not real but conditional; it roughly corresponds to 'if we were falling [...]', as explicitly mentioned in the previous context. This example shows that even marginal instances of a situation type may be acceptable once they are conceptually construed as instances of fictive motion.

The third type of situation in our data is the Physical Perception group, where vision is more frequent than other modes of perception, and agentive Perception (*looking*, *watching*, and *listening to*) outnumbers passive Perception (*seeing* or *hearing*).

- (16) a. *Looking toward the town from here*, the sky is dominated by the seat of a religious brotherhood. (ARB 558)
 b. *Watching the race*, it was obvious that Niki was driving with a sort of ill-controlled fury [...]. (CD9 710)
 c. *Seeing it [a beach with no soul] like this*, it's hard to imagine it packed with bodies [...]. (HGY 1316)
- (17) a. *Listening to the autumn wind moaning* [...], their memories of her were vivid. (CEY 4)
 b. *Hearing Anya's account*, it has become clear that [...]. (HGN 3530)

The use of perception verbs as dangling participles is well motivated. Perception is in general closely related to Cognition, the prototype of the dangling participle situations, and serves as one of its metaphorical source domains. Among the types of Perception, vision is most likely to be extended to Cognition, as in *I see*, meaning 'I understand'.

The remaining types of situations, namely Physical States and Physical Actions, are low in frequency and thus marginal, probably because they mainly denote actual occurrences of situations rather than virtual or hypothetical ones. Even among these, however, only those states and actions are attested which are close to the prototype of agentive Cognition. This applies to the situations of *sitting*, *standing*, and *lying*, which require at least some degree of agentivity to keep posture, while emotional states (*liking*, *loving*, *hating*), which are often analyzed as passive reactions to some stimulus and thus less agentive, were not found in the data.

Their semantic relatedness to Cognition in fact explains why certain action verbs are used in dangling participial constructions. Purely physical events such as *eating*, *crying* or *sleeping* are not attested, probably because of the difficulty to conceive of them metaphorically as instances of Cognition. Thus, at least some degree of similarity to the prototype of agentive Cognition needs to be present for a situation to be coded as a dangling participial clause.

Summing up the discussion so far, the situations suitable for the dangling participial clause seem to have a prototype structure. Cognitive situations involving high agentivity are prototypical: their use as dangling participles is fully acceptable and attracts semantic extension from other types of situation. Less prototypical are situations of motion (mostly fictive) and perception (predominantly vision), followed by actions and states as marginal cases. In general, the more cognitive and agentive the situation, the more acceptable it is to be used in dangling participial clauses.

3.3 Types of situations described in the main clause

In order to investigate the semantic patterns of the dangling participial construction, the types of situations described by the main clause also need to be considered. I distinguished between states and events, with the latter further divided into Non-Causative and Causative Events. Their frequencies are shown in Table 2.

Table 2. Types of situations described in the main clause

States	Main clause (n = 956)	
	Events	
	Non-Causative	Causative
678 (70.92%)	199 (20.81%)	79 (8.26%)

One striking finding is that states account for about 70% of the total data. If we included Non-Causative Events, which account for about 20%, the ratio of uncontrollable situation types in the main clause goes up to about 90%. Some examples of States and Non-Causative Events in the main clause are listed under (18) and (19), respectively:

- (18) a. *Approaching Heligoland* the weather was obviously unsuitable. (state) (CLV 743)
 b. *Looking at the film now*, it looks terribly dated. (state) (K25 565)
- (19) a. *Walking up to him*, the dignity she was trying to maintain spoiled when she caught her foot in the trailing bedspread and nearly fell over, she demanded, “Hold out your hands.” (non-causative event) (H9V 3007)
 b. *Arriving home late [...]*, a bottle-fight broke out among the holiday-makers as a result of which a man was killed. (non-causative event) (EDE 703)

Sentences (18a) and (18b) contain copular verbs (*be* and *look*) and are classified as states, while (19a) and (19b) have intransitive verbs (*spoil* and *break*) with inanimate subjects, suggesting Non-Causative Events. All of them denote uncontrollable situations; in fact, most of the main clauses in the dangling participial construction depict uncontrollable situations.

Moreover, the notion of uncontrollability even prevails in the causative events: 60 out of 79 instances of causative events in the main clause involve inanimate subjects. This means that events involving intentionally acting humans are only rarely used as main clauses of dangling participial constructions, as in the following examples.

- (20) a. *Estimating that [...]*, the introduction of such machines halves the direct labor requirement. (causative event) (CAN 404)
 b. *Coming from a group whose aim is the simpler life*, such an entry into the market place raises some intriguing questions. (causative event) (AAG 223)

In summary, the main clause of the dangling participial construction typically describes uncontrollable situations, with states as their prototype. This is in sharp contrast to the corresponding dangling participial clauses, most of which describe agentive, i.e. controllable, events. The contrast between the semantics of the two clauses calls for an explanation in terms of coherence, which will be the subject of the next section.

3.4 Meaning of the dangling participial construction

We have found a strong tendency for dangling participial clauses to denote agentive cognitive events, while most of the corresponding main clauses depict states or non-causative events. It is this distribution of situation types in the main and participial clause that establishes the internal coherence within the prototypical dangling participial construction.

We should also note that the state or non-causative event described by the main clause is often independent of the situation described by the dangling participle. As (21) shows, the main clause proposition applies regardless of the action described by the dangling participle.

- (21) *Leaving the bathroom*, the immediate lobby is fitted with a pair of walnut wall cabinets. (CHP 483)

Here, someone's action of *leaving the bathroom* does not affect the state of the lobby. In fact, we cannot discern any semantic relationship linking the two situations, such as a causal or temporal one. Literally speaking, the two situations are thus not coherently related at all. Yet, the complex sentence is interpreted as coherent and meaningful.

The seeming incoherence between the two situations is resolved by a complex process of meaning construction: we infer the existence of a conceptualizer and her conception. Thus, in (21), the action described by the dangling participle is now understood as being carried out by a conceptualizer, who may be the speaker or a virtual person (Langacker, this volume), and the stative scene described by the main clause is interpreted as the content of the conceptualizer's conception. The meaning of the dangling participial clause in (21) is thus understood more explicitly as [*the conceptualizer*] *leaving the bathroom*, and that of the main clause as [*the conceptualizer will realize/notice/see that*] *the immediate lobby is fitted with a pair of walnut wall cabinets*.

The conceptualizer's perception is sometimes explicitly stated by the use of perception verbs, as in the following examples:

- (22) a. *Looking up the hillside to the north from this point*, the splendid cairn of Josse Pike **can be seen** prominently. (ASU 425)
 b. *Walking along the tracks and paths between the fields*, **it feels as if** thousands have walked there before you. (ARB 1467)

The perception verbs *see* and *feel* in these examples "hint" at an implicit conceptualizer who observes a scene in (22a) or experiences a sensation in (22b). These examples underscore the plausibility of supposing the presence of an implicit conceptualizer and her perception in constructing the meaning of the dangling participial construction.

In supplying a conceptualizer as the implicit subject of the dangling participial clause and understanding the situation described by the main clause as her object of conception we are now able to establish semantic coherence between the situations described in the two clauses. Thus, the complex construction (21) might be paraphrased

The examples in (23) display degrees of prototypicality with respect to the dangling participial construction. The first, (23a), is a prototypical example involving the conceptualizer's fictive perception (*looking backwards*) in the dangling participial clause leading to his recognition of a particular state, i.e. a mid-19th century's tradition. An actual process of perceiving a situation in the preceding century is of course impossible: hence the conceptualizer's act of perception is, via the metaphor COGNITION IS PERCEPTION, understood as an act of Cognition. Example (23b) illustrates a less prototypical cognizance scenario: the participial clause describes the actual event of the conceptualizer's physical motion, which in itself does not lead to an ensuing conception. Since the weather conditions described in the main clause must semantically be somehow related to the motion event in the participial clause, we infer that, in "approaching Heligoland", the conceptualizer perceived the state of the weather. (23c) is still less prototypical in that its main clause describes an event, not a state. However, this sentence still evokes the cognizance scenario: a conceptualizer's action of opening the door leads to the ensuing observation of smoke coming out. All of the above examples thus invoke the cognizance scenario.

As shown in the preceding discussion, constructing the meaning of a dangling participial construction involves highly complex cognitive operations: a conceptualizer has to be invoked, the situation described by the main clause has to be reinterpreted as his conception, and the two situations need to be coherently related. Yet, language users apparently produce and understand dangling participial constructions without any major effort. The dangling participial construction is obviously entrenched in language because it is well motivated experientially and cognitively. The cognizance scenario it describes is based on a very common experience: while engaged in some activity we notice something being the case. It is this scenario that a dangling participial construction readily evokes: since there is no other referent available as the subject of the dangling participle, its unnamed subject can only be a virtual conceptualizer, and since the subject of the main clause is not co-referential with the conceptualizer and hence cannot be related to the participial clause, the situation it describes must be interpreted as the conceptualizer's conception, and since the two situations must be interrelated in a meaningful way, their relation is, in conformity with the principle of figure/ground alignment, interpreted in terms temporal incidence or sequence. The meaning evoked by the dangling participial construction is thus experientially and cognitively very natural and hence the construction, though regarded as "bad English", is well-motivated.

The semantic characterization of the dangling participial construction can even successfully subsume examples of "peculiar" uses of dangling participles that have been noted by traditional grammarians. Let us return to example (8), reproduced below as (24). It will be apparent now that it does not accord with the characterization of the construction.

(24) ##*Reading the evening newspaper*, a dog started barking.

(Quirk et al. 1985: 1122)

The main clause in (24) describes a causative event with an animate, non-human subject; hence it is neither a state nor an uncontrollable event. The sequence “agentive event (in the dangling participle) – causative event (in the main clause)” does not conform to the prototypical combination of situations as discussed in 3.2 and hence is expected to be incoherent and anomalous. However, as (25) shows, there may be room to improve the acceptability as long as contextual support strengthens the scenario-like reading of the conceptualizer’s inferred perception of the main clause situation.

- (25) Then he fetched some newspapers from the kitchen table, went into the study, and settled down in his favorite armchair, looking forward to a quiet and undisturbed evening.
- a. *Reading the evening paper*, a dog started barking.
(Kortmann 1991: 46) (= (9a))
 - b. ##*Reading the evening paper*, a dog closed its eyes on the sofa. (= (9b))

The constructional meaning requires the presence of an implicit conceptualizer from whose viewpoint the main clause situation can be seen. The preceding context of (25a) anaphorically provides a potential conceptualizer, i.e. *he*. The sentence is therefore likely to be interpreted from “his” viewpoint, thus helping us to construe the main clause situation as the object of “his” auditory perception, i.e. ‘he heard a dog start barking’.

Note that the identification of an implicit conceptualizer is not enough for improving the acceptability; what is more important is inferring the conceptualizer’s implicit process of perception which provides the semantic link to the main clause situation. In (25b), however, such an interpretation is difficult. Since the conceptualizer “he” is already occupied in another visual activity, i.e. that of reading, he cannot at the same time see the situation described in the main clause, i.e. the dog closing its eyes. This example indicates that, in order to obtain semantic coherence, the main clause situation needs to be construed as the conceptualizer’s perception. It can now function as a figure, and the dangling participial construction as a whole can be interpreted in accordance with the figure/ground principle.

4. Subjectification and intersubjectification of the dangling participial construction

As argued above, the constructional meaning of the dangling participle contains an implicit conceptualizer, i.e. it is “subjective” in the sense of Langacker (1990). This section compares the degree of subjectification observed in the dangling participial construction to canonical participial constructions. Moreover, we will consider a further aspect of meaning conveyed by the dangling participial construction, namely its interpersonal, or intersubjective, function.

Langacker (1990: 17–19) claims that the zero form of the conceptualizer indicates maximal subjectivity of the event construal. Thus, *Vanessa is sitting across the table* involves subjectivity – the conceptualizer participates in the scene but is not overtly expressed, while *Vanessa is sitting across the table from him/me* involves objectivity – the conceptualizer views his participation in the scene like that of any other person, i.e. he objectifies himself.

This difference in construal also applies to the contrast between the dangling and the canonical participial construction, as shown in (26).

- (26) a. *Entering the railway hotel*, he ordered a pot of coffee.
 b. *Watching them line up their wheelchairs [...]*, it was clear they wanted to win. (K4T 687)

The canonical participial construction in (26a) construes the scene objectively: the unnamed subject referent of the participial clause is understood to be identical with the named subject referent (*he*) of the main clause. The dangling participial construction in (26b), by contrast, construes the scene subjectively: the unnamed subject referent of the participial clause is not identical with the subject *it* of the main clause but is an implicit onstage conceptualizer. In other words, the difference between the two constructions is attributed to the conceptualizer's viewpoint: offstage in (26a) and onstage in (26b).

Due to its subjectivity, the dangling participial construction is characterized by certain syntactic features. As we have observed, dangling participial clauses often involve fictive motion, and the main clauses are typically expressed in the present tense. These two factors increase the subjective nature of the construction, as shown in (27).

- (27) *Approaching from Sedbergh*, the Street turns off to the right immediately after Rawthey Bridge [...]. (ASU 42)

The construal of the scene in terms of fictive motion is a purely mental operation performed by the conceptualizer, i.e. the speaker, and demonstrates his active construction of meaning. More importantly, the use of the present tense here indicates the genericity of the description: not only the speaker but whoever travels the road “from Sedbergh” will come to the particular street that turns off to the right. This also implies that not only the speaker but also the hearer or reader is involved in the constructional meaning. In this respect, we may say that the function of dangling participles is what Tomasello describes as “joint attention”, i.e. to report to, and share with, the hearer/reader the details of the scene.

An act of “joint attention” typically occurs at speech time, i.e. it strongly focuses on the presence of a hearer. In spoken dialogue, uses of the dangling participle are also attested that mainly target the hearer. Consider sentence (28).

- (28) *Looking back on the twenty-five years of fostering children*, is there any one memory that stands out for you? (KRT 2486)

The speaker's use of the dangling participle in (28) draws "joint attention" to the issue described, but it is the hearer rather than the speaker who is meant to "look back on the past 25 years". Here, the dangling participle carries an interpersonal, or "intersubjective", function (Traugott 2003), where the meaning comes to be situated more in the hearer's mind than in the discourse context.⁵ Since this usage in (28) is based on the joint attentional function which is exhibited as well in the subjectified meaning, as in (27), it is in accord with Traugott's claim that intersubjectification is a process following subjectification.

Due to its subjective nature and its intersubjective function, the dangling participial construction is strongly tied to the speech situation. This implies that the construction is best suited to being used "on the spot", i.e. at speech time, reflecting the viewpoint of the speech participants. Not surprisingly, the dangling participle is therefore extensively used in spoken dialogue. Corpus studies have shown that spoken data differ from written data in that it contains more subjective viewpoints and opinions expressed by the grounding participants, such as *I* or *you* (Thompson & Hopper 2001; Scheibman 2001). Scheibman (2001) also notes that conversations are typically in the present tense, a tense form that allows the speaker to present his subjective view at speech time. It is this particular speech situation that also motivates the use of the dangling participial construction.

5. Conclusion

The analysis of actually occurring usages has shown that the dangling participial construction is associated with a specific constructional meaning, referred to as the cognizance schema. The cognizance scenario comprises two situations: an agentive event and a state or non-causative event. The agent instigating the event is at the same time the conceptualizer of the state or non-causative event. In the dangling participial construction, the participial clause expresses the agentive event and the main clause the conceived or perceived state or non-causative event. The agent and the conceptualizer are implicit and have to be inferred. Thus, in *Approaching from Sedbergh, the Street turns off [...]*, the person approaching from Sedbergh may be the speaker, the hearer, a virtual or a generic person, and this person also implicitly conceives or perceives the

5. Some might think that the intersubjective effect is due to the question in the main clause, not the dangling participle. However, the fact itself is important here that the dangling participle can co-occur with the question form which is directed to the hearer at the time of speech. To show an instance of intersubjectification, in the phrase *let's* in "Let's take our pills now, Roger", the speaker of the sentence is offstage but the phrase "let's" indicates the speaker's suggestion that (only) the hearer should act (Traugott 2003: 130). This is in parallel with (28), which implies the speaker's direction that (only) the hearer should "look back", that is, the conceptualizer here is the hearer only.

geography and the point where the street turns off when approaching it. The two situations are related in terms of figure and ground. The agentive participial event serves as the (back-)ground for the main clause situation as a figure, which is understood as depicting an incidental or ensuing state or non-causative event. Thus, in the above example, the figure event of the street turning off can be interpreted as occurring during or after one's approaching a particular point on the road. It has been shown that this highly complex process of meaning construction is motivated by the dangling participial construction.

This constructional meaning is prototypically structured, with generic events of Cognition as its central members. As in *Looking ahead, nuclear power has the best growth prospects*, verbs other than cognition verbs are better motivated to be used in the dangling participial clause when they are interpretable as Cognition events by way of metaphor or some metalinguistic operation. In addition, the main clause prototypically describes states, typically in present tense. In contrast, the combination of actually occurring events in the participial clause and causative events in the main clause (e.g. *Reading the evening newspaper, a dog started barking*) is small in number and thus less prototypical; they require some contextual support to accommodate the constructional meaning.

The dangling participial construction is closely related to the Ground, i.e. to the speaker and the hearer and the time of speech. Its constructional meaning is therefore highly subjective or, in including the hearer, intersubjective. In spite of the notorious "inconsistency of the controller subject", the construction as a whole is fully motivated as an instance of subjective construal.

Another theoretical implication of the present study is the importance of a subjective construal at speech time. The dangling participial construction is ideally suited to express the speaker's subjective view of a state of affairs in an ongoing discourse. We do not seem to talk much about events or actions objectively, but rather about "how things are from our perspective" (Thompson & Hopper 2001: 53). This communicative factor has motivated the "notorious" dangling participles and their entrenched use in conversation in spite of efforts of generations of prescriptive grammarians and teacher to dispel its use.

References

- Bybee, Joan. 2003. Mechanisms of change in grammaticalization: The role of frequency. In B. Joseph and R. Janda, eds. *The Handbook of Historical Linguistics*, 602–623. Malden: Blackwell.
- Declerck, Renaart. 1991. *A Comprehensive Descriptive Grammar of English*. Tokyo: Kaitakusha.
- Givón, Talmy. 1990. *Syntax*. Vol. II. Amsterdam: John Benjamins
- Goldberg, Adele. 1995. *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago: University of Chicago Press.

- Goldberg, Adele. 2006. *Constructions at Work: The Nature of Generalization in Language*. Oxford: Oxford University Press.
- Hayase, Naoko. 1997. The role of figure, ground, and coercion in aspectual interpretation. In M. Verspoor, KD. Lee, and E. Sweetser, eds. *Lexical and Syntactical Constructions and the Construction of Meaning*, 33–50. Amsterdam & Philadelphia: Benjamins.
- Huddleston, Rodney, and Geoffrey K. Pullum. 2002. *The Cambridge Grammar of the English Language*. Cambridge: Cambridge University Press.
- Ido, Akira. 2001. Kensui-bunshi-koubun-no imijyo-no shugo-ni kansuru ichikousatsu (A study on the logical subject of dangling participles). *Proceedings of Japan English Linguistic Society (JELS)* 18: 31–40.
- Jespersen, Otto. 1933. *Essentials of English Grammar*. London: George Allen & Unwin.
- Kortmann, Bernd. 1991. *Free Adjuncts and Absolutes in English: Problems of Control and Interpretation*. London: Routledge.
- Kortmann, Bernd. 1995. Adverbial participial clauses in English. In M. Haspelmath and E. König, eds. *Converbs in Cross-Linguistic Perspective: Structure and Meaning of Adverbial Verb Forms*, 189–237. Berlin: Mouton de Gruyter.
- Kortmann, Bernd, and Ekkehard König. 1992. Categorical reanalysis: The case of deverbal prepositions. *Linguistics* 30: 671–697.
- Langacker, Ronald W. 1990. Subjectification. *Cognitive Linguistics* 1(1): 5–38.
- Langacker, Ronald W. 2006. Extreme subjectification: English tense and modals. In H. Cuyckens, T. Berg, R. Dirven, and K.-U. Panther, eds. *Motivation in Language: Studies in Honor of Günter Radden*, 3–26. Amsterdam and Philadelphia: John Benjamins.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1985. *A Comprehensive Grammar of the English Language*, Longman, London.
- Radden, Günter, and René Dirven. 2007. *Cognitive English Grammar*, Amsterdam: John Benjamins.
- Radden, Günter, and Klaus-Uwe Panther. 2004. Introduction: Reflections on motivation. In G. Radden and K.-U. Panther, eds. *Studies in Linguistic Motivation*, 1–46. Berlin: Mouton de Gruyter.
- Scheibman, Joanne. 2001. Local patterns of subjectivity in person and verb type in American English conversation. In J. Bybee and P. Hopper, eds. *Frequency and the Emergence of Linguistic Structure*, 62–86. Amsterdam and Philadelphia: John Benjamins.
- Talmy, Leonard. 1978. *Figure and Ground in complex sentences*. In Joseph Greenberg, ed. *Universals of Human Language 4: Syntax*, 625–649. Stanford: Stanford University Press.
- Talmy, Leonard. 2000. *Toward a Cognitive Semantics*. Vol.1. Cambridge, MA: MIT Press.
- Thompson, Sandra, and Paul J. Hopper. 2001. Transitivity, clause structure, and argument structure: Evidence from conversation. In J. Bybee and P. Hopper, eds. *Frequency and the Emergence of Linguistic Structure*, 28–60. Amsterdam and Philadelphia: John Benjamins.
- Traugott, Elizabeth C. 2003. From subjectification to intersubjectification. In R. Hickey, ed. *Motives for Language Change*, 124–139. Cambridge: Cambridge University Press.
- Verhagen, Arie. 2006. On subjectivity and ‘long-distance wh-movement’. In A. Athanasiadou, C. Canakis, and B. Cornillie, eds. *Subjectification: Various Paths to Subjectivity*, 323–346. Berlin/New York: Mouton de Gruyter.
- Verhagen, Arie. 2006. *Constructions of Intersubjectivity: Discourse, Syntax, and Cognition*. Oxford: Oxford University Press.

What motivates an inference?

The emergence of CONTRAST/CONCESSIVE from TEMPORAL/SPATIAL OVERLAP*

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The present article proposes both theoretical and empirical explanations for the semantic shift from the meaning TEMPORAL/SPATIAL OVERLAP to the meaning CONTRAST/CONCESSIVE, observable across genetically and geographically unrelated languages (e.g. English *while*, Japanese *-nagara*). The shift involves metonymic inference (Traugott & König 1991). However, our three experiments show that this inference is further motivated by a TEMPORAL/SPATIAL OVERLAP of two situations, which largely corresponds to PERCEPTUAL OVERLAP in Langacker's viewing arrangement. Therefore, among Radden and Panther's (2004) language-independent factors of motivation, perceptual motivation (perceptual overlap) is more fundamental to the semantic change in question than cognitive motivation (metonymic inference).

Keywords: cognitive grammar, connective, inference, metonymy, semantic shift

1. Introduction

The purpose of this contribution is to offer theoretical and empirical explanations for the semantic shift from the meaning TEMPORAL/SPATIAL OVERLAP to the meaning CONTRAST/CONCESSIVE, which is attested in a wide variety of languages (e.g. English *while*, *where(as)*, German *während*, Japanese *-nagara*, *tokoroga*, Korean *-myeonseo*). The shift has been attributed to “the conventionalizing of conversational inferences” (Traugott & König 1991: 194) involving a metonymic change. The

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important role of inference in language change has been stressed by Hopper and Traugott (1993: 75):

For the present, it should suffice to note that for inferences to play a significant role in grammaticalization, they must be *frequently occurring*, since only *standard inferences* can plausibly be assumed to have a lasting impact on the meaning of an expression or to function cross-linguistically. (our italics)

No one would deny that inference is at work in some semantic shifts or processes of grammaticalization, but the question arises why certain inferences occur more frequently and are more “standard” than others (cf. the notion of “easy inference” in Faltz 1989). The contrastive/concessive meaning is frequently inferred from the meaning of temporal/spatial overlap. Our goal here is to demonstrate that the inference-based account is not sufficient to elucidate the fundamental motivation for the semantic change; in particular, it does not answer the question why the contrastive and concessive meanings tend to be inferred from connectives denoting temporal overlap, and not from meanings, such as sequentiality (e.g. English *before*, *after*). Since the inference and the concomitant semantic shift from TEMPORAL/SPATIAL OVERLAP to CONTRAST/CONCESSIVE are observable across languages, it is reasonable to assume that the shift in question is triggered by one or more of the language-independent factors of motivation proposed by Radden and Panther (2004).

Of the six main factors mentioned by Panther and Radden, viz. ecological, genetic, experiential, perceptual, cognitive, and communicative motivation, we argue that the shift from TEMPORAL/SPATIAL OVERLAP to CONTRAST/CONCESSIVE is motivated by both cognitive and perceptual factors and that perceptual motivation is more fundamental than cognitive motivation, i.e. metonymy or other types of inference.

We conducted three experiments testing subjects’ perception of two co-occurring situations and interpreted the results in terms of the notion of viewing arrangement (Langacker 1991, 1993, 2000; Radden & Panther 2004).

2. Inference and semantic change

Well-known examples of the semantic shift from TEMPORAL/SPATIAL OVERLAP to CONTRAST/CONCESSIVE are English *while* and *whereas*. *While* was originally used as a connective of simultaneity or temporal overlap and started to express contrastive/concessive meaning in early Modern English (OED s.v. *while* B2b). The old and new meanings are still coexistent in present-day English, as in (1). In contrast, *whereas* has

lost its original spatial meaning and is now used only as a contrastive/concessive connective, as in (2):¹

- (1) From temporal overlap to contrast/concessive: *while*
 TEMPORAL OVERLAP: *I killed time in a book shop while I was waiting.*
 CONTRAST: *Tom is hardworking, while Bill is lazy.*
 CONCESSIVE: *While I sympathize with you, I cannot accept your opinion.*
- (2) From spatial overlap to contrast/concessive: *whereas*
 SPATIAL OVERLAP (obs.):
[...] oure heartes may surely there be fixed, where as true ioyes are to be founde.
‘[...] our hearts may surely there be fixed where true joys are to be found’
 (1547–49, *The Book of Common Prayer*)
 CONTRAST: *Some of the students achieve good results, whereas others do not.*
 CONCESSIVE: *Whereas it would be naive to maintain that inflation is no longer of concern, (nevertheless) all the economic indicators suggest that the money supply can now be safely increased.* (Quirk et al. 1985: 1099)

The semantic shift from TEMPORAL/SPATIAL OVERLAP to CONTRAST/CONCESSIVE is common across genetically and geographically unrelated languages (cf. König 1985; Harris 1988):

- (3) Connectives of other languages
 Japanese: *-nagara* ‘while’, *-noni* [*no* (formal noun) + *ni* (allative/temporal case marker)] ‘even though’, *tokoroga* [*tokoro* ‘place’ + *ga* (nominative case marker)] ‘but’
 Ainu: *korka* [*kor* ‘while’ + *ka* ‘also’] ‘though’
 Korean: *-myeonseo* ‘while’, *-neun/(eu)nde* [*neun/(eu)n* (adnominal ending) + *de* ‘place’] ‘(al)though’, ‘but’
 Indonesian: *sedang* ‘while’, ‘(al)though’
 German: *während* ‘while’, *inzwischen* ‘meanwhile’
 Latin: *cum* ‘when’, ‘(al)though’
 French: *tandis que* ‘while’, *cependant* ‘meanwhile’, ‘yet’, ‘however’; *alors que* ‘when’, ‘(al)though’, *lorsque* ‘when’, ‘(al)though’, *au lieu que* ‘in the place that’, ‘whereas’, *quand* ‘when’, ‘(al)though’
 Italian: *mentre* ‘while’, ‘whereas’
 Spanish: *cuando* ‘when’, ‘(al)though’
 Dutch: *terwijl* ‘while’
 Danish: *medens* ‘while’
 Turkish: *iken* ‘when’, ‘(al)though’, and others.

1. For the difference between the contrastive and concessive meanings, Izutsu (2005, 2008) characterizes contrast as a conflict relation between the propositional contents of clauses and concessive as a conflict relation between an assumption evoked from one clause and the propositional content of the other (see 4.1 and 4.2 below).

Some previous studies explain this semantic shift with the notion of inference. Traugott and König (1991: 212) argue that the shift involves a process they call “the conventionalizing of conversational inferences”.² They regard this shift as “a kind of metonymic change, indexing or pointing to meanings that might otherwise be only covert”. The connective *while*, for example, developed the concessive meaning because the inference of surprise or incompatibility arising from the co-occurrence of two situations was indexed and conventionalized as part of its meaning. The inference-based account has recently been adopted by Traugott and Dasher (2002) in their Invited Inferencing Theory of Semantic Change (IITSC).

Inference has traditionally been viewed as an important notion for semantic change. Geis and Zwicky (1971) and Abraham (1976) argue that the emergence of a new meaning from a particular linguistic source involves the principle of “invited inference” or “everyday logic”. One of the best-known examples of this principle is the classic fallacy *post hoc ergo propter hoc*, which is often used to describe the semantic shift from sequentiality to causality (e.g. in English *since*). Faltz (1989: 319) also discusses the role of inference in semantic change, claiming that “easy inference is more likely to be a channel for semantic change than difficult inference”.

Acknowledging the crucial role of inference in semantic change, we need to go one step further and ask what motivates the particular inference and its ensuing conventionalization. Since TEMPORAL/SPATIAL OVERLAP exhibits a high probability of developing into CONTRAST/CONCESSIVE, there should be an enabling factor triggering the relevant inference. In what follows, we will demonstrate that this factor is perceptual motivation, specifically viewing arrangement.

3. An analysis of temporal/spatial overlap

The present discussion focuses on shift involving temporal overlap, although we can assume that a similar argument holds for shifts involving spatial overlap. Let us look at examples (4a) and (4b). Both sentences express temporal overlap, but (4a) can also be interpreted as conveying a contrastive meaning and (4b) as conveying a concessive meaning. Figure 1 depicts the semantic structure of the temporal reading.

2. The term ‘conversational inference’ is reminiscent of the notion of conversational implicature and in fact Grice (1975: 58) already suggested that “it may not be impossible for what starts life, so to speak, as a conversational implicature to become conventionalized”.

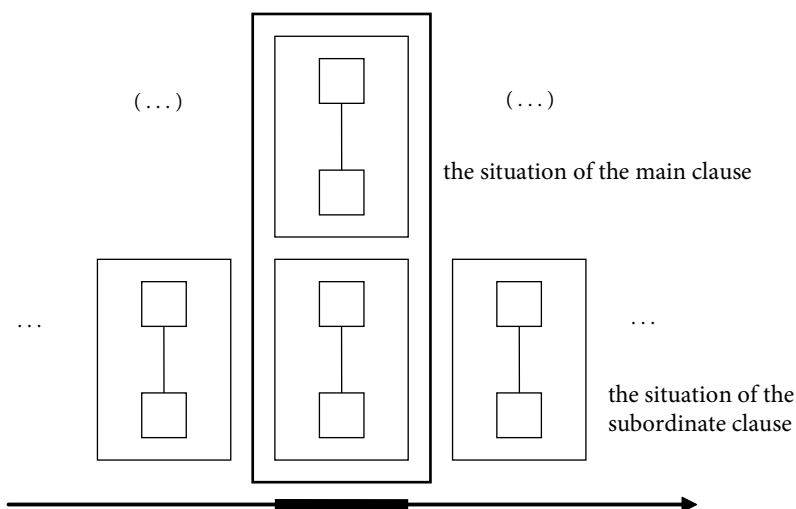


Figure 1. Temporal *while*

- (4) a. Bill was watching TV(,) while John was doing his homework. [TEMPORAL OVERLAP/CONTRAST]³
- b. While it was raining, the game took place. [TEMPORAL OVERLAP/CONCESSIVE]

Our analysis follows the framework of Cognitive Grammar (e.g. Langacker 1987, 1991). Each solid-line rectangle represents a component state of a situation. Two small squares in each rectangle stand for entities participating in a relation. The arrow at the bottom represents the conceived time, and the thick bar along the arrow indicates the temporal profile shared by the situations of the two clauses. The overlap of the two situations is indicated by the large, bold rectangle in the center. As Figure 1 shows, temporal *while* indicates that some component states of the two situations co-occur on the same temporal plane.

Within the “viewing arrangement” framework (Langacker 1991, 1993, 2000), the temporal plane is identified with the “viewing frame”, also known as the “on-stage region” or “objective scene”. The temporal frame is most salient in the predication of *while* and therefore becomes the locus of attention. The sentences of temporal overlap are perceptually understood as designating a configuration in which some component states of two situations co-occur in the same viewing frame or on-stage region, as depicted in Figure 2. Although the orientation is changed, the bold rectangle in Figure 2 corresponds to that in Figure 1.

3. Though (4a) expresses both of the temporal and contrastive meanings, they differ in the usage of a comma between the two clauses. While the contrastive meaning prefers the insertion of a comma, the temporal meaning does not (pointed out by Steve Burrow, p.c.). The parenthesis enclosing the comma in (4a) represents this difference.

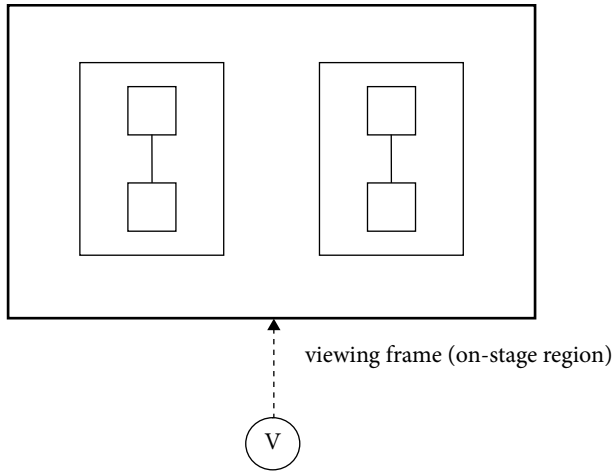


Figure 2. Viewing arrangement of temporally overlapping situations

4. An explanation for the semantic shift

4.1 From temporal overlap to contrast

The configuration in Figure 1 can be viewed as a relevant “linguistic source” (Radden & Panther 2004: 10) for the semantic shift. We assume that this linguistic source, along with the operation of a language-independent factor, contributes to the emergence of a new meaning. Let us first consider (4a) (repeated here as (5)), which is suggestive of a shift to the meaning of contrast:

- (5) Bill was watching TV(,) while John was doing his homework.

In the temporal reading, the sentence expresses the temporal overlap of two situations (Bill’s watching TV and John’s doing his homework). Since a temporal plane for overlapping situations serves as the viewing frame or on-stage region of the viewing arrangement, the viewer perceives the component states on the same stage and compares them with each other. The viewer’s cognitive act of comparison here is a prerequisite for his/her recognition of similarity or difference of the two situations (cf. Radden & Panther 2004: 28). When the viewer notices a clear difference between the component states, the contrastive meaning becomes dominant over the temporal one. Watching TV contrasts with doing one’s homework with respect to desirability: for many people, the former activity is desirable, the latter undesirable. The recognition of the meaning of contrast is sketched in Figure 3, where the bold rectangle represents the viewing frame or on-stage region, corresponding to the bold rectangle in Figure 2.

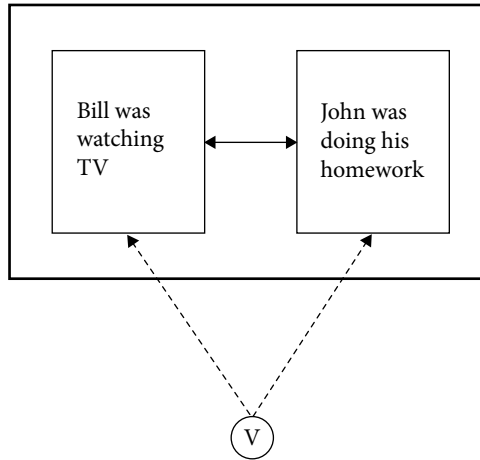


Figure 3. The perception of contrast (sentence (5))

The two component states on the same stage are subject to comparison by a viewer, thereby encouraging the viewer to notice some difference or conflict between the states. Watching TV somehow comes into conflict with doing one's homework, because many activities that one has to do are not generally the ones that one wants to do. The relation of conflict is indicated with the double-headed arrow in the diagram.

4.2 From temporal overlap to concessive

The semantic shift to *CONCESSIVE* is similarly explained, but it requires the consideration of one of the viewer's assumptions. As stated in (6), the concessive meaning involves a background assumption that is contradictory to an asserted proposition. For example, a concessive sentence such as (7a) is viewed as involving an assumption described in (7b):

- (6) *CONCESSIVE* is a conflict relation between an assumption evoked by the propositional content of one clause and the propositional content of the other.
(Izutsu 2005, 2008)
- (7) a. Concessive sentence: *Although it was raining, the game took place.*
(Although p, q.)
b. Assumption involved: 'If it is raining, then normally the game does not take place.' (more generally: 'If p, then normally not q.')

Let us consider again (4b) (repeated here as (8)). The temporal reading indicates that some component states of the two situations are on the same temporal plane or, in the terminology of the viewing arrangement model, they are on the same stage:

(8) While it was raining, the game took place. (= 4b)

Unlike (5), the two situations of (8) are not contrastive in themselves. It is not clear which entities are contrasted with each other and in what respect, and there is no logical/semantic contradiction involved here. Yet we know that the two situations are in some incompatible relationship with each other. This sense of incompatibility arises when the co-occurrence of the two situations is compared to one of the viewer's background assumptions. Given the rainy weather, we generally assume that the game will not take place, but contrary to this assumption, the main clause of the sentence asserts that the game took place. As seen in (6), it is this conflict relation between the assumption and the propositional content of the main clause that gives rise to the concessive meaning.

This process is illustrated in Figure 4. As with Figure 3, some component states of the two situations share a temporal plane and, therefore, they are on the same stage. However, these component states, viewed together, are not judged to be contrastive with each other. Instead, their co-occurrence is judged to be unlikely in terms of one of the viewer's general assumptions. In other words, what is compared here are not the two situational components on the stage, but their co-occurrence and one of the viewer's assumptions. The concessive meaning arises when the co-occurrence of the two situations conflicts with the background assumption. This conflict relation is again indicated with the double-headed arrow in the diagram:

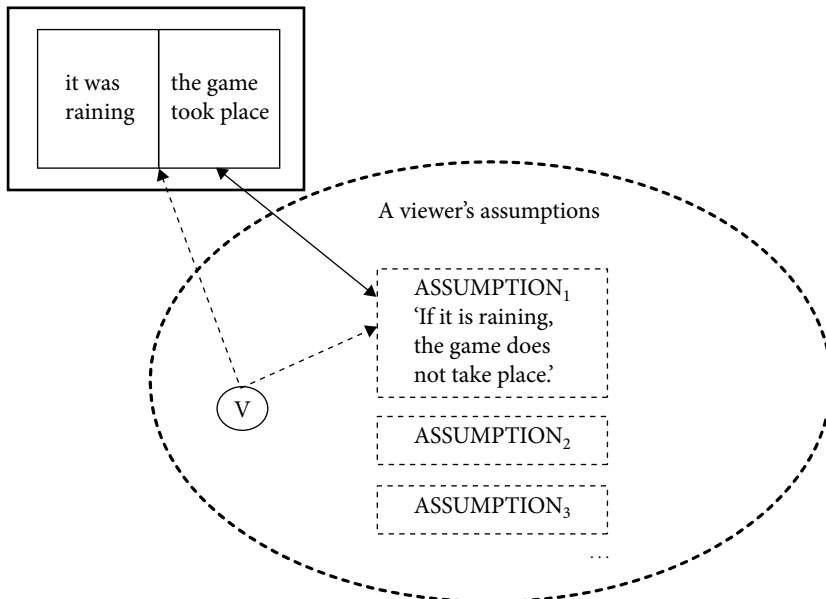


Figure 4. Development of concessive meaning

4.3 Hypotheses on perceptual motivations

It has been shown that a temporal/spatial plane for the co-occurrence of two situations serves as the viewing frame or on-stage region of the viewing arrangement. The co-occurrence on the stage makes the two situations subject to comparison with each other and likely to receive a contrastive reading. Otherwise, the two situations, unified as a whole, are compared to one of the viewer's background assumptions, giving rise to a concessive reading. These analyses allow us to propose three hypotheses concerning perceptual motivations for the semantic shift:

- i. Temporal/spatial overlap is likely to encourage the viewer to locate two situations on the same stage or viewing frame;
- ii. the two situations are more likely to be compared or unified with each other; and
- iii. they more readily yield a contrastive/concessive reading than those on separate stages.

Three experiments were conducted to test the above hypotheses. The results of the experiments will be discussed in Section 5. Section 6 proposes a perceptually motivated account for the tendency of a semantic shift from TEMPORAL/SPATIAL OVERLAP to CONTRAST/CONCESSIVE. The perceptual overlap of two situations stimulates their conceptual unification and promotes their comparison, leading to their likelihood of being interpreted in a contrastive/concessive sense.

5. Empirical evidence

5.1 Experiment I

Experiment I was intended to examine the first hypothesis given in Section 4.3. It investigated whether temporal overlap was likely to encourage the subjects to locate two situations on the same stage. We conducted a “drawing test”, in which 38 Japanese university students heard two Japanese complex sentences (one expressing temporal overlap and the other temporal sequence) and were asked to draw a picture of each sentence. The sentences presented to the subjects are given in (9a) and (9b):⁴

(9) Sentences used in Experiment I

a. Temporal overlap:

Watashi-ga yuushoku-o tabeteiru-aida, haha-wa

I-NOM dinner-ACC be:eating-while mother-TOP

4. Hereafter the following abbreviations are used: ACC (accusative case marker), COP (copula), CP (conjunctive particle), GEN (genitive case marker), NEG (negation), NOM (nominative case marker), PAST (past tense marker), PERF (perfect marker), TOP (topic marker).

Table 1. Results of Experiment I (drawing test)

	Temporal Overlap (ex. (9a))	Temporal sequence (ex. (9b))
The two situations in the same scene	38	0
The two situations in different scenes	0	7
One situation and the resultant state of the other in the same scene	0	30
Only one situation depicted	0	1
Total	38	38

sara-o arattei-ta.

dishes-ACC be:washing-PAST

'My mother was washing the dishes while I was having dinner.'

b. Temporal sequence:

Watashi-ga yuushoku-o tabe-ta nijikan-goni,

I-NOM dinner-ACC eat-PERF two:hours-after

haha-wa sara-o arat-ta.

mother-TOP dishes-ACC wash-PAST

'My mother washed the dishes two hours after I had dinner.'

The results support our hypothesis. As shown in Table 1, the two situations with temporal overlap were located in the same scene: all the subjects depicted the situations of washing the dishes and having dinner in the same scene, an example of which is given in Appendix A. On the other hand, the two temporally sequenced situations were never described that way. Seven subjects sketched the two situations in different scenes, i.e. they explicitly indicated that the situations occurred at different times, as shown in Appendix B. A further interesting aspect is that the majority (30) of the subjects introduced a situation not coded in the sentence: they described a resultant state of the situation denoted by the subordinate clause. In this type of description, the mother's washing dishes was typically depicted with the speaker's having a rest after dinner, as given in Appendix C. These responses all suggest that the situations in temporal sequence are not likely to be located on the same stage.

5.2 Experiment II

Experiment II was meant to test the second and third hypotheses, investigating whether situations on the same stage more readily yield a comparative or contrastive/concessive reading than those on separate stages. Two groups of subjects participated in this experiment: one group consisted of 74 Japanese university students, and the other group consisted of 77 students. We conducted an "explaining test" for the experiment.

Four sets of pictures (given in Appendix D) were used: Picture 1 represents a boy catching a big fish and a girl catching a small fish on the same sheet, Picture 2 represents those two situations on separate sheets, Picture 3 represents a boy reading a book and a girl crying on the same sheet, and Picture 4 represents the two situations on separate sheets. The ‘fishing’ pictures were designed to elicit a contrastive interpretation, and the ‘reading/crying’ pictures to elicit a concessive interpretation. The subjects of each group were shown two of the four sets of pictures (one representing ‘fishing’ and the other representing ‘reading/crying’) and were asked to explain them in a single Japanese sentence. For Pictures 2 and 4, two situations were represented on separated sheets and sequentially presented to the subjects with some time interval (approx. 30 seconds) between them. The results of the experiment are given in Tables 2–4.

For Pictures 1 and 2, designed to elicit a contrastive interpretation, our second hypothesis was supported (as will be argued below), while the third hypothesis was inconclusive. Table 2 shows the frequency of contrastive connectives used for Pictures 1 and 2 (the ‘fishing’ pictures). According to our third hypothesis, we had expected that the subject responses to Picture 1 (two situations in the same scene) would contain more frequent uses of contrastive connectives than those for Picture 2 (two situations in separate scenes), but the results turned out to show the opposite tendency. Contrary to our expectation, Picture 2 elicited more responses with contrastive connectives than Picture 1. Sentences (10a) and (10b) exemplify such connective uses for Pictures 1 and 2, respectively:

- (10) a. *Otokonoko-ga tsut-ta sakana-wa ookii-GA,*
 boy-NOM catch-PAST fish-TOP big-but
onnanoko-ga tsut-ta mono-wa chiisai.
 girl-NOM catch-PAST one-TOP small
 ‘The fish the boy caught is big, but the one the girl caught is small.’
 (Picture 1)
- b. *Asa-wa chiisana sakana-shika tsure-nakat- ta-KEDO,*
 morning-TOP small fish-only be:caught-NEG- PAST-but,
yoru-ni naru-to ookina sakana-ga tsure-ta.
 night-to become-CP large fish-NOM be:caught-PAST
 ‘The morning saw only a small fish caught, but the evening found a big one caught.’
 (Picture 2)

Table 2. Frequency of contrastive connectives (Fishing)

Picture 1 (same scene) n = 74	20 (27%)
Picture 2 (separate scenes) n = 77	36 (47%)

Table 3. Frequency of comparative expressions (Fishing)

Picture 1 (same scene) n = 74	26 (35%)
Picture 2 (separate scenes) n = 77	10 (13%)
$\chi^2 = 9.011346, df = 1, p < 0.005$	

Notice, however, that the number of comparative expressions used in the subjects' responses clearly supports our second hypothesis, as shown in Table 3. The results show that the two situations on the same stage are more likely to be compared with each other than those on different stages. The responses to Picture 1 had more occurrences of comparative expressions like *yori* 'than' than those for Picture 2, as given in (11). The difference was statistically significant in a chi-square analysis ($\chi^2 = 9.011346, df = 1, p < 0.005$).⁵

- (11) *Otokonoko-ga onnanoko-YORI ookii sakana-o tsuriage-ta.*
 boy-NOM girl-than larger fish-ACC catch-PAST
 'The boy caught a larger fish than the girl did.' (Picture 1)

For Pictures 3 and 4, designed to elicit a concessive interpretation, our second and third hypotheses have both been clearly supported. The subjects unified the two situations presented to them into one whole and compared it to one of their background assumptions. Table 4 shows that Picture 3 elicited subject responses with concessive expressions but Picture 4 did not. Examples for such responses are the sentences in (12):

- (12) a. *Koen-de onnanoko-ga naiteiru-NIMOKAKAWARAZU, otokonoko-wa*
 park-at girl-NOM be:crying-although boy-TOP
benchi-ni suwat-te dokusho-o shitei-ta.
 bench-on sit-CP read-ACC be:doing-PAST
 'In the park, although the girl was crying, the boy was reading on the bench.' (Picture 3)

Table 4. Frequency of concessive connectives (Reading/Crying)

Picture 3 (same scene) n = 77	16 (21%)
Picture 2 (separate scenes) n = 74	0 (0%)

5. Although there are only two cells (spaces) in the table, we conducted a cross-tabulation analysis, examining whether or not the two pictures used comparative expressions.

- b. *Onnanoko-ga naiteiru-NONI, megane-o kaketa*
 girl-NOM be:crying-even:though glasses-ACC wearing
otokonoko-wa kinishi-nai-de hon-o yondei-ta.
 boy-TOP care-NEG-CP book-ACC be:reading-PAST
 ‘Even though the girl was crying, the boy with glasses continued reading
 with no care for her.’ (Picture 3)

Whereas approximately one-fourth of the subjects used concessive connectives for Picture 3, none did for Picture 4. Typical subject responses (35%) for the latter are descriptions of the two situations as occurring in separate scenes, as given in (13). Of such descriptions, the most frequent was one of the girl’s crying as part of the story that the boy was reading as in (13a), and the second most frequent is one of the two situations as occurring on opposite sides of the earth as in (13b):⁶

- (13) a. *Otokonoko-ga benchi-ni suwat-te yondeiru*
 boy-NOM bench-on sit-CP be:reading
hon-no nakami-wa hoshizora-no shitade
 book-GEN content-TOP starry:sky-GEN under
naku onnanoko-no hanashi-dearu.
 cry girl-GEN story-COP
 ‘The book the boy was reading on the bench is a story of a girl crying
 under a starry sky.’ (Picture 4)
- b. *Otokonoko-wa benchi-ni suwat-te hon-o*
 boy-TOP bench-on sit-CP book-ACC
yondeiru-ga, sono chikyu-no uragawa-de-wa
 be:reading-but the earth-GEN opposite:side-at-TOP
onnanoko-ga yozora-no shitade naiteiru.
 girl-NOM night:sky-GEN under be:crying
 ‘The boy is reading a book on the bench, but there is a girl crying under
 the night sky on the other side of the earth.’ (Picture 4)

5.3 Experiment III

As reported in the previous section, the first group exposed to Pictures 1 and 2 in Experiment II does not necessarily support our third hypothesis: two situations located on the same stage more readily yield a contrastive/concessive reading than those on separate stages. As far as the concessive reading is concerned, the hypothesis has been confirmed. With respect to the contrastive reading, nevertheless, the results defied our expectation that the subject responses to Picture 1 (two situations in the same scene) would contain more frequent uses of contrastive connectives than those to Picture 2

6. We treated two situations sketched like (13a) as being in separate scenes, because a boy’s reading a book is not co-existent with a girl’s crying in time and space.

(two situations in separate scenes). We suspected that an insufficient interval between the presentation of the two situations in Picture 2 ('the boy's catching a small fish' and 'the girl's catching a big one') had caused the subjects to locate the situations on the same stage. In Experiment II, we took only an approximately 30-second interval between the presentation of one situation and that of the other. We thus devised another experiment in which a longer time interval would intervene between the presentation of the two situations.

Table 5 represents the results of Experiment III. In this experiment, a longer interval (approximately 60 minutes) was maintained between the presentation of the two situations.⁷ The results differ considerably from those of Experiment II. The percentage of contrastive connective uses for describing Picture 2 decreased to 21% (much less than 47% in the original experiment). No occurrences of concessive connectives were attested. A majority of responses (70%) lacked any explicit expressions of contrast; moreover, some subjects totally forgot the details of the first situation, just producing short general remarks such as *Kodomo-ga sakana-o tsuriageteiru* or *Tsuri-o shiteiru* '(Children) are catching fish.'⁸

This suggests that the longer the interval between the perception of two situations is, the less likely they are to be contrasted. The simultaneous perception of two situations is more likely to yield a contrastive interpretation than their successive perception, though the difference may not be significant when the time interval between successive perceptions is rather short.

The fact that the subjects did use contrastive connectives in their descriptions of Picture 2 does not run counter to our third hypothesis. What contradicted it in Experiment II is the higher frequency of contrastive connective uses for the description of Picture 2 than for the description of Picture 1. Experiment III confirms the hypothesis by manifesting a lower frequency of contrastive connective uses in the description

Table 5. Frequency of connectives and other expressions for Picture 2 (Reading/Crying) [with a longer interval between the presentations of the two situations]

contrastive connective	7 (21%)
concessive connective	0 (0%)
comparative expressions	2 (6%)
others	24 (73%)
	n = 33

7. A new subject group (constituted of 33 Japanese university students) participated in Experiment III. The subjects were engaged in a different activity (listening to a lecture) during the 60-minute interval.

8. For the remaining responses, two subjects (6%) used comparative expressions and one (3%) only noted opposition without any specification: *Saisho-ni mita e-to subete-ga gyaku-no mono dat-ta* '(The second picture) was the complete opposite of the first.'

of Picture 2 (21% in Experiment III) than that in the description of Picture 1 (27% in Experiment II). Two situations, when presented in sequence with a very short interval (say, 30 seconds) as in Experiment II, are likely to be located on the same stage for further comparison and coding with a contrastive connective. When presented with a longer interval between the presentation of the two situations, as in Experiment III, however, they are more difficult to locate on the same stage and to describe with such a connective. The distinction between 21% and 27% is a substantial difference, which nevertheless does not achieve a statistically significant value in a chi-square analysis ($\chi^2 = 0.158881$, $df = 1$). It seems, however, that another motivational factor is operative here, which will be discussed in Section 6.2.

5.4 Summary

In summary, the two hypotheses have largely been supported by the data. The results of Experiment I confirm the first hypothesis, which states that temporal/spatial overlap is likely to encourage the viewer to locate two situations on the same stage or viewing frame. The second hypothesis, according to which the two situations are more likely to be compared or unified, has been fully supported by the frequency of comparative expressions and concessive connectives. For the frequency of contrastive connectives, the influence of recall was observed in the result of Experiment II, but Experiment III corroborated the second hypothesis. The fact that the contrastive interpretation is more likely to be affected by recall than the concessive one is naturally explained by the difference between the two meanings. The meaning *CONTRAST* refers to a conflict relation between two propositional contents, while *CONCESSIVE* designates a conflict relation between an assumption and a propositional content (Izutsu 2005, 2008). The comparison between two propositional contents (or designated situations) can easily invoke their conceptual commonality or shared domain (“fishing” in the present case) when they are presented with a short time interval. Perhaps, the second “fishing” picture serves to reactivate a recall of the first “fishing” picture and, therefore, the comparison of the two pictures becomes possible. However, this comparative process does not readily occur in the case of *CONCESSIVE*. Since an assumption is invisible (or is not located in a viewing frame), it may be difficult to invoke a relevant assumption unless two contradictory situations are presented on the same stage. It is perhaps this difference between the contrastive and concessive meanings that is responsible for the slight differences between the results shown in Tables 2 and 4.

6. Motivations for inference

6.1 Perceptual motivation

The three experiments confirmed our hypotheses on perceptual motivations: (i) temporal/spatial overlap is likely to encourage the viewer to locate two situations on the

same stage or viewing frame, (ii) the two situations are more likely to be compared or unified, and (iii) they more readily yield a contrastive/concessive reading than those on separate stages. Temporal/spatial overlap can be equated with “perceptual overlap”. This facilitates the viewer’s comparison or unification of two situations, which is very likely to give rise to a contrastive or concessive meaning.

Perceptual overlap of two situations is thus identifiable with a strong motivation for an inference of the contrastive/concessive meaning from some types of comparison between the situations. The type of comparison that underlies the contrastive meaning can be depicted as in Figure 5. The squares labeled S_1 and S_2 correspond to the two situations presented to the subjects. The rectangle drawn in bold lines indicates the viewing frame or on-stage region. The circle labeled V stands for the viewer. The dotted arrows starting from the viewer indicate his/her focus of attention. Their V-shaped alignment represents his/her activity of comparison of the two situations. Compared in this contrastive meaning are the two situations in the viewing frame (or on-stage region).

The distance between S_1 and S_2 in the diagram corresponds to the interval between the presentation of the situations to the subjects. The two situations juxtaposed as in Figure 5a are readily placed in the viewing frame and compared with each other, which is very likely to give rise to the meaning of contrast, as given in Figure 3 (Section 4.1). The situations at some tolerable distance to each other as in Figure 5b can fall within the viewing frame and be compared to yield a similar contrastive meaning, as manifested in the experimental results of Table 2. Located at a greater distance as in Figure 5c, however, they can hardly fall within the frame, so that the viewer finds it difficult to compare them to yield a contrastive meaning (see Table 5).

The type of comparison that underlies the concessive meaning can be depicted as in Figure 6. As in Figure 5, the circle labeled V represents the viewer. The squares labeled S_1 and S_2 correspond to the two situations presented to the subjects. The bold rectangle indicates the viewing frame or on-stage region. The ellipse drawn in broken lines encloses the viewer’s assumptions, and the square labeled A_1 stands for the relevant one. The dotted arrows indicate his/her focus of attention. Their V-shaped alignment starting from the viewer represents his/her activity of comparison of the situation(s) and the relevant assumption.

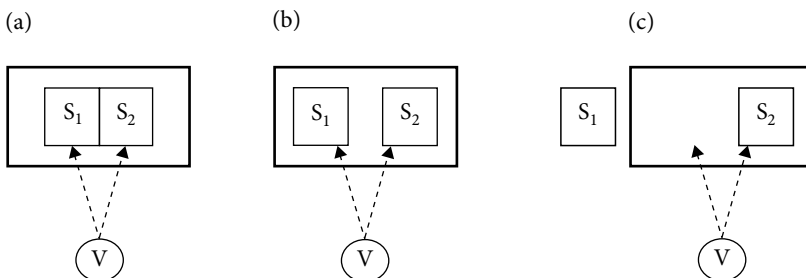


Figure 5. The comparison underlying contrast

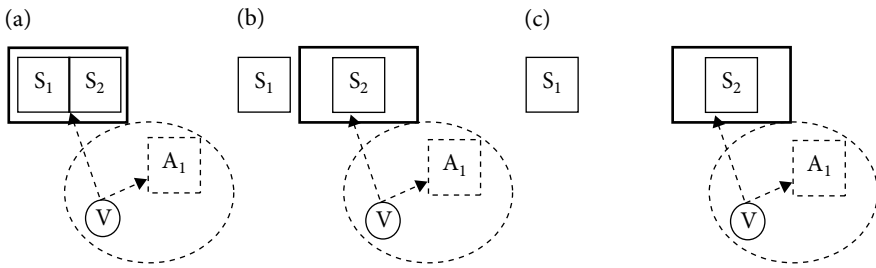


Figure 6. The comparison underlying concessive

Unlike the contrastive meaning, the entities to be compared in the concessive meaning are some facet of the content in the viewing frame (or on-stage region) and the relevant assumption. Here again, the distance between S_1 and S_2 in the diagram corresponds to the interval between the presentation of the situations to the subjects.

The two situations juxtaposed in Figure 6a are readily unified as one whole in the viewing frame and compared with the relevant assumption; they are thus likely to give rise to a concessive meaning, as in Figure 4 (Section 4.2). When put at some distance from each other, as in Figure 6b, however, the situations can hardly fall within the viewing frame and be unified as one whole to be compared with the assumption, thereby making it harder to give rise to a concessive meaning, as confirmed in the experimental results of Table 4. If standing at a greater distance, as in Figure 6c, they could not fall within the frame; accordingly, the viewer cannot unify them to yield a concessive meaning.

Perceptual overlap (temporal/spatial overlap) encourages the viewer to locate two situations in the viewing frame for a comparative/contrastive interpretation or enables the viewer to unify the situations as one whole that can be compared to his/her relevant assumption in a concessive interpretation. We can conclude that perceptual motivation is dominantly operative in the semantic shift from temporal/spatial overlap to the contrastive/concessive meaning.

6.2 Competing motivations: Perceptual and cognitive factors

The three experiments have thus corroborated our hypotheses. The general conclusion derived is that perceptual motivation operates dominantly in the semantic shift from TEMPORAL/SPATIAL OVERLAP to CONTRASTIVE/CONCESSIVE meaning.

Experiment II supports the second hypothesis and, with respect to the concessive reading, confirms the third one as well. As noted in Section 5.2, a larger number of comparative expressions used in the subjects' responses to Picture 1 support our second hypothesis. The responses had more occurrences of comparative expressions like *yori* 'than', as exemplified in (14):

(14) (=11)

Otokonoko-ga onnanoko-YORI ookii sakana-o tsuriage-ta.
 boy-NOM girl-than larger fish-ACC catch-PAST
 ‘The boy caught a larger fish than the girl did.’

(Picture 1)

As far as the contrastive interpretation is concerned, however, the third hypothesis was inconclusive. We had expected more uses of contrastive connectives in the subject responses to Picture 1 (two situations in the same scene) than in the responses to Picture 2 (two situations in separate scenes). On the contrary, Picture 2 elicited more frequent responses with contrastive connectives.

Suspecting that an insufficient interval between the presentation of the two situations involved in Picture 2 (‘the boy’s catching a small fish’ and ‘the girl’s catching a big one’) had helped the subjects to locate the situations on the same stage, we devised Experiment III, in which a longer time interval would intervene between the presentation of the two situations than in Experiment II. The result confirmed the third hypothesis: the uses of contrastive connectives for describing Picture 2 amounted to only 21% (much less than 47% in Experiment II) with no occurrences of concessive connectives and with a majority of responses (70%) lacking any explicit expressions of contrast. This endorses our expectation that a shorter interval does not, but a longer interval does make it hard to locate two situations on the same stage for a comparison and for coding with a contrastive connective.

The result further suggests that, with a shorter interval, another motivational factor works to promote a comparison that is likely to give rise to a contrastive interpretation. The motivation is identifiable as the coincidence of the conceptual domains involved in the two situations, which can be subsumed under “cognitive motivation” (see Radden & Panther 2004: 23–32). Two situations, easy to compare when located on the same stage, become harder to compare when an interval intervenes between the presentation of the situations. However, if the interval is as short as 30 seconds, the cognitive motivation of domain coincidence helps the viewer to compare them, thereby readily giving rise to a contrastive interpretation. In Experiment II, the cognitive domains associated with the two situations in Picture 2 coincide as the event of ‘fishing.’ This domain coincidence encourages the viewer to compare the situations depicted and to use a contrastive connective for their description. Even with a longer interval, the domain coincidence can still have some (though not much) effect, which explains the statistical results in Experiment III. As noted in Section 5.3, even though they totally forgot the details of the first situation, some subjects of the experiment recognized the domain coincidence of fishing, as in *Kodomo-ga sakana-o tsuriagetairu* or *Tsuri-o shiteiru* ‘(Children) are catching fish.’

Here we can recapitulate the phenomena as competing motivations, potentially operative in the emergence of the contrastive/concessive meaning. As we hypothesized, (i) temporal/spatial overlap is likely to encourage the viewer to locate two situations on the same stage or viewing frame, (ii) the two situations are more likely to be

compared or unified, and (iii) they more readily yield a contrastive/concessive reading than those on separate stages. Other variables being equal, the two situations separated by an interval are harder to locate on the same stage for a comparison that is likely to give rise to a contrastive/concessive interpretation. If the interval is very short (e.g. within 30 seconds), however, domain coincidence (a cognitive motivation) is operative to facilitate the viewer's perception of the similarity or difference between the situations on the same stage. This accounts for a comparative or contrastive interpretation, but not a concessive interpretation.

Domain coincidence can give rise to a contrastive interpretation because the process of comparison involved is simplistic in that the two situations compared are themselves assessed in their conflict. In contrast, the concessive interpretation can hardly be elicited because its comparative process is more complex in that the elements in conflict are one situation and one of the assumptions associated with the other. Even the cognitive motivation of domain coincidence does not help the viewer to see a concessive relation between the two situations separated by an interval.

Recall may also serve to make it easier to make a direct comparison of two situations, allowing a contrastive though not a concessive interpretation. With reference to a role of recall in the acts of comparison, Langacker (1987: 105) explains: “[i]ntuitively, the recall of a perceptual experience is substantially less intense or ‘vivid’ than the original experience [...]. But even in its attenuated form, the recurrence can function as a component of other cognitive events, including acts of comparison.” A longer interval hinders its function so that even domain coincidence will not help the viewer with a comparison between the two situations, as confirmed in Experiment III. However, a shorter interval allows recall to be “intense or ‘vivid’” enough to work as another motivation for comparison. There can thus be three competing motivations, serving to promote the viewer's comparison of two situations presented to him/her with no or a very short interval between the presentation of the situations: the perceptual motivation of temporal/spatial overlap, the cognitive motivation of domain coincidence, and the motivation of recall. All other things being equal, the perceptual motivation prevails hand in hand with the role of recall. Perceptual overlap entails the absence of an interval, which necessitates little effort of recall. A short interval between the presentation of two situations allows domain coincidence to be operative with some aid of recall. A longer interval hinders recall, impairing the force of domain coincidence.

7. Conclusion

We have shown that inference-based, metonymic accounts are not sufficient to explain a fundamental motivation for the semantic shift from TEMPORAL/SPATIAL OVERLAP to CONTRAST/CONCESSIVE. Using the “viewing arrangement” model, we proposed three

hypotheses, which were generally supported by the results of the three experiments. Hence, we can reformulate them in terms of the following generalizations:

- i. Perceptual (temporal/spatial) overlap is likely to encourage the viewer to locate two situations on the same stage or viewing frame.
- ii. The two situations are more likely to be compared or unified with each other.
- iii. They more readily yield a contrastive/concessive reading than those on separate stages.

The present research has some implications for understanding the notion of linguistic motivation. In this study, cognitive and perceptual motivations have been shown to be specifically relevant. The cognitive motivation subsumes metonymy or inference, while perceptual motivation involves our perceptual capacities including “viewing arrangement”. As argued in some previous studies (Traugott & König 1991, and others), the role of metonymic inference is not negligible in the semantic change from TEMPORAL/SPATIAL OVERLAP to CONTRAST/CONCESSIVE. We have, however, shown that such metonymic inference is, in turn, strongly motivated by perceptual overlap in a viewing arrangement, which is instantiated as the temporal/spatial overlap of two situations. While noting the partial role of another cognitive motivation (i.e. domain coincidence) for a contrastive interpretation, we can now conclude that the perceptual motivation based on viewing arrangement is more fundamentally responsible for the semantic shift in question than the cognitive motivation based on metonymic inference.⁹

For the role of metonymy in grammaticalization, Heine et al. point out:

Concerning the question as to *how* these changes come about, Traugott draws attention to the role played by strengthening of informativeness, conversational implicatures, and metonymy in the development of grammatical categories (cf. Traugott and König, in press [1991]). (Heine et al. 1991: 15, our italics)

Metonymy and inference explain *how* a language change comes about, but not *why*. In other words, these cognitive motivations deal with the internal mechanism of a language change, but not with what motivates such an internal process. In looking at why a particular language change comes about, some other motivational factors may be important. In the case of the phenomena discussed in this study, perceptual motivation (viewing arrangement) has been shown to be the most important factor.

9. This does not mean that perceptual motivation is the most fundamental of all motivations. One may consider that iconicity, a linguistic phenomenon of perceptual motivation, is subsumable under a principle of economy (communicative motivation), in particular an economic principle à la Relevance Theory (Sperber & Wilson 1986), which trades off processing effort against contextual effects. Consider the iconicity of temporal order (cf. “tense iconicity” Haiman 1985: 90–92). Story-telling, for example, requires the least processing cost if a story is told according to the order of events. However, writers sometimes use the technique of *in medias res*, which requires more processing cost but achieves more literary effects.

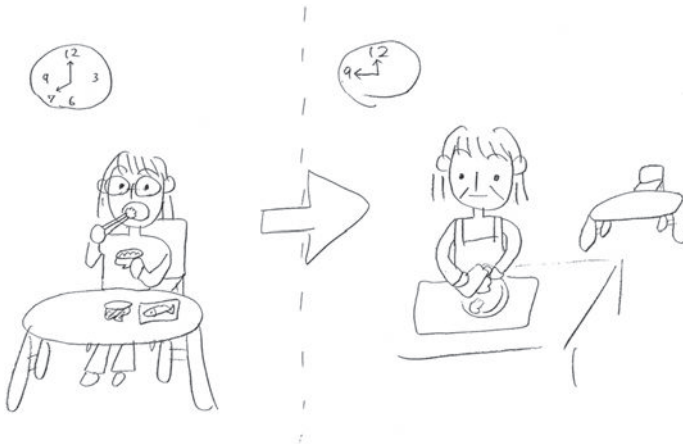
References

- Abraham, Werner. 1976. The role of fallacies in the diachrony of sentence connectives. In A. Valdman, ed. *Studies in Second Language Acquisition*, 95–134. Bloomington, IN: Indiana University Linguistics Club.
- Faltz, Leonard M. 1989. A role of inference in meaning change. *Studies in Language* 13: 317–331.
- Geis, Michael L., and Arnold M. Zwicky. 1971. On invited inferences. *Linguistic Inquiry* 11: 561–566.
- Grice, H. Paul. 1975. Logic and conversation. In P. Cole and J. L. Morgan, eds. *Speech Acts* [Syntax and Semantics 3], 41–58. New York: Academic Press.
- Haiman, John. 1985. Symmetry. In J. Haiman, ed. *Iconicity in Syntax*, 73–95. Amsterdam and Philadelphia: Benjamins.
- Harris, Martin. 1988. Concessive clauses in English and Romance. In J. Haiman and S. A. Thompson, eds. *Clause Combining in Grammar and Discourse*, 71–99. Amsterdam and Philadelphia: Benjamins.
- Heine, Bernd, Ulrike Claudi, and Friederike Hünemeyer. 1991. *Grammaticalization: A Conceptual Framework*. Chicago: The University of Chicago Press.
- Hopper, Paul J., and Elizabeth Closs Traugott. 1993. *Grammaticalization*. Cambridge: Cambridge University Press.
- Izutsu, Mitsuko Narita. 2005. *Contrast, Concessive, and Corrective: A Unifying Analysis of Opposition Relations in English*. PhD Dissertation, Sapporo: Hokkaido University.
- Izutsu, Mitsuko Narita. 2008. Contrast, concessive, and corrective: Toward a comprehensive study of opposition relations. *Journal of Pragmatics* 40: 646–675.
- König, Ekkehard. 1985. On the history of concessive connectives in English: Diachronic and synchronic evidence. *Lingua* 66: 1–19.
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar*. Vol. 1: *Theoretical Prerequisites*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1991. *Foundations of Cognitive Grammar*. Vol. 2: *Descriptive Application*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1993. Universals of construal. *BLS* 20: 447–463.
- Langacker, Ronald W. 2000. *Grammar and Conceptualization*. Berlin and New York: Mouton de Gruyter.
- Quirk, Randolph, Sidney Greenbaum, Geoffrey Leech, and Jan Svartvik. 1985. *A Comprehensive Grammar of the English Language*. London: Longman.
- Radden, Günter, and Klaus-Uwe Panther. 2004. Introduction: Reflections on motivation. In G. Radden and K.-U. Panther, eds. *Studies in Linguistic Motivation*, 1–46. Berlin and New York: Mouton de Gruyter.
- Sperber, Dan, and Deirdre Wilson. 1986. *Relevance: Communication and Cognition*. Oxford: Blackwell.
- Traugott, Elizabeth Closs, and Ekkehard König. 1991. The semantics–pragmatics of grammaticalization revisited. In E. C. Traugott and B. Heine, eds. *Approaches to Grammaticalization*. Vol. I, 189–218. Amsterdam and Philadelphia: Benjamins.
- Traugott, Elizabeth Closs, and Richard B. Dasher. 2002. *Regularity in Semantic Change*. Cambridge: Cambridge University Press.

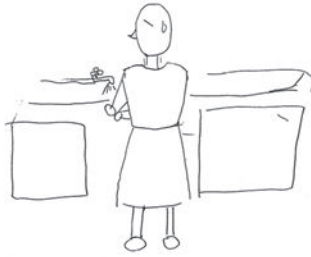
Appendix A



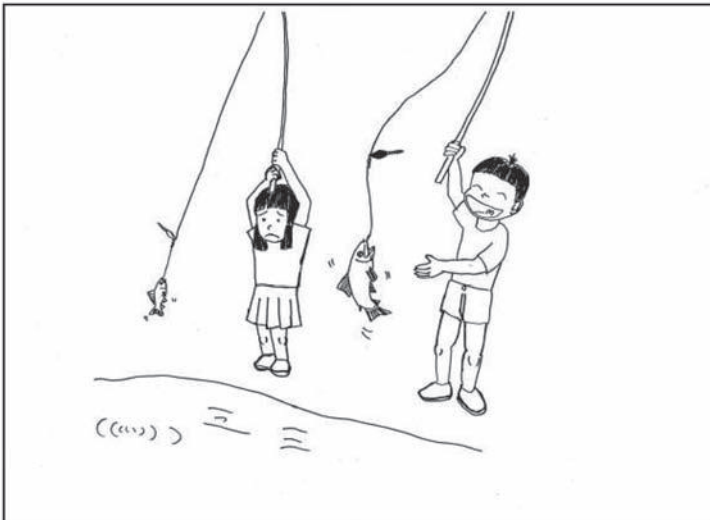
Appendix B



Appendix C



Appendix D



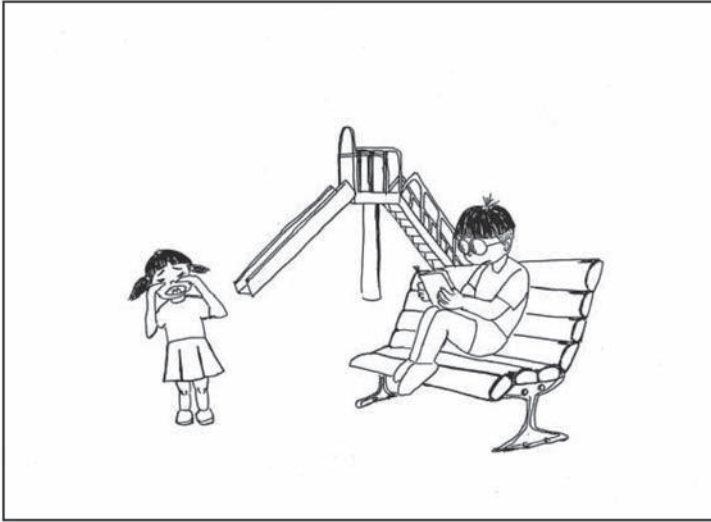
Picture 1.

Appendix D (contd.)



Picture 2.

Appendix D (contd.)



Picture 3.

Appendix D (contd.)



Picture 4.

The conceptual motivation of aspect*

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Aspect expresses information about how events unfold in time. In English, imperfective aspect is known to widen the temporal scope of the event described, but little is known about how such imperfective descriptions are processed or what motivates their use. This chapter investigates the conceptual impact of aspect, especially imperfective descriptions of past events, and argues that it shapes our understanding of events, and that its use and function is motivated by our everyday experience of perceiving and simulating events.

Keywords: event construal, imperfective aspect, inference, perfective aspect, simulation

1. Introduction

Descriptions of past events are frequent in everyday communication. There is a simple reason for this. People spend a good deal of time reporting what they have done, where they have been, and what they have seen. For thousands of years, people have been reporting their actions through pictograms, oral histories, diaries, email, blogs, and more. Given the need to report events, it is no surprise then that human language has evolved special conventions for describing past events. One such mechanism is linguistic aspect.

Aspect as a grammatical form is used to convey information about how events unfold in time, including whether they are short or long in duration, whether they are

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continuous or repeated, and whether or not they are completed.¹ A common aspectual distinction observed in many languages is that between *perfective* versus *imperfective* processes. Perfective aspect emphasizes the completion or entirety of an event, and imperfective aspect emphasizes its ongoingness. In English, perfective aspect is realized by using the simple tense form, as in *Maria studied linguistics*, and imperfective aspect is realized by using the progressive form, as in *Maria was studying linguistics*. Some languages overtly mark this difference, precisely, with aspectual markers affixed to verbs. In those languages, there is often a clear and unambiguous distinction regarding the use of the two forms. (For an in-depth discussion of aspect and how it varies across languages, see Comrie 1976 and Dahl 1985.)

In English, imperfective aspect can be used to describe a situation that was not finished prior to the time of reporting. It may also be used to describe a situation that is known to have finished. In talking to a friend about a concert, for instance, a person may state either of the following: *The pianist was performing last night* or *The pianist performed last night*. The former may imply that the pianist did not finish performing, but not necessarily. She may have been whisked away by an ambulance after fainting during the first piece, or she may have played the entire program as well as an encore before stepping off the stage and calling it a night.² This aspectual vagueness is generally not problematic for English speakers because local linguistic and social context disambiguate. Imperfective aspect is also used by English speakers to temporally frame other events. For instance, in describing an evening at the symphony to a friend, I might say, *While the pianist was performing Jeux d'Eau, a cell phone rang* or *When the pianist was performing Jeux d'Eau, somebody in the third row started snoring*. (See Brinton 1988 as well as Radden & Dirven 2007 for comprehensive discussion of English aspect.)

Aspect is widely discussed in linguistics. Much attention is given to how it interacts with other linguistic systems, including tense and verb semantics, its diachronic development, and the way it varies from language to language. Some psycholinguistic work investigates aspect, but the number and scope of studies in this area is fairly limited, the reason being that aspect is difficult to study experimentally. There are several reasons for this difficulty, including the following. First, aspect varies in form and function from language to language. Some languages have a clear distinction between imperfective and perfective descriptions, and others do not. Second, terminology for labeling aspectual forms is inconsistent. Consequently, the same form can be categorized in different ways. Third, aspectual notions can be marked grammatically, lexically, or both. For instance, in English, one can say *He was sleeping all night*, where

1. Unlike some of the more traditional work on aspect, in this chapter, *event* and *action* are used fairly liberally. They can refer to processes and situations.

2. There are of course cases in which the imperfective is not used by English speakers to describe completed past events. When and when not to use imperfective aspect can be driven by local linguistic context, shared knowledge of the speaker and listener, and verb semantics, such as telicity.

imperfective aspect extends the event, or *He continued to sleep all night*, where the word *continue* extends the event. Fourth, the nature of the event can determine which aspectual form is appropriate. It would be odd, for example, to say that you were popping a balloon for two minutes but fine to state that you were deflating one for two minutes. Fifth, the pragmatics of the situation figures into the interpretation of aspect. (For detailed discussion of aspect and some challenges in characterizing or classifying it, see Comrie 1976 and Croft 2009.)

This chapter examines aspect and linguistic motivation. Special attention is given to the inferred meanings that arise with descriptions of past events, and what motivates the use of imperfective and perfective. Motivation is an important notion in cognitive linguistics even though language theorists have differing opinions about what it is. Simply stated, motivation provides insights into the structure, use and development of language. On one level, it concerns external influences, including culture and social prestige of a linguistic form in a speech community (see Radden & Panther 2004; Panther & Radden this volume, for discussion). However, it also involves internal influences, including cognitive processing. The main issues here are how imperfective and perfective aspect are processed, and what inferences arise with their use. Given that imperfective aspect emphasizes the ongoing nature of situations (Frawley 1992; Narayanan 1997; Talmy 1985) and that it encourages an internal perspective (Langacker 1987; Madden & Zwaan 2003), it may cause the conceptualizer to attend closely to details related to the situation and infer that a good deal of action occurred during the given period, more than perfective aspect, which encourages external perspective. Consequently, the conceptualizer might infer that more music was played (e.g. longer concert, more pieces) when processing a statement such as *The pianist was performing last night* than with *The pianist performed last night*. Before discussing three psycholinguistic studies that investigate this possibility, some background information on event conceptualization is provided.

2. Experimental research on event construal

Cognitive scientists have used a variety of methods and approaches to study event structure. One strand of this research considers how events are conceptualized over time. In experimental work on event structure, Zacks and Tversky (2001) took up the following questions. How do people segment events? How do we know when an event ends and another starts? Where are the natural transition points in event structure? Participants in their study watched videos of everyday events, such as doing the dishes or putting together a saxophone. In doing so, they were asked to identify when a new segment started. The results revealed a good deal of consistency across experimental participants, suggesting that people conceptualize the unfolding of events in similar ways.

Other cognitive work investigates brain activation during the processing of events that are depicted in static images. In a cognitive neuroscience work on events, Kourtzi and Kanwisher (2000) addressed neurological patterns of activation while people

viewed pictures of implied motion. They were interested in whether brain areas ordinarily engaged when people are actively watching motion would also be engaged when people are simply looking at static images of people in motion. In the study, participants were placed in a functional MRI scanner,³ where they viewed photographs of people in action or not in action, for example, a man about to hurl a discus (one arm is raised and about to release the discus) or a picture of a man simply holding a discus (arm is down). Activation was pronounced in areas associated with motion perception when participants viewed action shots (even though nobody was actually moving), much more than when they viewed non-action shots. The results suggest that people readily simulate motion from implied motion alone. In similar work, Freyd (1983) showed that when participants view a picture of a person or entity undergoing unidirectional motion (e.g. man stepping off a bus), they later judge the mover to be farther along the trajectory than it actually is. This, too, reveals that people are naturally inclined to simulate motion from the suggestion of motion.

These and other studies in cognitive science are valuable because they shed light on how people conceptualize events. They show that people consistently break down events in similar ways, and that they naturally simulate the events they are perceiving, even when the action is implied. Such work does not, however, address the linguistic forms that people use when they talk about events. Language is known to influence how situations are perceived (see Richardson & Matlock 2007, for experimental work that showed how spatial descriptions can dramatically influence the way people visually process spatial scenes; see also Gibbs 2006 for general discussion of language and embodied cognition). Thus, it is important to consider how linguistic details can influence cognitive processing, including how people construe events when listening to or uttering event descriptions. How do the descriptions influence the way events are construed in time? Are these events continuous? Are they repeated, and if so, at regular intervals? Are they completed? Adequately understanding how event construal requires close attention to details of linguistic forms used to describe events, including grammatical aspect. In turn, it is also important to consider how cognitive processing can influence the understanding of language, including the choice of words or phrases used to describe events. The next section provides background on aspect and its role in the processing of event descriptions.

3. Experimental research on aspect

Aspect has received extensive attention in linguistics, but it has been given relatively little attention in psycholinguistics. Much of the experimental work on aspect and event construal has been conducted in the area of narrative comprehension. In these

3. Functional magnetic imaging is used to measure signal changes in the brain that arise with shifts in neural activity.

studies, participants are required to read a short passage and then make a timed yes-no decision about a target sentence related to the passage. Often the aim is to study how people create and update situation models from linguistic descriptions about events. Simply stated, situation models are imagined spatial domains that “contain” people, objects, and events (see Morrow & Clark 1988; Morrow 1985; Zwaan, Radvansky & Graesser 1995). In Magliano and Schleich (2000), participants read stories about situations described with either imperfective or perfective aspect. Later they were asked questions pertaining to the events they had read. In brief, in the first two experiments, people were more likely to infer that events were still happening when they had read imperfective descriptions than they were when they had read perfective descriptions. These results were consistent with linguistic characterizations of imperfective and perfective aspect: The former highlights ongoing elements of an event, and the latter, completion. More compelling was Magliano and Schleich’s (2000) third experiment, where imperfective descriptions resulted in better memory for event details than did perfective descriptions. The result suggests that people allot more attention to interpreting imperfective event descriptions.

In similar work on aspect and situation models, Morrow (1990) asked participants to read about a protagonist who moved from one room to another (e.g. *walked* or *was walking*) and then answer questions about the location of the protagonist. With perfective descriptions of movement, participants often judged the protagonist to be in the second room, but with imperfective descriptions, they tended to judge that the protagonist was en route to the second room. Similar results were found in a novel computer mouse-tracking study by Anderson, Matlock, Fausey, and Spivey (2008). Participants were shown a scene that included a path that terminated at a destination (e.g. a school). Outside the scene was a static silhouette figure, such as a man jogging. While looking at the scene, participants were presented with a spoken sentence describing the movement of the protagonist. At that time they were to click on the character and place it in the scene to match the description. Both the imperfective and perfective descriptions included a variety of translational motion verbs, such as *jog*, *ride*, and *hike* and a *to* + location phrase about the destination. These descriptions also included a conjoined clause that was intended to draw some degree of attention to the destination.⁴ Examples of the motion descriptions used in this study included *Tom was jogging to the woods and then stretched when he got there* (imperfective) and *Tom jogged to the woods and then stretched when he got there* (perfective). On average, people were slower to drag the character to the destination when they were listening to imperfective motion descriptions (versus perfective). The results suggest that slower

4. This was done to lower the probability that participants would infer that the character did not reach the destination with imperfective descriptions. The concern was that participants might drop the character on the path if they made this inference. Note that even with a clear destination point, a few participants did drop the character on the path with the imperfective. However, the trend of slower motion along the path was still evident.

movement with processing imperfective aspect reflects greater attention to the process of movement to a destination.

Finally, in a study by Madden and Zwaan (2003), participants were presented with drawings of actions that were in progress or completed (e.g. somebody building a fire or sitting next to a fire right after having made it) and asked whether imperfective or perfective descriptions matched. Participants were reliably quicker to match perfective descriptions with pictures of completed actions (versus incomplete actions), but they did not vary much at all when matching imperfective sentences with pictures of complete or incomplete action. Based on the results, Madden and Zwaan (2003) concluded that the imperfective provided an internal viewpoint, which allowed people to pay attention to details of the action and simulate the motion and that the perfective encouraged an external viewpoint such that the people readily imagine the end state of the action. (For related work on the processing of aspect, see Ferretti, Kutas & McRae 2007; Madden & Therriault 2009; Madden & Ferretti 2009.) Together these studies suggest that people attend more to the ongoing process of an event with imperfective descriptions than with perfective descriptions. They also suggest an internal perspective with imperfective aspect, and an external perspective with perfective aspect. Are there other fruitful issues to consider around the processing of aspect and its role in event construal? What about amount of action conceptualized in listening or uttering events? Will more action be inferred with the imperfective because it focuses on the process and because people naturally mentally simulate actions when processing event descriptions (see Matlock 2004)? Could this ability motivate the way people use and understand aspect in everyday language?

4. New experiments on aspect and event construal

Three studies investigate amount of action conceptualized with imperfective and perfective event descriptions. In Study 1, participants were given a sentence with an adverbial clause that contained a perfective or imperfective description and asked to complete the sentence. In two other studies, they were given a perfective or imperfective description of an event and asked a question about the action described. In Study 2, they were asked about number of objects affected by an action. In Study 3, they were asked about amount of time transpired with an unbounded action.

Study 1: Sentence completion task

A sentence completion task was designed to investigate how much action would be conceptualized in processing descriptions of past events with imperfective and perfective aspect. The task was completed by 351 undergraduate students at University of California, Merced, who volunteered for extra credit in a cognitive science, political science, or psychology course. Participants in the imperfective condition were asked to complete a sentence that began with the adverbial clause *When John was walking to*

school, and participants in the perfective condition were asked to complete a sentence that started with the adverbial clause *When John walked to school*. These clauses were followed by a blank line, where each participant provided a response. In this and the other studies reported in this chapter, the task was included in a booklet of unrelated surveys that were distributed to participants, who had five days to finish these tasks.

After all responses were collected, all responses (i.e. main clauses) were inspected. Thirteen responses were removed because they were not well-formed, for instance, *When John walked to school, bananas* or *When John was walking to school, and everyone said nice shirt*. Removing these infelicitous data left a set of 338 responses (96% of the original set).

Three analyses were then conducted to investigate the amount of action that participants conceptualized. One investigated how many actions were included in the main clauses across participants. To measure this, the author and one other individual coded the responses. A clause such as *he tripped* counted as one action, and a clause such as *he tripped and fell* counted as two actions. Two coders agreed on 98% of the items initially, and came to agreement on 100% of the items after discussion.

An initial analysis examined which aspectual form participants provided in their main clauses. Nearly all participants (99%) wrote down perfective verbs. The second and main analysis targeted amount of action conceptualized. This required comparing the average number of actions generated by participants in the two conditions. Most participants (85%) wrote down a single action, for instance, *he saw a girl* or *he tripped*, but some participants wrote down multiple actions, for instance, *he tripped over a stick, and cracked his head open on a rock* or *he helped an elderly lady cross the street*. (Note that of all descriptions with multiple actions, 99% had two actions, and 1% had three actions.) Of the 287 main clauses that included only one action, about 48% appeared in the sentences that began with *When John was walking to school* (imperfective) and 52%, with *When John walked to school* (perfective). Of the 51 main clauses with multiple actions, 69% appeared in sentences starting with imperfective information, and 31% appeared in sentences starting with perfective information. The analysis reveals that imperfective aspect yielded proportionally more actions per main clause than did perfective aspect. A chi-square test of significance showed a reliable effect ($\chi^2(1) = 7.56, p = .006$, Pearson, two-tailed). The results, which are graphically depicted in Figure 1, suggest that imperfective aspect can cause people to conceptualize more action than perfective aspect.

The next two analyses in Study 1 examined two types of everyday actions that appeared in participants' responses. The intent was to compare the frequency of translational motion verbs and perception verbs in the imperfective and perfective conditions. Both are basic, familiar actions that can require a relatively long time to do or imagine. One analysis examined motion verbs, such as *trip*, *slip*, and *go*, and the other, perception verbs, such as *see* and *watch*.

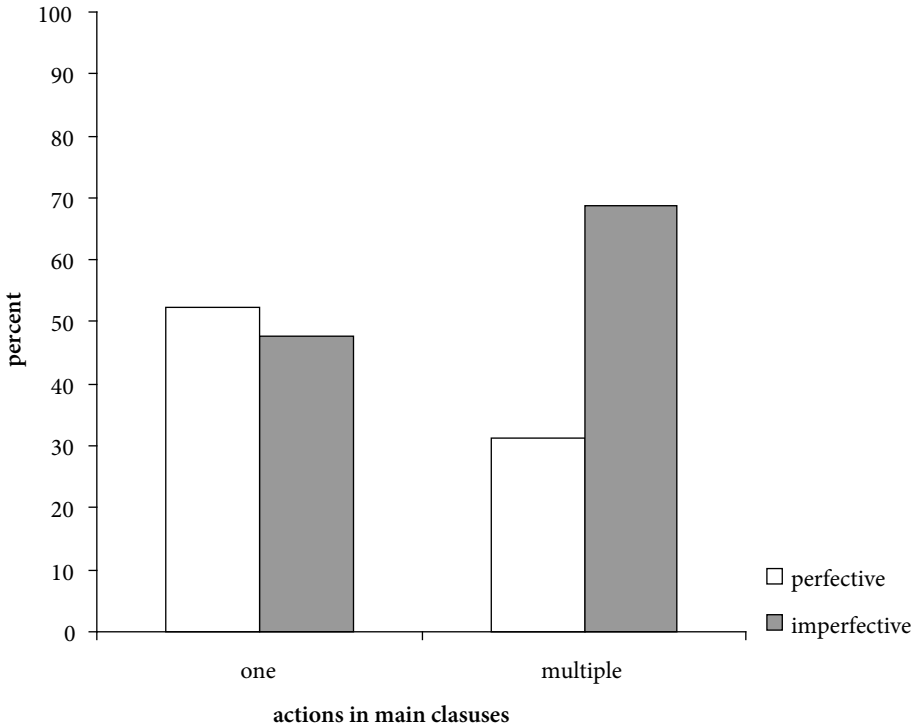


Figure 1. In Study 1, more action was conceptualized with imperfective aspect.

Of the 287 participants who wrote down one action, 32% provided a translational motion event (68% did not). About 60% of all these motion events appeared in the responses provided by participants in the imperfective condition, and about 40% appeared in the responses provided by participants in the perfective condition. The results, reliable according to a chi-square test of significance, ($\chi^2(1) = 8.62, p = .003$), show that imperfective information was more likely to include translational motion verbs than was perfective information. Of the participants who generated a single action, about 19% provided a perception verb (81% did not). Approximately 62% wrote imperfective responses, and 38% wrote perfective responses. The results, reliable according to a chi-square test of significance ($\chi^2(1) = 5.41, p = .02$), indicate that imperfective information was more likely to lead to responses with perception verbs than was perfective information.

Together, the results suggest that people conceptualize more action when they process imperfective descriptions of events than when they process perfective descriptions of events. Closer analysis showed that this is true of both translational motion verbs and perception verbs, two frequently used verb types. Critically, such differences were not the result of more lexical items in the main clauses that participants provided when they

were completing imperfective adverbial clauses. People differed little in the number of words they wrote down. If anything, there was a trend toward more words in the perfective condition ($M = 5.28$, $SD = 2.1$) than in the imperfective condition ($M = 4.88$, $SD = 2.37$) ($t(336) = -1.64$, $p = .10$). Nor were the differences the result of varied amounts of agency. In both conditions, many people wrote down agentive responses, precisely, clauses with the nominative subject *he*, which co-referred to the animate agent *John* in the adverbial clause (85% in the imperfective condition, 87% in the perfective condition). The chi-square test of significance was not reliable, ($\chi^2(1) = .43$, $p = .51$).

This was only one task, an open-ended task that required participants to complete a sentence. Would a similar effect be obtained in other, more controlled studies? In the two studies that follow, participants were required to make estimates about actions, including estimates about number of goals completed with telic action descriptions and number of hours transpired with atelic action descriptions. Telic actions have a built-in end point, and atelic actions do not.

Study 2: Telic events

A total of 88 students enrolled in an introductory cognitive science course at University of California, Merced, read a sentence about a set of actions described with imperfective or perfective aspect, namely, *John was painting houses last summer* or *John painted houses last summer*, and then answered the question, *How many houses?* Painting a house is a telic action because it involves a goal that must be realized (i.e. a house that has been painted).

Prior to an analysis that compared mean responses in the two conditions, data from seven participants were removed because of uninformative answers such as “don’t know” or “?”. Overall, participants estimated that eight more houses were painted when the action was described with imperfective aspect ($M = 22.01$, $SD = 17.3$) versus perfective aspect ($M = 13.58$, $SD = 11.78$) ($t(80) = 2.59$, $p = .01$), as shown in Figure 2. This difference suggests that more painting activity was conceptualized with imperfective descriptions, critically, even when the time period was held constant across the two conditions (“last summer”).

So far, we have investigated the conceptualization of telic events, including motion to a specific destination (Study 1), and painting houses (Study 2). Would a similar effect be observed with atelic situations?

Study 3: Atelic events

Study 2 explored the role of aspect in the comprehension of bounded events. Painting houses involves a set of discrete events, each one with a goal that is to be realized. What about events that are inherently unbounded (i.e. on-going with no clear end point), such as driving? Will imperfective aspect have a similar effect? Study 3 tests this possibility.

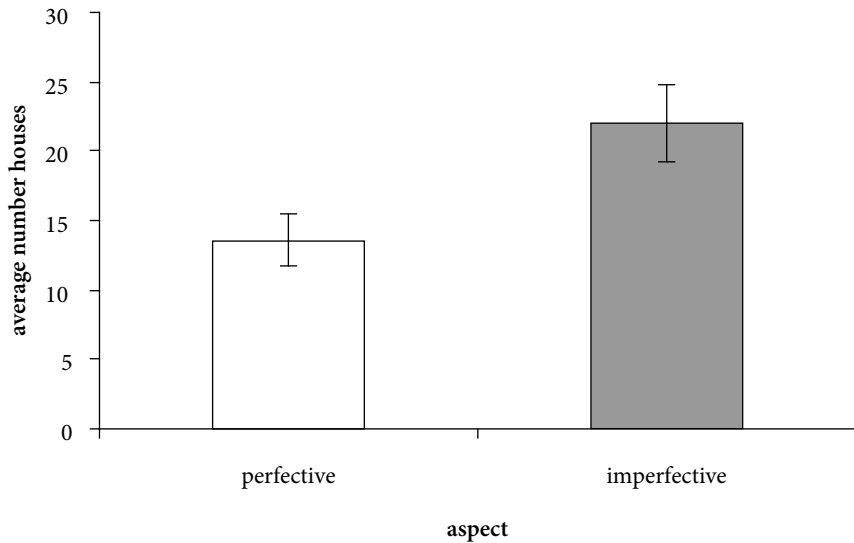


Figure 2. In Study 2, estimates for houses painted were higher with imperfective aspect

Participants were the same 88 individuals who volunteered for Study 2. They read an imperfective sentence about driving, *John was driving last weekend*, or a perfective sentence about driving, *John drove last weekend*, and then answered the question *How long (number of minutes or hours)?* The task for this study appeared as a separate question below the question about painting houses that was used in Study 2. Other, unrelated questions, for instance, a filler task that involved estimating amount of money in a drawer, appeared below the questions used for Study 1 and Study 2. Participants were presented with either only imperfective forms or only perfective forms for consistency. After data from four individuals who gave uninformative responses were discarded, scores were calculated for the remaining 84 individuals by averaging driving time estimates. As shown in Figure 3, driving time was about nine hours longer with imperfective ($M = 20.75, SD = 21.32$) than with perfective ($M = 11.78, SD = 14.15$) ($t(83) = 2.28, p = .03$). These results are consistent with Study 1 and Study 2. More action was conceptualized with the imperfective.

Discussion

Three experimental studies investigated aspect in descriptions of past events. The results suggest that imperfective aspect leads people to infer more action than perfective aspect does. The imperfective caused participants to think about more action in general in Study 1. It resulted in estimates about more completed actions (houses painted) in Study 2. It encouraged thought about longer duration of actions (hours driving) in Study 3. In all cases, nothing objectively changed about the situation itself. What changed was the aspectual form, which had consequences for event construal.

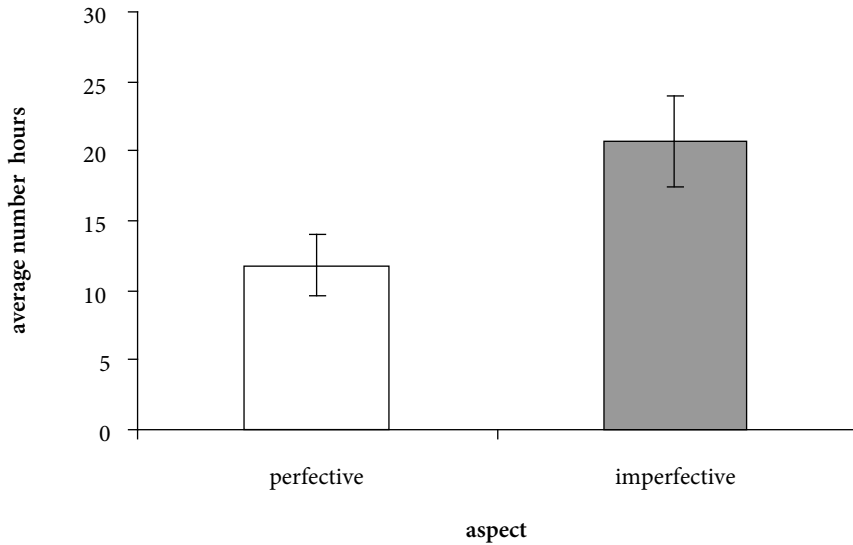


Figure 3. In Study 3, estimates for driving time were higher with imperfective aspect

Initially, these results may seem unremarkable given the semantics of imperfective aspect. It is known to “stretch” the time window in which actions occur (see Frawley 1992, for instance). This naturally means a larger time window for action. Note, however, that in two of the studies reported here participants were given a specific time frame (Study 2 and 3) and in both cases, differences still arose. Moreover, similar effects were obtained in other studies, including Anderson, Matlock, Fausey, and Spivey (2008), the computer mouse-tracking study mentioned above. Similar results are observed in research on aspect in political messages by Fausey and Matlock (in press). In one study, participants first read a passage about a senator who was seeking re-election. The text described past negative actions with either imperfective or perfective aspect. Participants then answered questions about the senator, including whether they thought he would be re-elected and how confident they were about it. When the senator’s actions were described with imperfective aspect, such as *was taking hush money from a prominent constituent*, participants were more confident that he would not be re-elected than when his actions were described with perfective aspect, such as *took hush money from a prominent constituent*. Imperfective aspect also resulted in higher dollar estimates in response to a question about amount of hush money taken.

What do we make of these and the results reported above? Why would the imperfective give rise to a “more action” effect, especially when it can often imply that events are partial or incomplete? The answer may lie in mental simulation. Recent work in higher level cognition and language understanding has provided compelling evidence to show that mentally simulating actions is part of everyday thinking and reasoning. It is now considered to be an important process in many aspects of human thought and

communication. Simulation structures our understanding of concepts and categories (Barsalou 1999). It plays a role in mental imagery (Spivey & Geng 2001) and memory (Glenberg 1997). It helps us interpret movement in static images (Freyd 1983). It shapes our understanding of literal descriptions of transference, concrete or abstract (Glenberg & Kaschak 2002) and facilitates our understanding of time (Matlock, Ramscar & Boroditsky 2005). It facilitates problem-solving (Schwartz & Black 1999). It influences our understanding of politics (Lakoff 2008). It shapes our understanding of metaphorical motion (Matlock 2004) and metaphor in general (Gibbs & Matlock 2008). (For comprehensive review of simulation in cognitive processing, see Barsalou 2009.)

The results reported and cited in this chapter bear directly on linguistic motivation and aspect in event construal. Note that people inferred more action in situations described with imperfective aspect. It is reasonable to assume that these inferences were cognitively motivated by mental simulation. That is, reading about a situation described with imperfective aspect required the speaker or listener to simulate an ongoing action, which led to inferences about more action. In this way, the imperfective appears to have the potential to influence how the content of the situation is construed. Thus, our general conceptual ability to simulate events motivates our ability to infer more action with the imperfective. Good evidence for this claim is apparent in recent developments in cognitive neuroscience. There is a biological basis for simulating action from seeing or imagining motion. For instance, brain areas associated with motor activities are naturally activated by nothing more than seeing others take action (see Gallese & Lakoff 2005; Rizzolatti, Fogassi & Gallese 2002; Rizzolatti & Sinigaglia 2008). And as mentioned, motion perception areas are activated from implied motion alone (Kourtzi & Kanwisher 2000; see also Winawer, Huk & Boroditsky, in press). If people take an internal view of an ongoing situation (Madden & Zwaan 2003), this increases their subjective experience of the process and engages them in moment-to-moment processing. This simulation explanation also finds support in cognitive linguistics research, including Langacker's (1987) sequential scanning. On this view, imperfective aspect "moves" the conceptualizer through the action, from time 1 to time 2 to time N.

What next? It would be useful to further explore the parameters of aspect using experiments, including the conditions under which imperfective brings on a sense of "more action". When does it imply more space? When does it convey more time? When might it imply less? Experimental work should also examine a broader range of verbs than is currently considered in psycholinguistics. It may also be informative to explore differences in temporal distance from time of speaking, and test for possible magnitude effects (see Liberman & Trope 2003). Perhaps the "more action" effect of imperfective will diminish when event descriptions are far versus near in the past, for instance, *John was painting houses in the summer of 1979* and *John was painting houses in the summer of 2009*. It could also be illuminating to conduct experimental work on a broader range of languages. In recent years, new exciting work has investigated imperfective and perfective in Chinese (e.g. Yap, Kawn, Yiu, Chu, Wong, Matthews, Tan, Li & Shirai 2009), Japanese (e.g. Yap, Inoue, Shirai, Matthews, Wong & Chan 2006),

and a few other languages. However, far more research could be done on the psycholinguistics of aspect across languages. Last, it could be useful to extend this line of research to explore imperfective and perfective construals of future event descriptions. Much of our everyday thinking involves anticipating situations or states that are yet to come. The results could have implications for planning, estimating future outcomes, and for dreaming about the future.

5. Conclusion

There are many ways of expressing how an event unfolds in time, and aspect is critical to this process. One common way to do this is to highlight the ongoing nature of the event. Another is to spotlight the event as a whole. This chapter attempted to offer new insights on how aspect shapes the way people conceptualize events by drawing on experimental research. The results suggest that the use of grammatical forms, in this case, aspect, is cognitively motivated by our ability to simulate actions (Barsalou 2009) and our need to communicate details about past events. Research on aspect has valuable implications for the conceptualization of events as well as experimental cognitive semantics.

References

- Anderson, Sarah, Teenie Matlock, Caitlin Fausey, and Michael J. Spivey. 2008. On the path to understanding the on-line processing of grammatical aspect. In B.C. Love, K. McRae, and V.M. Sloutsky, eds. *Proceedings of the 30th Annual Meeting of the Cognitive Science Society*, 2253–2258. Austin, TX: Cognitive Science Society.
- Barsalou, Lawrence W. 1999. Perceptual symbol systems. *Behavioral and Brain Sciences* 22: 577–609.
- Barsalou, Lawrence W. 2009. Simulation, situated conceptualization, and prediction. *Philosophical Transactions of the Royal Society of London: Biological Sciences* 364: 1281–1289.
- Brinton, Laurel J. 1988. *The Development of English Aspectual Systems*. Cambridge: Cambridge University Press.
- Comrie, Bernard. 1976. *Aspect*. Cambridge: Cambridge University Press.
- Croft, William. 2009. Aspectual and causal structure in event representations. In Virginia Gathercole, ed. *Routes to Language Development: In Honor of Melissa Bowerman*, 139–66. Mahwah, NJ: Lawrence Erlbaum Associates.
- Dahl, Östen. 1985. *Tense and Aspect Systems*. New York: Basil Blackwell.
- Fausey, Caitlin M., and Teenie Matlock. In press. Can grammar win elections? *Political Psychology*
- Ferretti, Todd R., Marta Kutas, and Kenneth McRae. 2007. Verb aspect and the activation of event knowledge. *Journal of Experimental Psychology: Learning, Memory, and Cognition*. 33: 182–196.
- Frawley, William. 1992. *Linguistic Semantics*. Hillsdale, NJ: Lawrence Erlbaum Associates.

- Freyd, Jennifer J. 1983. The mental representation of movement when static stimuli are viewed. *Perception and Psychophysics* 33: 575–581.
- Gallese, Vittorio, and George Lakoff. 2005. The brain's concepts: The role of the sensory-motor system in reason and language. *Cognitive Neuropsychology* 22: 455–479.
- Gibbs, Raymond W. 2006. *Embodiment and Cognitive Science*. New York: Cambridge University Press.
- Gibbs, Raymond W., and Teenie Matlock. 2008. Metaphor, imagination, and simulation: Psycholinguistic evidence. In R. Gibbs, ed. *Cambridge Handbook of Metaphor and Thought*, 161–176. New York: Cambridge University Press.
- Glenberg, Arthur. 1997. What memory is for. *Behavioral and Brain Sciences* 20: 1–55.
- Glenberg, Arthur, and Michael Kaschak. 2002. Grounding language in action. *Psychonomic Bulletin & Review* 8: 558–565.
- Kourtzi, Zoe, and Nancy Kanwisher. 2000. Activation in human MT/MST for static images with implied motion. *Journal of Cognitive Neuroscience* 12: 1–8.
- Lakoff, George. 2008. *The Political Mind: Why You Can't Understand 21st-Century American Politics with an 18th-Century Brain*. New York: Penguin Group.
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar: Theoretical Prerequisites*. Stanford, CA: Stanford University Press.
- Madden, Carol J., and Todd R. Ferretti. 2009. Verb aspect and the mental representation of situations. In W. Klein and P. Li, eds. *The Expression of Time*, 217–240. Berlin: Mouton de Gruyter.
- Madden, Carol J., and Rolf Zwaan. 2003. How does verb aspect constrain event representations? *Memory and Cognition* 31: 663–672.
- Madden, Carol J., and David J. Theriault. 2009. How does verb aspect constrain perceptual representations? *Quarterly Journal of Experimental Psychology* 62: 1294–1302.
- Magliano, Joseph, and Michelle C. Schleich. 2000. Verb aspect and situation models. *Discourse Processes* 29: 83–112.
- Matlock, Teenie. 2004. Fictive motion as cognitive simulation. *Memory and Cognition* 32: 1389–1400.
- Matlock, Teenie, Michael Ramscar, and Lera Boroditsky. 2005. On the experiential link between spatial and temporal language. *Cognitive Science* 29: 655–664.
- Morrow, Daniel G. 1985. Prominent characters and events organize narrative understanding. *Journal of Memory and Language* 24: 304–319.
- Morrow, Daniel G. 1990. Spatial models, prepositions, and verb-aspect markers. *Discourse Processes* 13: 41–469.
- Morrow, Daniel G., and Herbert H. Clark. 1988. Interpreting words in spatial descriptions. *Language and Cognitive Processes* 3: 275–292.
- Narayanan, Srini. 1997. KARMA: Knowledge-based active representations for metaphor and aspect. PhD dissertation. Computer Science Division, University of California, Berkeley.
- Radden, Günter, and René Dirven. 2007. *Cognitive English Grammar*. Amsterdam: Benjamins.
- Radden, Günter, and Klaus-Uwe Panther, eds. 2004. *Studies in Linguistic Motivation*. Berlin and New York: Mouton de Gruyter.
- Rizzolatti, Giacomo, and Corrado Sinigaglia. 2008. *Mirrors in the Brain: How Our Minds Share Actions, Emotions, and Experience*. Oxford: Oxford University Press.
- Rizzolatti, Giacomo, Leonardo Fogassi, and Vittorio Gallese. 2002. Motor and cognitive functions of the ventral premotor cortex. *Current Opinion in Neurobiology* 12: 149–154.

- Schwartz, Daniel L., and Tamara Black. 1999. Inferences through imagined actions: Knowing by simulated doing. *Journal of Experimental Psychology: Learning, Memory, and Cognition* 25: 116–136.
- Spivey, Michael J., and Joy Geng. 2001. Oculomotor mechanisms activated by imagery and memory: Eye movements to absent objects. *Psychological Research* 65: 235–241.
- Talmy, Leonard. 1985. Lexicalization patterns: Semantic structure in lexical forms. In Timothy Shopen, ed. *Language Typology and Syntactic Description*. Vol. 3: *Grammatical Categories and the Lexicon*, 57–149. Cambridge: Cambridge University Press.
- Trope, Yaacov, and Nira Liberman. 2003. Temporal construal. *Psychological Review* 110: 403–421.
- Winawer, Jonathon, Alex Huk, and Lera Boroditsky. In Press. A motion aftereffect from visual imagery of motion. *Cognition*.
- Yap, Foong Ha et al. 2009. Aspectual asymmetries in the mental representation of events: Role of grammatical and lexical aspect. *Memory and Cognition* 37: 587–595.
- Yap, Foong Ha et al. 2006. Aspectual asymmetries in Japanese: Evidence from a reaction time study. *Japanese/Korean Linguistics* 14: 113–124. Stanford: CSLI.
- Zacks, Jeffrey, and Barbara Tversky. 2001. Event structure in perception and conception. *Psychological Bulletin* 127: 3–21.
- Zwaan, Rolf A., Gabriel A. Radvansky, and Arthur Graesser. 1995. The construction of situation models in narrative comprehension: An event-indexing model. *Psychological Science* 6: 292–297.

Metaphoric motivation in grammatical structure

The caused-motion construction from the perspective of the Lexical-Constructional Model

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This chapter is concerned with the use of non-motion verbs in the caused-motion construction. Their literal or figurative motional interpretation is claimed to be motivated by high-level conceptual metaphors. Typically, these non-motion verbs are lexically intransitive and coerced into transitive verbs in the caused-motion construction. The goal of the paper is to identify the constructional meanings of these verbs resulting from processes of metaphorization. These meaning constructions are analyzed within the theoretical frameworks of *Conceptual Metaphor Theory* and the *Lexical-Constructional Model*.

Keywords: conceptual metaphor, construction grammar, lexical and constructional templates, subcategorical conversion, subsumption, transitivization, underspecification

1. Introduction

This chapter reports current research on meaning construction exemplified by some instances of the caused-motion construction. Specifically, I will deal with high-level metaphorical mappings motivating caused-motion events, as in the following examples:

- (1) Mr Gorewits *showed her into* his office. (NY Times, March 13, 1988)
- (2) The dogs *barked them out of* town. (S. Black 2003, *Run naked in the wind*)
- (3) Margot *listened me into* greater clarity. (J. Scott 1906, *The Colonel Red Huzzars*)
- (4) He *talked them out of* their suspicions.
(Trinity Hall, Cambridge, *Memorial address*, February 11, 2006)

These examples illustrate a type of underspecification in language (Radden et al. 2007), specifically, a case of incompatibility (Langacker 2000), i.e. a conflict arising between a verb, i.e. a lexical unit, and the syntactic pattern, i.e. the caused-motion construction, that contains the verb.

The verbs in (1) to (4) denote non-motional activities, which, through a *subsumption process*, are coerced into transitive motion verbs (Michaelis 2005). By virtue of their transitivity, these sentences acquire causal meanings: sentences (1) and (2) express (effectual) actions, sentences (3) and (4) (effectual) accomplishments in the sense of Vendler (1967). Such coercion processes are guided by high-level metaphors, which may be specified as shown in Table 1.

The co-predication of verb plus preposition gives rise to a meaning of motion that is not encoded in the two co-predicators, which share the same argument conflating the roles of affected object and actor. The re-interpretation of an intransitive verb as a transitive activity predicate, which hinges upon the correlation between the two roles, is made possible by their sharing a relevant implicational structure, in other words, both goals relate to the actor's action. Once the intransitive verb has undergone a process of transitivization, i.e. subcategorial conversion into a transitive form, it denotes a goal-oriented activity predicate. In examples (1) to (4) the meaning of the pattern is not derivable from the semantics of the predicate but is contributed by the construction. We can thus claim that the caused-motion construction is not merely the representation of a conflict between lexis and syntax – a construction that is said to be idiomatic and limited to a few examples in literary prose – but rather a pervasive construction in the English language which, when applied to some verbs, reveals a powerful tool capable of adding further argument structure to them (*quantitative valency addition*). The construction and the verb in combination provide us with a richer representation than the one we can obtain from the sum of its parts.

Taking the long-debated issue of the lexical-syntactic continuum (e.g. Langacker 1991; Goldberg 1995, 2006; Wierzbicka 1996; Faber & Mairal 1999; Ruiz de Mendoza 2005; Van Valin 2005; Michaelis 2005) as my point of departure, I discuss multiple cases of argument realizations and identify the constraints that regulate the unification of the argument structure of a predicate and a construction. My discussion draws insights from functional theories like *Role and Reference Grammar*

Table 1. Metaphors affecting the interpretation of some intransitive verbs

Example	High-level metaphor
<i>showed her into</i> his office	AN EXPERIENTIAL ACT IS AN EFFECTUAL ACTION
<i>barked them out of</i> town	A SOUND PRODUCTION ACT IS AN EFFECTUAL ACTION
<i>listened me into</i> greater clarity	A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>talked them out of</i> their suspicions	A COMMUNICATIVE ACT IS AN EFFECTUAL ACCOMPLISHMENT

(Van Valin 2005) and from constructionist models like *Construction Grammar* (Goldberg 1995, 2006; Boas 2003), but accommodates these within the theoretical apparatus of the *Lexical-Constructional Model* (Ruiz de Mendoza Ibáñez 2005; Ruiz de Mendoza Ibáñez & Mairal Usón 2006, 2007; Mairal Usón & Ruiz de Mendoza Ibáñez 2006, 2007; Ruiz de Mendoza Ibáñez & Baicchi 2007). The Lexical-Constructional Model takes into account diverse areas such as core grammar, pragmatics, and discourse. It arises from the necessity to spell out the relationship between the lexicon and grammar with a view to correlating instances of Internal and External Linguistics and to unifying features of three theoretical frameworks: Functionalism, Cognitivism, and Constructionism.

The conceptual motivation of the intransitive-transitive conversion will be investigated with the aim of identifying the factors that motivate subcategorical conversion in the caused-motion construction and allow for the performance of cognitive operations on it (Radden & Panther 2004). I will set out to relate instances of the caused-motion construction to Conceptual Metaphor (Lakoff & Johnson 1980, 1999) and to pin down the high-level metaphorical mappings licensing such cases of lexical incompatibility (Ruiz de Mendoza Ibáñez & Mairal Usón 2006, 2007, 2008; Baicchi 2007, 2008).

The article is organised as follows. Section 2 provides some preliminary observations on how meaning is constructed in the caused-motion construction. In Section 3 I briefly illustrate the core components of the *Lexical Constructional Model*. Section 4 deals with the interaction between lexical and constructional templates. In Section 5 the subsumption process is illustrated in some detail. Section 6 tackles the issue of the external constraints coercing intransitive verbs into transitivity, and Section 7 offers some conclusive remarks.

2. Preliminary observations

The few examples offered in the introduction clearly show that “meaning does not reside in linguistic units but is constructed in the minds of the language users” (Radden et al. 2007: 1). The patterns of linguistic structure, as is the case with the caused-motion construction, are underspecified prompts that require implementation and conceptual completion. Meaning is not encoded *sic et simpliciter* in linguistic units, rather, these units are prompts language users rely upon in order to construct meaningful conceptual representations in their minds. Consequently, meaning construction cannot be equated with the simple and straightforward algorithmic computation of compositionally derived senses. Indeed, it is by far a more complex activity, which is not limited to language, but is characteristic of interactions of human beings with their environment.

The meaning of the caused-motion construction as in

(5) I *blew the ant off* the table.

(Talmy 1975: 229)

evokes a causative force needed to move something away from a place, and illustrates the point that the verb is underspecified. This is tantamount to saying that it is the construction that coerces the lexical item (i.e. the verb) to shift its argument valency from a one-place predicate (*I blew*) to a three-place predicate (*I blew the ant off the table*). The caused-motion construction highlights the fact that what is underspecified is the verb, which does not make explicit the causative agent, the direction, and the amount of force needed to carry out the motion action. This observation, first made and discussed by Talmy (1975, 2000) in terms of the extension of the co-event conflation pattern, “applies far beyond the expression of simple Motion” (2000: 37). Specifically, such a construction derives from the conflation of a causative matrix verb plus a spatial preposition, i.e. a combination that represents, in an abstracted form, the concept of ‘caused agency’.

The Subj-V-Obj-Obl pattern represents a basic causal event where an agent induces a theme argument, i.e. the moving entity, to a physical change-of-location along a path designated by a locative directional phrase, a meaning that Goldberg (1995: 152) schematically represents as ‘X causes Y to move Z’. The prepositional phrases are complex prepositions since they profile a chain of states that changes through time but that is viewed atemporally as a gestalt (Langacker 1990). As a whole, this pattern, which denotes a *manipulative activity scene* (Slobin 1985; Clark 1993), extends to express a variety of caused-motion meaning. The following sentences exemplify the different senses that such a caused-motion construction may express:

- (6) She *put her lipstick into* her purse. (Lorraine Davidson, *Neighbors*)
- (7) Frank *pushed it into* the box. (Goldberg 1995: 161)
- (8) She *knocked him into* the thorny bed of roses. (Theatre News 1978: 6.1)
- (9) Fred *sneezed the tissue off* the table. (Goldberg 1995: 152)
- (10) The police *urged him out of* town. (Oregon Literary Review 2: 1)
- (11) Gugelmann *asked him into* the parlor. (NY Times, April 30, 1894)
- (12) The cheeky lurcher *locked her out of* her home.
(BBC news, November 22, 2004)
- (13) Mr Gorewits *showed her into* his office. (NY Times, March 13, 1988)
- (14) Burma’s top leader agreed to *let all foreign aid workers into* the country.
(BBC News, May 23, 2008)
- (15) Hecklers *shouted him off* the stage. (Palm Beach Post, November 27, 2000)
- (16) He *stared me into* a half-confusion. (S. Richardson, *Clarissa Harlow*)
- (17) Hope was there, and *laughed me out of* sadness. (E. Brontë, *Death*)
- (18) Sam *accompanied Bob into* the room. (Goldberg 1995: 164)
- (19) Margot *listened me into* greater clarity. (J. Scott, *The Colonel Red Huzzars*)
- (20) Fernando *persuaded him into fitting out* another expedition to Africa.
(C. Yonge, *The Constant Prince*)
- (21) Chirac *encouraged her into* politics. (The Guardian, November 27, 2006)
- (22) Has somebody *deceived us into thinking* that we don’t have a choice?
(CNNpolitics.com, July 8, 2008)

- (23) Katharine Newman *mentored me into* feeling confident enough to speak for a multicultural view of American society. (Joseph T. Skerrett, *Melus* 27, 2004)
- (24) My school's methods *taught me into* confused silence.
(The Gazette, February 19, 2007)

Examples (6) and (10) illustrate the core sense of the construction where a causer moves a causee into a different location, the basic difference being that verbs like *to put* and *to push* are motion verbs whose valency argument require the mention of the theme argument and location, whereas verbs such as *to knock* and *to sneeze* are non-motion verbs that have to adjust their valency configuration from a one-place predicate to a three-place predicate. The same process of valency adjustment or, to use a more specific terminology, *quantitative valency addition*, occurs, for example, with the verbs *to shout at* or *to stare at*, which are coerced by the construction to undergo a process of transitivization, or subcategorical conversion. Apart from its core sense of causation, the construction also denotes meanings such as blockage (12), helping (13), enablement (14), as well as persuasion (20). In general terms, such semantic diversity may be represented in the following way:

$$X - \text{pred} - Y (= \text{NP}) - Z (= \text{PP})$$

where X may be the causer but also the enabler/helper/blocker, etc., Y represents the causee/enablee/helpee, etc., the predicate codifies the causing/helping/letting event, and Z is the resulting event.

These extended senses of the construction were first observed by Talmy (1975) and explored in depth by Goldberg (1995, 2006). The main concern of this paper is to understand the cognitive motivation of these meaning extensions. Far from being an idiosyncratic pattern of the English language that is limited to some literary examples, the caused-motion construction is pervasive across lexical domains in both literal and figurative language.

3. The *Lexical-Constructional Model*: Lexical and constructional templates

The examples provided so far illustrate multiple cases of argument realization deriving from the unification of a lexeme and a construction, which gives rise to novel meanings. I will describe this phenomenon with recourse to the *Lexical Constructional Model* (LCM).

The LCM aims to develop an elaborate theory of meaning construction that includes a fine-grained treatment of the syntax-semantics interface. A central claim of the LCM is that syntax is by no means autonomous but motivated by semantic and pragmatic factors. Furthermore, the model assumes that the whole semiotic system of language is motivated by a relatively large number of external factors, ranging from iconicity to psychological considerations of speech processing. Although the LCM

aims primarily to make explicit the connection between language and conceptual structure thus giving priority to conceptual/representational semantics, it is also concerned with the interpersonal facets of communication (Baicchi & Ruiz de Mendoza 2011). In doing so, it bridges the gap between functionalist models such as Role and Reference Grammar (Van Valin 2005) and the cognitively-influenced Goldbergian strand of Construction Grammar (Goldberg 1995, 2006).

The LCM is a useful tool to identify the constraints that regulate the unification of the argument structure of a predicate and a construction. In the LCM, lexical and constructional templates, which interact in a constrained way, allow for a representational system for verbs in their constructional use (Faber & Mairal 1999; Van Valin 2005) without the need to have recourse to linking rules (Ruiz de Mendoza & Mairal 2006; González-García & Butler 2006). Second, many aspects of transitivity in grammar are conceptually grounded either in high-level metaphor or in high-level metonymy (Ruiz de Mendoza & Mairal 2007; Baicchi 2007). In broader terms, the LCM conceives of semantic interpretation as the interaction between a *lexical template* and a *constructional template*, whose integration is regulated by a number of internal and external constraints, whereby:

- i. internal constraints refer to the metalinguistic units encoded in a lexical representation;
- ii. external constraints invoke higher conceptual and cognitive mechanisms such as high-level metaphorical and metonymic mappings, which are responsible for processes like subsumption, quantitative valency addition, and subcategorical conversion.

The architecture of the LCM is diagrammed in Figure 1.

It will be shown that the caused-motion construction is a constructional template that coerces a lexical template through internal and external constraints. In the case of conversion, such constraints involve changes in Aktionsart and regulate the performance of high-level metaphorical operations on the verbs involved in the subsumption process.

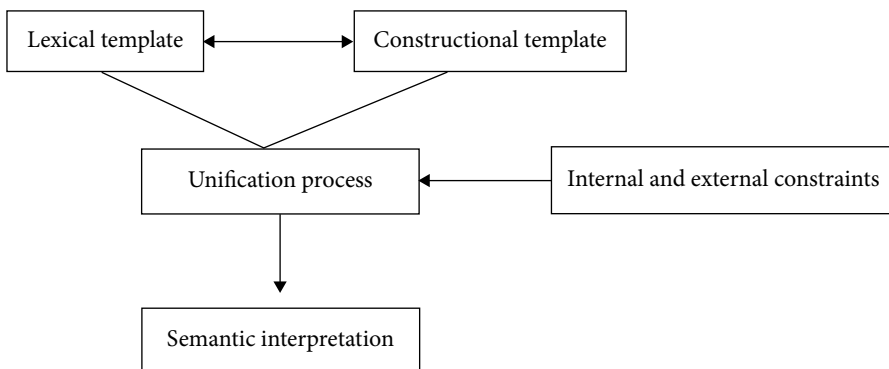


Figure 1. The core components of the Lexical Constructional Model

3.1 Lexical templates

A lexical template is a low-level semantic representation of the syntactically relevant content of a predicate and it is represented in the LCM as follows:

predicate: [SEMANTIC MODULE ⟨lexical functions⟩] [AKTIONSART MODULE
⟨semantic primes⟩]

This formalism assumes two basic points: (a) the existence of small meaningful units encoding conceptual content, and (b) the necessity to identify an inventory of primes which must be epistemologically finite, systematic and internally consistent, and also capable of providing typologically valid lexical representations. As for the identification of primes, I will draw on the lexicographic work carried out by Faber and Mairal 1999, and on the lexical domains they postulated (Table 2).

Each lexical domain is defined by a superordinate term which is the product of extensive factorization of meaning definitions. In line with Wierzbicka's *Natural Semantic Metalanguage*, each superordinate term can be utilized to formulate the meaning of more specific lexical items (see Figure 2). In order to find out how primes combine, the whole set of predicates that converge within a lexical class must be pinned down, which necessitates the development of a syntax of the metalanguage. In this connection, the LCM proposes a set of operators that are based on the notion of lexical function as propounded in Melčuk's *Explanatory and Combinatorial Lexicology* (Melčuk 1989; Melčuk et al. 1995; Melčuk & Wanner 1996).

The above-given formalism encompasses (A) a semantic module and (B) an Aktionsart module:

Table 2. Lexical domains and nuclear terms

Lexical domain	Nuclear term
EXISTENCE	<i>be/happen</i>
CHANGE	<i>become</i>
POSSESSION	<i>have</i>
SPEECH	<i>say</i>
EMOTION	<i>feel</i>
ACTION	<i>do, make</i>
COGNITION	<i>know, think</i>
MOVEMENT	<i>move (go/come)</i>
PHYSICAL PERCEPTION	<i>see/hear/taste/smell/touch</i>
MANIPULATION	<i>use</i>

PERCEPTION:

see: to see sb/sth at a distance/briefly

look (at): to see sb/sth by intentionally directing one's eyes

stare (at): to look at sb/sth for a long time with wide open eyes

goggle (at): to stare at sb/sth in surprise

gape (at): to goggle at sb/sth with an open mouth

Figure 2. Fragment of the lexical domain of visual perception

- a. At the paradigmatic level, the lexicon is structured in semantic domains, with each domain corresponding to a basic area of meaning and being represented by a superordinate term. Each superordinate term is used to define a number of hyponyms and troponyms in a stepwise fashion (à la Simon Dik 1990). Consider Figure 2 as an exemplification of a fragment of the lexical domain of perception:
- b. The Aktionsart module provides a description of the Aktionsart properties which are typical of a given predicate, together with the set of variables that have a syntactic impact. If we consider the caused-motion construction, the transitivity of *stare at* as in:

(25) They *stared him out of* the office.

coerces an activity predicate into a causative action.

3.2 Constructional templates

A constructional template is a high-level semantic representation of syntactically relevant meaning elements abstracted away from multiple lower-level representations. The LCM represents transitivity as the potential of a verb to participate in the higher-level configuration, called the transitive construction, which has the following constructional template:

(26) I saw him.
[do' (x, y)]

which specifies an action (do), an actor (x), and an object of the action (y). This decompositional notation follows the logical structures used in *Role and Reference Grammar*, but it is a more refined system of semantic decomposition since it avoids circularity. In Van Valin's apparatus a verb such as *to see* would be represented as follows:

to see = do' (x, [see' (x)])

which means that the *definiens* coincides with the *definiendum* (cf. Guest & Mairal Usón 2005), thus suffering from circularity.

Within the LCM the caused-motion construction is represented as follows:

(27) She *stared me out of* the room.

do' (x, [**pred'** (x, y)] CAUSE [BECOME NOT **be-in'** (y,z)])

pred' (x, y) CAUSE [BECOME NOT **be-in'** (y,z)]

4. The interaction of lexical and constructional templates

Lexical templates, i.e. lower-level conceptual structures, can be conflated into constructional templates, i.e. higher-level conceptual structures. This is tantamount to saying that constructional templates subsume and coerce lexical templates, a production mechanism that combines a lexical template with a constructional template. Such a combination gives us more in semantic terms than the lexical template and the constructional template each give us by themselves.

4.1 The lexical-constructional subsumption in the caused-motion construction

The subsumption process is a meaning production mechanism that is definable as the constrained incorporation of a lower-level conceptual structure into higher-level configurations. This process is regulated by internal and external constraints.

4.2 Internal constraints

Internal constraints make reference to the internal semantic make-up of the lexical and constructional templates and specify the conditions under which a lexical template may modify its internal configuration. For the caused-motion construction the relevant internal constraint is *predicate-argument conditioning*. For purposes of illustration, consider the following utterances:

(28) He *pushed me into* the cabin.

(29) I *blew the ant off* the plate.

(30) He *convinced me into* the water and *onto* the beach.

(31) The cool night air *caressed me into* a deep trance.

Once inserted into the construction, verbs like *blow* (29), *convince* (30), and *caress* (31) are coerced into changing their argument configuration in the terms of quantitative valency addition.

5. The subsumption process

In order to pave the way for our discussion of transitivity in the caused-motion construction, several cognition verbs will be analysed in some detail to illustrate the subsumption process. Consider the example below:

(32) She *showed me her* room.

Show: [do' (x, Ø)] CAUSE [BECOME [see' (y,z)]]

The verb *to show* in (32) is integrated into the ditransitive construction, the construction in which typically the verb *to give* occurs. If we have recourse to the notion of metaphor as propounded in Cognitive Linguistics – i.e. a conceptual mapping or a set of correspondences between two domains, one of which (source) allows us to reason about the other (target) – we can identify the metaphor that licenses the appearance of *show* in the ditransitive construction:

SOURCE		TARGET
giver	←→	shower (instigator of perception)
givee	←→	showee (perceiver)
object given	←→	object shown (percept)

Now consider the following use of *to show* in sentence (33), which denotes a motion event:

(33) She *showed me into* her room.

Since *show* is a matter of making something visually evident, it may be classified as a caused-perception verb:

SOURCE		TARGET
shower (instigator of perception)	←→	causer of motion
showee (perceiver)	←→	moving object
object shown (percept)	←→	destination of motion

The verb *to show* can be also used as a cognition verb as in:

(34) She *showed me out of* the problem.

which is a reduced form of *She showed me the way to get out of the problem* and can be conceptualized metaphorically in the following way:

SOURCE		TARGET
giver	←→	shower (instigator of perception) => <i>she</i>
givee (receiver)	←→	showee (perceiver) => <i>me</i>
object given	←→	object shown (percept) => <i>the way (out of sth)</i>

In Figure 3 I offer a simplified representation of the lexical-constructional subsumption of *show into* as it is conceived of in the LCM.

When it is external to the construction, the lexical template *to show* is represented as **show'** (x, y). The semantic representation of the caused-motion construction is [Lexical template] CAUSE [BECOME **be-LOC'** (y,z)]. The unification of the lexical template and the constructional template is constrained by the internal factor of predicate-argument conditioning, since the verb *to show* is coerced into modifying its configuration.

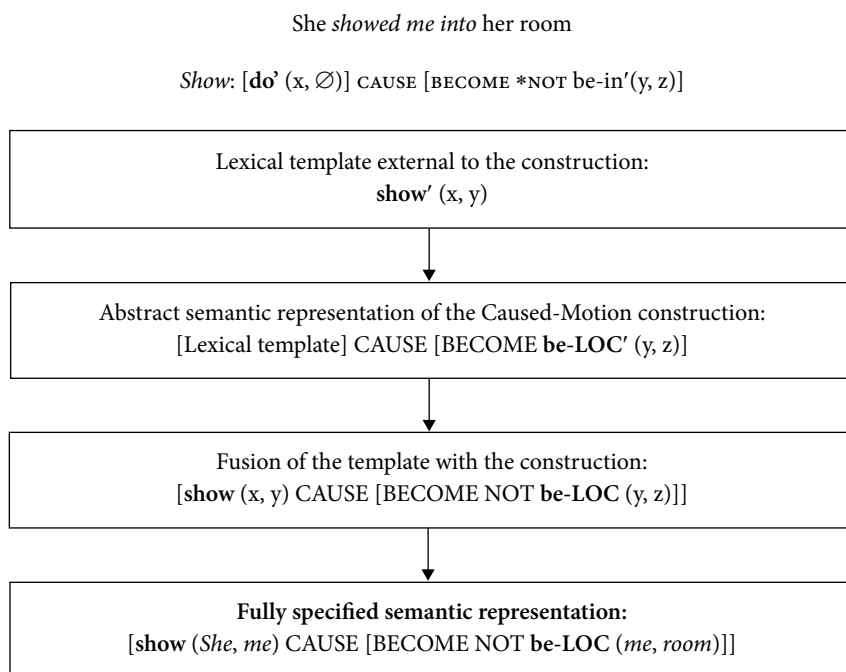


Figure 3. Subsumption of *show* into (out of)

If we now consider the high-level metaphors licensing such expressions, we can identify the metaphorical mappings listed in Table 3 where TRANSFER OF POSSESSION is to be understood in terms of POSSESSION OF KNOWLEDGE.

The following sentences contain additional cognition verbs that are licensed by high-level metaphors to participate in the caused-motion construction (see Table 4).¹

Table 3. Metaphors affecting the interpretation of the verb *to show*

Example	High-level metaphor
<i>showed me her room</i>	A PERCEPTUAL ACT IS A TRANSFER OF POSSESSION
<i>showed me into</i> the room	A PERCEPTUAL ACT IS AN ACT OF CAUSED MOTION
<i>showed me out of</i> the problem	A PERCEPTUAL ACT IS A TRANSFER OF KNOWLEDGE

1. It is worth noticing that the constructions listed in Tables 4 and 5 may involve underlying metonymies. As an example, *duped me into marriage* in (37) undoubtedly involves metaphorical caused-motion, but at the same time the act of 'duping' someone into something seems to function as a means of having caused the speaker to marry her 'soon ex-husband'. This process involves the metonymy DUPING PATIENT FOR CAUSING PATIENT TO DO A BY MEANS OF DUPING PATIENT.

Table 4. Metaphors affecting the interpretation of some cognition verbs

Example	High-level metaphor
<i>taught me into</i> confused silence	A COGNITIVE ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>mentor me into</i> the world of journalism	A COGNITIVE ACT IS AN EFFECTUAL ACTION
<i>duped me into</i> marriage	A COGNITIVE ACT IS AN EFFECTUAL ACTION

(35) Unfortunately, my school's methods *taught me into* confused silence.

(36) He helped *mentor me into* the world of journalism.

(37) My soon ex-husband *duped me into* marriage solely for a green card.

The use of cognition verbs is grounded in the high-level metaphor A COGNITIVE ACT IS AN EFFECTUAL ACTION; but when the directional prepositional phrase denotes figurative caused motion, the sentence expresses the outcome of a psychological reaction licensed by the high-level metaphor A COGNITIVE ACT IS AN EFFECTUAL ACCOMPLISHMENT.

5.1 The NP *into-gerund* construction

Another case in point is the co-occurrence of cognition verbs with a complex prepositional phrase formed by a gerund, or by a gerund plus a *that*-clause:

(38) Chris was supposed to *teach me into* nursing.

(39) The media *fooled us into believing* that Karachi was dangerous.

where the complementation pattern (*into nursing, into believing that*), which usually profiles an atelic state of affairs, functions as an argument of the main verb (Faber & Mairal 1999: 124). We can thus include the *into-gerund* construction in the caused-motion construction.² Let us focus on a fragment of the lexical domain of cognition and corresponding examples (see Figure 4).

These examples are licensed by the high-level metaphors listed in Table 5.

When the result verb describes a concrete action (*attacking, marrying, etc.*), the expression is grounded in the high-level metaphor A MENTAL MANIPULATIVE ACT IS AN EFFECTUAL ACTION; when the result verb describes a mental state of affairs (*thinking, believing, etc.*), the expression is grounded in the high-level metaphor A MENTAL MANIPULATIVE ACT IS AN EFFECTUAL ACCOMPLISHMENT.

2. Stefanowitsch and Gries (2003, 2005) label the NP-*into-gerund* the “*into-causative construction*” and describe it as being formed by two predicates: (1) the *cause predicate*, which codifies the causing event in the main verb, and (2) the *result predicate*, which codifies the result event in the NP *into-gerund* (see also Wierzbicka 1998: 125 and Gries & Stefanowitsch 2004: 230).

COGNITION: to cause sb to believe that sth is true when it is not

deceive: to cause sb to believe that sth is true when it is not in order to take advantage of them

delude: to deceive sb by false promises

fool: to deceive sb making them look foolish

trick: to deceive sb to get sth from them as part of a plan

dupe: to trick sb completely, usually to get them to do sth

bamboozle: to trick sb in order to gain an advantage

beguile: to trick sb into doing sth by making it seem attractive

Figure 4. Fragment of the lexical domain of cognition (Faber & Mairal 1999: 125)

Table 5. Metaphors affecting the interpretation of cognition verbs

Example	High-level metaphor
<i>deceived us into thinking</i>	A MENTAL MANILUPATIVE ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>deluded me into believing</i>	A MENTAL MANILUPATIVE ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>fooled me into believing</i>	A MENTAL MANILUPATIVE ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>tricked them into attacking</i>	A MENTAL MANILUPATIVE ACT IS AN EFFECTUAL ACTION
<i>duped us into believing</i>	A MENTAL MANILUPATIVE ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>bamboozled me into marrying</i>	A MENTAL MANILUPATIVE ACT IS AN EFFECTUAL ACTION
<i>beguiled me into offering</i>	A MENTAL MANILUPATIVE ACT IS AN EFFECTUAL ACTION

- (40) They have *deceived us into* thinking they are good, beautiful, and true.
 (41) Diets have *deluded us into* believing that food is the problem.
 (42) The movie *fooled me into* believing this book would be different.
 (43) We *tricked them into* attacking Pearl Harbor.
 (44) The government *has duped us into* believing we are part of the EU.
 (45) My first wife *bamboozled me into* marrying her.
 (46) She *beguiled me into* offering a birthday dinner.

6. External constraints

External constraints involve changes in Aktionsart and result from the (im)possibility to perform high-level metaphorical operations on the lexical items involved in the subsumption process. The conversion from intransitivity to transitivity can be interpreted in terms of correspondences between source and target domains. In the following paragraphs, I will illustrate cases of subcategorial conversion in examples from the lexical domains of perception and speech.

6.1 Verbs of perception

I will analyse several perception verbs in order to pin down the high-level metaphors licensing the participation of such verbs in the caused-motion construction. Consider the verb *to gaze at* in the event below:

(47) He *gazed me out of* the club.

When the verb is integrated into the construction, it undergoes a process of subcategorial conversion into transitivity, which implies the cancellation of the preposition *at*.

The unification of the lexical template and the constructional template is constrained by the internal factor of quantitative valency addition to the extent that the verb *to gaze at* is coerced into a transitive configuration. The pseudo-transitive use of the predicate *gaze* is here grounded in the high-level metaphor EXPERIENTIAL ACTION IS EFFECTUAL ACTION with the following mappings:

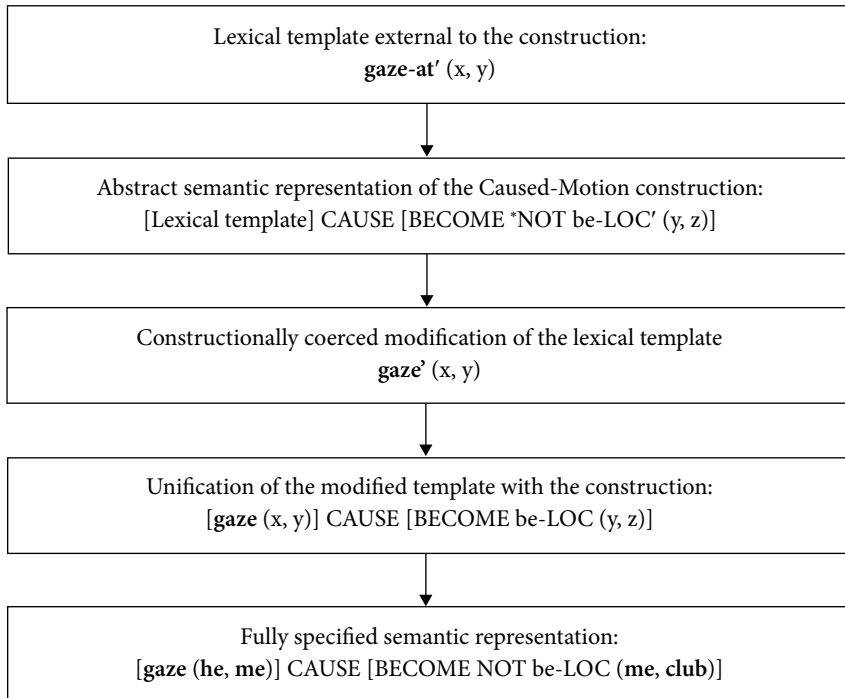


Figure 5. Simplified representation of a case of lexical-constructional subsumption

SOURCE		TARGET
Effector	←→	actor [both are doers]
Effectee	←→	goal/experiencer [both are objects]
Effecting	←→	acting [both are kinds of doing]
Instrument	←→	∅
Purpose	←→	purpose

Verbs of perception codify an intentional form of acting on the object of perception. They undergo subcategorical conversion so that the verb directly governs an NP. Consider the motion events below and the respective metaphorical mappings licensing such expressions (see Table 6):

- (48) The devil smiled as he *gazed me out of* the club.
 (49) Some guy *stared me out of* a parking space.
 (50) Some very blinding lasers *dazzled me into* a state of confusion.
 (51) She *had gazed me into* cowardice.
 (52) She then *gaped me into* a very agreeable and richly spacious hall.
 (53) All of my classmates laughed at me and *stared me into* silence.
 (54) He *listened me into* a cave.
 (55) Her beauty must have *dazzled him out of* his wits.
 (56) Margot *listened me into* greater clarity.
 (57) Grass was poison-sprayed which *whiffed me into* headache.
 (58) It *tasted him into* a deep and memorable dream.

When the object of the prepositional phrase denotes a physical space (e.g. *hall, club, cave*), the event is grounded in the high-level metaphor A PERCEPTUAL ACT IS AN EFFECTUAL ACTION; when the prepositional phrase denotes figurative motion (e.g. *silence, cowardice, clarity, dream*), the event expresses the outcome of a psychological reaction and the high-level metaphor licensing the expression is A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT. Here the location is the source that maps onto a psychological state (the target); in fact what we have is A CHANGE OF STATE IS A CHANGE OF LOCATION. Thus the resultant state of figurative caused-motion is seen as a change of location and the high-level metaphor is A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT.

The subcategorical conversion of perception verbs is generally licensed by the high-level metaphor AN OBJECT-DIRECTED INTENTIONAL PERCEPTUAL ACT IS AN EFFECTUAL ACTION/ACCOMPLISHMENT.

Verbs of tactile perception also participate in the caused-motion construction and they mainly undergo the subsumption process. Consider the following expressions:

Table 6. Metaphors affecting the interpretation of verbs of visual perception

Example	High-level metaphor
<i>gazed me out of the club</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACTION
<i>stared me out of a parking space</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACTION
<i>dazzled me into confusion</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>gaped me into a hall</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACTION
<i>gazed me into cowardice</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>whiffed me into headache</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>stared me into silence</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>listened me into a cave</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACTION
<i>dazzled him out of his wits</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>listened me into greater clarity</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>whiffed me into headache</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT
<i>tasted him into a dream</i>	A PERCEPTUAL ACT IS AN EFFECTUAL ACCOMPLISHMENT

- (59) No harm *touched me out of* my fear.
(60) The master hand *touched me into* life and beauty.
(61) He *palmed me out of* the chamber.
(62) Ill-health *palmed him away from* politics.
(63) She *knocked him into* the thorny bed of roses.
(64) The disease *knocked him into* a coma for four days.
(65) They *manhandled me out of* the cell and down the dark corridor.
(66) The policemen woke me and *manhandled me into* a car.
(67) The rhythmic sound of rushing water *caressed me into* an inevitable Zen moment.
(68) He lightly *caressed her out of* the van.
(69) A PR *pawed me into* the first press conference.

Table 7. Metaphors affecting the interpretation of verbs of tactile perception

Example	High-level metaphor
<i>touched me out of</i> my fear	AN ACTIVITY IS AN EFFECTUAL ACCOMPLISHMENT
<i>palmed me out of</i> the chamber	AN ACTIVITY IS AN EFFECTUAL ACTION
<i>palmed him away from</i> politics	AN ACTIVITY IS AN EFFECTUAL ACTION
<i>knocked him into</i> the bed of roses	AN ACTIVITY IS AN EFFECTUAL ACTION
<i>knocked him into</i> a coma	AN ACTIVITY IS AN EFFECTUAL ACCOMPLISHMENT
<i>manhandled me out of</i> the cell	AN ACTIVITY IS AN EFFECTUAL ACTION
<i>caressed me into</i> a Zen moment	AN ACTIVITY IS AN EFFECTUAL ACCOMPLISHMENT
<i>caressed her out of</i> the van	AN ACTIVITY IS AN EFFECTUAL ACTION
<i>pawed me into</i> the press conference	AN ACTIVITY IS AN EFFECTUAL ACTION

The above examples are grounded in the high-level metaphors AN ACTIVITY IS AN EFFECTUAL ACTION or AN ACTIVITY IS AN EFFECTUAL ACCOMPLISHMENT, depending on the result predicate: when the result predicate refers to a place (*van, conference*), the tactile activity is mapped onto an EFFECTUAL ACTION, while when it refers to a figurative motion (*coma, Zen moment*), the tactile activity is mapped onto an EFFECTUAL ACCOMPLISHMENT.

6.2 Speech verbs

The high-level metaphor COMMUNICATIVE ACTION IS EFFECTUAL ACTION licenses the transitivization of speech verbs, as in the events below:

- (70) My mom *talked me into* the car.
- (71) The seller almost *shouted me out of* the shop.
- (72) He *snarled me into* a poker room.
- (73) He *whispered me out of* the courtyard into a small garden.
- (74) Gugelmann *asked him into* the parlor.

Figurative uses of speech verbs indicate a psychological outcome:

- (75) He *talked them out of* their suspicions.
- (76) My vet *shouted me into* silence.
- (77) He *chatted me into* a nervous wreck.
- (78) He would explode in a roar, *shouting us into* obedience.

Such uses are grounded in the high-level metaphor COMMUNICATIVE ACTION IS EFFECTUAL ACCOMPLISHMENT. It is this metaphor that licenses the subcategorical conversion process, whereby the recipient of the message is viewed as if he were directly affected by the action of shouting or whispering rather than as the goal of the message.

Table 8. Metaphors affecting the interpretation of *speech verbs*

Example	High-level metaphor
<i>talked them out of</i> their suspicions	COMMUNICATIVE ACTION IS EFFECTUAL ACTION
<i>shouted me out of</i> the shop	COMMUNICATIVE ACTION IS EFFECTUAL ACTION
<i>snarled me into</i> a poker room	COMMUNICATIVE ACTION IS EFFECTUAL ACTION
<i>whispered me out of</i> the courtyard	COMMUNICATIVE ACTION IS EFFECTUAL ACTION
<i>asked him into</i> the parlor	COMMUNICATIVE ACTION IS EFFECTUAL ACTION
<i>talked them out of</i> their suspicions	COMMUNICATIVE ACTION IS EFFECTUAL ACCOMPLISHMENT
<i>shouted me into</i> silence	COMMUNICATIVE ACTION IS EFFECTUAL ACCOMPLISHMENT
<i>chatted me into</i> a nervous wreck	COMMUNICATIVE ACTION IS EFFECTUAL ACCOMPLISHMENT
<i>shouting us into</i> obedience	COMMUNICATIVE ACTION IS EFFECTUAL ACCOMPLISHMENT

Table 9. Metaphors affecting the interpretation of verbs of sound emission.

Example	High-level metaphor
<i>meowed me out of bed</i>	SOUND PRODUCTION IS EFFECTUAL ACTION
<i>cried me into their house</i>	SOUND PRODUCTION IS EFFECTUAL ACTION
<i>chimed her into decisive action</i>	SOUND PRODUCTION IS EFFECTUAL ACTION
<i>whined me out of bed</i>	SOUND PRODUCTION IS EFFECTUAL ACTION
<i>barked them out of the yard</i>	SOUND PRODUCTION IS EFFECTUAL ACTION
<i>rustled me out of bed</i>	SOUND PRODUCTION IS EFFECTUAL ACTION
<i>clinked me into a cave</i>	SOUND PRODUCTION IS EFFECTUAL ACTION
<i>laughed me out of the classroom</i>	SOUND PRODUCTION IS EFFECTUAL ACTION
<i>whined me into submission</i>	SOUND PRODUCTION IS EFFECTUAL ACCOMPLISHMENT
<i>rustled me out of my reverie</i>	SOUND PRODUCTION IS EFFECTUAL ACCOMPLISHMENT
<i>laughed me into despair</i>	SOUND PRODUCTION IS EFFECTUAL ACCOMPLISHMENT

3.3 Verbs of sound emission

The high-level metaphor SOUND PRODUCTION IS EFFECTUAL ACTION licenses the transitivization of verbs of sound emission:

- (79) He *meowed me out of bed* this morning.
- (80) They *cried me into* their house.
- (81) The bell *chimed her into* decisive action.
- (82) My golden idiot retriever *barked them out of* the yard last night.
- (83) Jason *rustled me out of* bed for a trip to the Vinegrove.
- (84) He *clinked me into* a cave.
- (85) They *laughed me out of* the classroom.

In the figurative uses of such verbs we have A CHANGE OF STATE IS A CHANGE OF LOCATION, where the location is the source that maps onto a psychological state, as in:

- (86) My children have just *whined me into* submission.
- (87) A whiff of wind *rustled me out of* my reverie.
- (88) She *laughed me into* despair.

The resultant state of figurative caused-motion is seen as a change of location licensed by the metaphor SOUND PRODUCTION IS EFFECTUAL ACCOMPLISHMENT.

7. Concluding remarks

In line with Radden and Panther's (2004: 29) characterization of cognitive motivation, I have tried to explain the behavior of non-motion verbs, in particular intransitive

verbs, in the caused-motion construction. I have argued that the verbs' seeming incompatibility with the construction can be resolved by the application of a set of high-level metaphors relating the verbs' literal meanings to the causal meanings coerced by the construction.

This chapter has been concerned with multiple cases of argument realizations and the interplay between predicates and the construction in which they occur. In particular, I have accounted for different senses conveyed by the caused-motion construction, specifically with lexically intransitive non-motion verbs, such as *to bark* in *The dog barked them out of town*. Here, the verb *bark* is transitivized and acquires a causative meaning. More generally, the caused-motion events analysed have revealed that verbs undergoing subcategorical conversion undergo valency addition, and we have claimed that valency addition occurs only in connection with the cognitive process of high-level metaphorization. The linguistic models adopted for the analysis of the data are Conceptual Metaphor Theory and the Lexical-Constructional Model. Among other linguistic phenomena, the latter accounts for the relationship between the lexicon and grammar by integrating theoretical insights from Functionalism, Cognitivism, and Constructionism.

The notion of causation has occupied the minds of philosophers and linguists from Aristotle through Galileo to Talmy. For example, Hume and Kant considered causation a function of human perception rather than a property of the universe. We effortlessly interpret the above-mentioned sentence *The dog barked them out of town* in terms of causation and motion, and we have no difficulty reinterpreting the subcategorical conversion of the intransitive verb *to bark*: we simply rely upon the gestalt "Law of Minimum Principle", according to which we tend to organize our experience so that it is as simple as possible (Benjafield 1996: 173). We rely on analogical thinking and understand more complex experiences in terms of simpler ones. The above example is easily interpretable as an instance of motion caused by a dog barking at someone. The syntactic form of the caused-motion construction induces us to interpret "pseudo-transitive" verbs like *bark* in the same causative sense as genuine transitive motion verbs such as *push*.

References

- Baicchi, Annalisa. 2007. The subsumption process of the intransitive-transitive migration. In M. Dossena, D. Torretta, and A. Sportelli, eds. *Migrations of Forms, Forms of Migration*, 21–41. Bari: Progedit.
- Baicchi, Annalisa & Francisco José Ruiz de Mendoza Ibáñez 2010. The cognitive grounding of illocutionary constructions within the theoretical perspective of the Lexical-Constructional Model. In M. Bertuccelli Papi & F. J. Ruiz de Mendoza Ibáñez, eds. *Cognition and the Brain in Language and Linguistics*. *Textus* 24(1): 87–112.
- Benjafield, John Grant. 1996. *A History of Psychology*. Boston: Allyn and Bacon.

- Boas, Hans Christian. 2003. *A Constructional Approach to Resultatives* [Stanford Monograph in Linguistics]. Stanford, CA: Center for the Study of Language and Information.
- Broccias, Cristiano. 2003. *The English Change Network*. Berlin and New York: Mouton de Gruyter.
- Butler, Christopher, and Francisco González-García. 2005. Situating FDG in functional-cognitive space: An initial study. In L. Mackenzie and M. L. A. Gómez-González, eds. *Studies in Functional Discourse Grammar*, 109–158. Bern: Peter Lang.
- Clark, Eve V. 1993. *The Lexicon in Acquisition*. Cambridge: Cambridge University Press.
- Dik, Simon C. 1990. *The Theory of Functional Grammar*. Berlin and New York: Mouton de Gruyter.
- Faber, Pamela, and Ricardo Mairal Usón. 1999. *Constructing a Lexicon of English Verbs*. Berlin and New York: Mouton de Gruyter.
- Goldberg, Adele. 1995. *Constructions: A Construction Grammar Approach to Argument Structure*. Chicago: University of Chicago Press.
- Goldberg, Adele. 2006. *Constructions at Work: The Nature of Generalization in Language*. Oxford: Oxford University Press.
- González-García, Francisco, and Christopher Butler. 2006. Mapping functional-cognitive space. *Annual Review of Cognitive Linguistics* 4: 39–96.
- Gries, Stefan, and Anatol Stefanowitsch. 2004. Covarying collexemes in the *into*-causative. In M. Achard and S. Kemmer, eds. *Language, Culture, and Mind*, 225–236. Standord: CSLI Publications.
- Guest, Elizabeth, and Ricardo Mairal Usón. 2005. Lexical representation based on a universal metalanguage. *Revista Española de Lingüística Aplicada* 4: 125–173.
- Kant, Immanuel. 1781 [1988]. *Critique of Pure Reason*. (Tr. J.M.D. Meiklejohn). London: J. M. Dent & Sons.
- Lakoff, George, and Mark Johnson. 1980. *Metaphors We Live By*. The University of Chicago Press: Chicago.
- Lakoff, George, and Mark Johnson. 1999. *Philosophy in the Flesh*. New York: Basic Books.
- Langacker, Ronald. 2005. Construction grammars: Cognitive, radical, and less so. In F. J. Ruiz de Mendoza Ibáñez and M. S. Peña Cervel, eds. *Cognitive Linguistics: Internal Dynamics and Interdisciplinary Interaction*, 101–159. Berlin and New York: Mouton de Gruyter.
- Mairal Usón, Ricardo, and Pamela Faber. 2002. Functional grammar and lexical templates. In R. Mairal and M. J. Pérez Quintero, eds. *New Perspectives on Predicate Argument Structure in Functional Grammar*, 41–98. Berlin and New York: Mouton de Gruyter.
- Mairal Usón, Ricardo, and Francisco José Ruiz de Mendoza Ibáñez. 2006. Internal and external constraints in meaning construction: The lexicon-grammar continuum. In: *Estudios de Filología Inglesa: Homenaje a la Dra. Asunción Alba Pelayo*. Madrid: UNED.
- Mairal Usón, Ricardo, and Pamela Faber. 2006. Lexical templates within a functional cognitive theory of meaning. *Annual Review of Cognitive Linguistics* 5: 137–172.
- Melčuk, Igor, and Leo Wanner. 1996. Lexical functions and lexical inheritance for emotion lexemes in German. In L. Wanner, ed. *Recent Trends in Meaning-Text Theory*, 209–227. Amsterdam and Philadelphia: John Benjamins.
- Michaelis, Laura. 2005. Entity and event coercion in a symbolic theory of syntax. In J. O. Östman and M. Fried, eds. *Construction Grammars: Cognitive Grounding and Theoretical Extensions*, 45–88. Amsterdam and Philadelphia: John Benjamins.
- Radden, Günter, and Klaus-Uwe Panther, eds. 2004. *Studies in Linguistic Motivation*. Berlin and New York: Mouton de Gruyter.

- Radden, Günter, Klaus-Michael Köpcke, Thomas Berg, and Peter Siemund, eds. 2007. *Aspects of Meaning Construction*. Amsterdam and Philadelphia: John Benjamins.
- Ruiz de Mendoza Ibáñez, Francisco José. 1998. On the nature of blending as a cognitive phenomenon. *Journal of Pragmatics* 30: 259–274.
- Ruiz de Mendoza Ibáñez, Francisco José. 2005. Construing meaning through conceptual mappings. In P. Fuertes, ed. *Lengua y Sociedad: Aportaciones recientes en Lingüística Cognitiva, Lingüística del Corpus, Lenguajes de Especialidad y Lengua en Contacto*, 19–38. Universidad de Valladolid.
- Ruiz de Mendoza Ibáñez, Francisco José, and Ricardo Mairal Usón. 2006. Levels of semantic representation: Where lexicon and grammar meet. *Interlingüística* 17: 26–47.
- Ruiz de Mendoza Ibáñez, Francisco José, and Annalisa Baicchi. 2007. Illocutionary constructions: Cognitive motivation and linguistic realization. In I. Kecskes and L. Horn, eds. *Explorations in Pragmatics: Linguistic, Cognitive and Intercultural Aspects* [Mouton Series in Pragmatics 1], 95–128. Berlin and New York: Mouton de Gruyter.
- Ruiz de Mendoza Ibáñez, Francisco José, and Ricardo Mairal Usón. 2007. High-level metaphor and metonymy in meaning construction. In G. Radden, K.-M. Köpcke, T. Berg, and P. Siemund, eds. *Aspects of Meaning Construction*, 33–49. Amsterdam and Philadelphia: John Benjamins.
- Ruiz de Mendoza Ibáñez, Francisco José, and Ricardo Mairal Usón. 2008. Levels of description and constraining factors in meaning construction: An introduction to the Lexical Constructional Model. *Folia Linguistica* 42: 355–400.
- Slobin, Dan. 1985. Cross-linguistic evidence for the language-making capacity. In D. Slobin, ed. *A Crosslinguistic Study of Language Acquisition*. Vol. 2, 1157–1249. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Stefanowitsch, Anatol. 2001. Constructing causation: A construction-grammar approach to analytic causatives. Doctoral dissertation, Rice University.
- Stefanowitsch, Anatol, and Stefan Gries. 2003. Collostructions: Investigating the interaction of words and constructions. *International Journal of Corpus Linguistics* 8: 209–243.
- Stefanowitsch, Anatol, and Stefan Gries. 2005. Covarying collexemes. *Corpus Linguistics and Linguistic Theory* 1: 1–43.
- Talmy, Leonard. 1976. Semantic causative types. In M. Shibatani, ed. *The Grammar of Causative Constructions* [Syntax and Semantics 6], 43–116. Academic Press: New York.
- Talmy, Leonard. 1988. Force dynamics in language and thought. *Cognitive Science* 12: 49–100.
- Talmy, Leonard. 2000. *Toward a Cognitive Semantics*. Boston: MIT Press.
- Van Valin, Raymond Jr. 2005. *The Syntax-Semantics-Pragmatics Interface: An Introduction to Role and Reference Grammar*. Cambridge: Cambridge University Press.
- Vendler, Zeno. 1967. *Linguistics in Philosophy*. New York: Cornell University Press.
- Wierzbicka, Anna. 1996. *Semantics: Primes and Universals*. Oxford: Oxford University Press.

Motivation in English *must* and Hungarian *kell**

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The aim of this paper is to find motivation (and perhaps also some of its limits) in grammatical structures associated with the English modal *must* and its Hungarian equivalent *kell*. Motivation is seen as coming from various ingredients of a conceptual structure associated with the modals that is assumed to be far more complex than was suggested in previous analyses of the 1990s. The view of modality offered here is more fine-grained in including participants and matching forces associated with them, especially in the deontic senses. The roles attributed to participants in conceptual structure can be seen as motivating alternative grammatical structures and, conversely, the presence of these structures can be taken as indirect evidence that the conceptual structure is valid. The correlation, however, has its limits as well. Some of the radical changes in conceptual structure resulting from the root to epistemic extension are at best marginally represented in grammatical structure. The paper also offers suggestions as to why this may be the case.

Keywords: action chain, billiard-ball model, case marking, conceptual structure, dative, doer, experiencer, force dynamics, modality, patient

1. Root modals and force dynamics

1.1 The background

One of the strangest properties of the modals in a number of languages is that the syntactic structures in which they appear show clear signs of being exceptional or transitional:

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- i. Although basically analyzed as having a single-clause structure, sentences containing modals in some respects resemble two-clause structures, as suggested in early analyses of auxiliaries as main verbs (e.g. Ross 1969).
- ii. Some elements of the conceptual content associated with modals remain hidden or implicit in grammatical structure, such as the act of permission or obligation itself, or the fact that obligation in deontic *must* or permission in *may* prototypically comes from the speaker, as in sentence (1), which is essentially equivalent to sentence (2):

- (1) You may use my car to go to the disco tonight.
- (2) I permit you to use my car to go to the disco tonight.

This is readily explained if we think of modals as reference point constructions, which normally provide mental access to a target and are often backgrounded or omitted altogether when the target has been reached. This may have led to a tendency in some early cognitive analyses to exclude these factors from conceptual structure altogether.

- iii. In cognitive grammar (at least) epistemic modals are regarded as grounding predications, a reference point construction (Langacker 1991, 2004; Pelyvás 1996, 2006; cf. Section 2.4.2).¹
- iv. In their conceptual structure, modals resemble cognitive predicates (e.g. *think*, *believe*, *expect*, etc.) which, although traditionally analyzed as matrix predicates, often display exceptional syntactic behavior (such as long-distance movement, raising or exceptional case marking in generative terms), exhibiting clear signs of a structure resembling a single clause (cf. Langacker 1995: 48–51; Pelyvás 2006: 129–134).

The conceptual structures initially set up for modals in terms of forces and barriers did not prove very successful in accounting for these properties (cf. 1.2), nor did they provide a firm basis for the extension of the root senses into the epistemic domain (cf. Pelyvás 1996, 2006). In this paper we will examine how certain details of the exceptional syntax of modals can be motivated by the more fine-grained conceptual structures proposed in Pelyvás (2000, 2006), which replace barriers with matching forces and associate the participants of the deontic scene with them.

The paper examines whether Langacker's (1999) notion of the action chain is applicable to the conceptual structures obtained in this way, concentrating on two areas in the conceptual structures of English deontic *must* and its Hungarian equivalent *kell*: one is the dual role of the *doer* (surface subject), which can motivate alternative case marking. While in English the subject is always in the nominative case (*We must go*), in Hungarian *kell* 'must' the doer may be expressed in the nominative or dative case.

1. The reference-point construction is seen as transitional or dynamic by definition, cf. Langacker (1993: 6).

(This is also possible with some other deontic auxiliaries,² e.g. *kellene* ‘should’ or *lehet, szabad* ‘may’.) This raises the question of how profiling changes in the action chain so that this participant can find itself at the head of its profiled portion (Langacker’s definition of a nominative subject).

This question leads to the other concern of the paper: the backgrounding of the *source of obligation*, or of obligation itself, which can be interpreted as collapsing the non-autonomous portion of the action chain (removal from profile but not from immediate scope), an infrequent phenomenon in other areas of grammar (cf. 2.4.2.).

A comparison of the two languages can lead to a better understanding of the conceptual structures involved in modality and the factors motivating its linguistic coding.

1.2 “Pure” force dynamics

In his analysis of modals Langacker notes three factors:

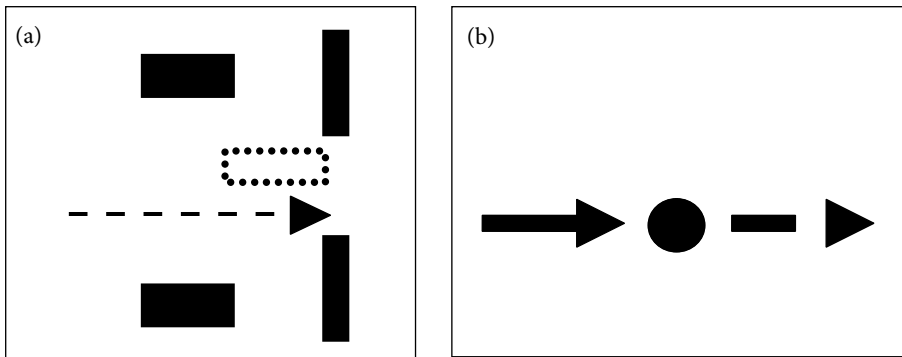
- modals are force dynamic;
- modals present events as potential rather than actual;
- modals are marked by attenuation of subject control: the source of potency is no longer associated with the subject, but becomes implicit and more subjectively construed.

The idea that modals should be analyzed in terms of force dynamics was first formulated in Talmy (1988). Sweetser (1990) offers two alternative conceptual schemas for deontic *must*: one, based on Talmy’s original suggestion, involves a set of barriers restricting the subject’s action to a single act (Figure 1a), while Sweetser’s preferred alternative relies on a compelling force directing the subject towards an act (Figure 1b).

Since, according to cognitive theory, a situation can be construed in different ways, we are not forced to make a choice between the alternatives.³ But, as pointed out among a number of other problems connected with this analysis in Pelyvás (2000: 240–243), both schemas seem to disregard the potentiality of the situation emphasized in Langacker (1999). If there is one barrier that is lifted, as in Figure 1a, this implies that there is nothing to prevent the only action permitted from actually taking place (as opposed to alternative courses of action). This is at variance with our everyday experience (and also with the rules of formal logic), according to which an action one is obliged or prohibited (negative obligation) to perform need not necessarily take, or not take, place.

2. Standard descriptions of Hungarian grammar do not use the term *modal*. In Hungarian the words listed will be simply regarded as auxiliaries.

3. In fact, Pelyvás (2000: 241) suggests that (a) may represent the obligee’s, and (b) the issuer’s side.



- a. A set of barriers restricting one's action to a single act
 b. A compelling force directing the subject towards an act

The solid blocks in (a) mark imposed barriers, the dotted rectangle is a lifted barrier. The dotted arrows mark potential action, the solid arrow in (b) stands for Sweetser's assumed compelling force. The dot in (b) stands for the doer.

Figure 1. Proposed schemas for deontic *must* in Sweetser (1990)

The alternative schema given in Figure 1b leads to similar problems. The event supported by a compelling force will inevitably take place, again an undesired consequence. In fact, as we shall see in Section 2, this schema is very similar to Langacker's (1999: 24–38) *canonical event model*, also known as the billiard-ball model: the prototypical conceptual structure for energetic interaction, which underlies most, if not all, transitive clauses. But it must be admitted that, intuitively at least, this model is rather different from any conceptual structure that may be seen as characteristic of a modal.

In Section 2 we will return to the question of how the force dynamics of a modal relates to the billiard-ball model. But first it is necessary to introduce an alternative conceptual structure for modals in general and for *must* in our particular case – one that is capable of avoiding the problems referred to above and of accounting for the peculiarities of modal behavior listed at the beginning of this section.

1.3 An alternative: Participants and forces associated with them

To avoid rigidity in the system and the problems of lack of potentiality in the action outlined in the previous section, Pelyvás (2000: 243) proposes replacing the barriers with a system of counteracting forces. The proposal also introduces all the participants relevant in the deontic situation (*imposer of obligation* and *doer/performer* of the potential action in the case of *must* or *kell*) and associates these forces with them, with the result that at least in the deontic senses the source and target of potency will not be seen so diffusely as suggested in Langacker (1999: 307–308). The imposer is associated with the (compelling) force driving the action that appears with Sweetser as well

(cf. Figure 1b), but the role of the doer will not remain entirely passive either. The doer prototypically performs some sort of action imposed upon him by the imposer. This explains why a deontic interpretation of (3) is strange at best:⁴

(3) You must find yourself in trouble again soon.

In performing an advised or enforced action, the prototypical doer of an obligation has an agent-like role and can also be construed as active to some extent in the ‘obligee’ role as well: the doer is normally reluctant to perform the imposed action, i.e. his force runs counter to the imposer’s obligation. His force may appear as relatively small or even negligible (depending, among other things, on the relative social status of the participants) but it is seen as the key factor in making sure that the action remains potential.⁵ At the same time, the doer has an inherently passive role as well: as ‘obligee’, he is at the tail end of the action chain representing obligation.

The conceptual structure obtained in this way consists of two portions. One is *obligation*, an interplay of forces of different strengths between two participants, the other is the *potential action* itself, which remains potential as a result of what happens in the *obligation* portion. Both are essential to the conceptualization of an obligation and need to be included in the immediate scope (marked as *objective scene* in Figure 2 on next page), with the status of the action portion depending on the outcome of the obligation portion.

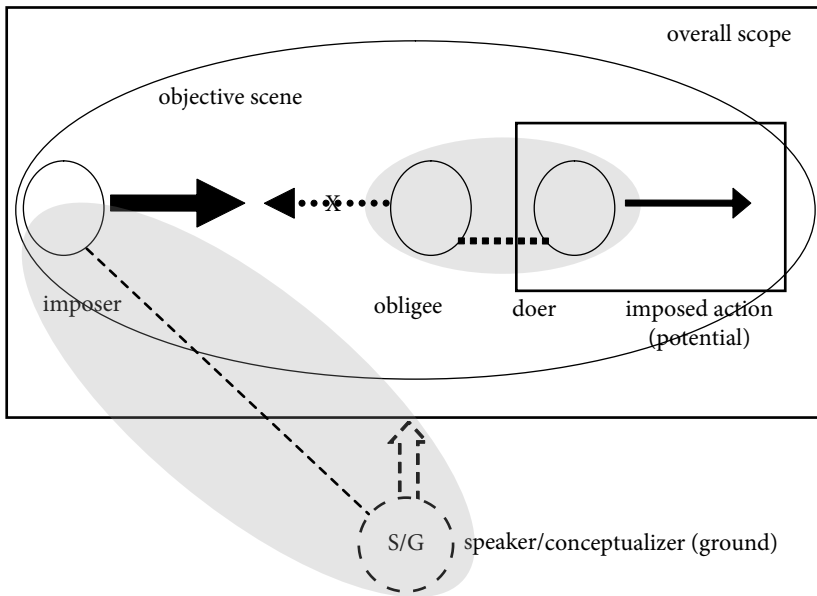
This conceptual structure shows that two participants appear in double roles.

- The doer appears in the apparently passive role of the obligee (but cf. 2.2) and in the agentive role in the potential action. One interesting question is which of these roles will actually appear in the grammatical structure.
- The imposer of the obligation is prototypically identical with the speaker. Pelyvás (2006: 140–141) argues in detail that in root modality this is correspondence rather than true identity (two distinct roles vs. one role) and that this is an important feature of root modals that distinguishes them from their epistemic counterparts.⁶

4. Since an epistemic interpretation is acceptable, it may be assumed that this relationship is not carried over in the extension into the epistemic domain, cf. Section 3 and also Pelyvás (2006: 246) for details.

5. Experience shows that people tend to object to most things made compulsory for them even if the reluctance was not there before. One major difference between *must* and *should/ought to* (order and advice) is that in the latter the two forces are construed as being of approximately equal relative strengths.

6. Apart from Hungarian *kell*, discussed here, or English *should/ought to*, where the imposer generally remains implicit, Sanders and Spooren (1997: 97) give a Dutch example that clearly indicates the difference between the two kinds of modals: an external imposer of obligation (different from the speaker) can actually appear in the deontic sense but not in the epistemic sense where the ground is identical with the speaker by definition. On these grounds, Pelyvás (2000, 2006) argues that root modals are not truly grounding predications in the sense of Langacker (1991, 1999, 2004).



The arrows represent forces, the dotted lines stand for correspondence. The shaded areas mark potential points of interest.

Figure 2. Deontic *must*: scopes, grounding added

The Hungarian auxiliary *kell*, the closest equivalent of *must*, does not show this correspondence at all in its deontic sense. As a result, it is more like English *have to* and other semi-auxiliaries expressing obligation:

- (4) (*Neked*) *alaposan ki kell tisztítanod*
 You-DAT thoroughly out have-to clean-INF-2nd.SING)
a cipődet, mert megbüntet a tizedes
 the shoes-2nd.SING.POSS.ACC because punish-you the corporal
 ‘You have to/must clean your shoes thoroughly or the corporal will punish you.’

The conceptual schema for *kell* (Figure 3) is almost identical with that of *must*, except that the imposer-speaker correspondence is not relevant here.

The conceptual structures outlined in this section for *must* and *kell* (and this applies to root modality in general as well) may appear to be unnecessarily complex since they involve participants, roles and forces that are not ‘spelled out’ in grammatical structure. In fact, it appears that the first portion of the complex relationship (the interplay of forces creating obligation) is entirely ‘collapsed’: the doer only appears as the agent of the imposed potential action and neither of the roles that can be attributed to the speaker in the conceptual structure of *must* can actually be expressed. But I contend that these structures more adequately account for the properties of the modals discussed in 1.1 and 1.2 than its predecessors, for the following reasons.

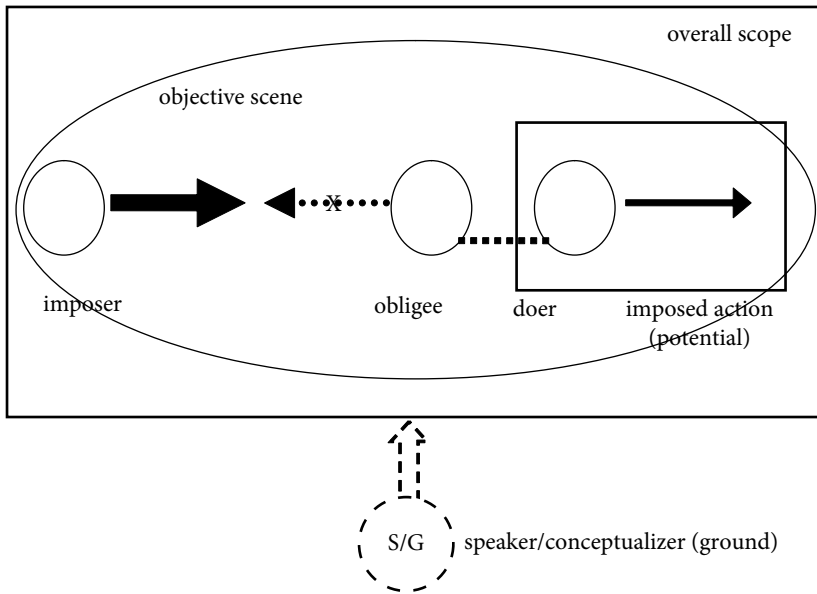


Figure 3. Hungarian deontic *kell*

1. *Single-clause vs. two-clause structure.* Introducing a participant as the source of obligation (or permission, etc. in other root modals) and a second role for the doer can account for properties reminiscent of a two-clause structure. The counterforce associated with the obligee/doer also resolves the problem of the potentiality of the imposed action (cf. 1.2). In Section 2 we will return to a more detailed discussion of this question.
2. *Elements hidden in grammatical structure* can explain differences in the meanings of modals within the same domain or motivate changes in the use of modals relevant in everyday language. One difference between deontic *must* and *should/ought*, for instance, is in the relative strength of the counterforce associated with the doer. Another is that in the latter (weak) obligation is not associated with the speaker and may now be regarded as politically more correct. This may also be one reason why deontic *may* is gradually giving way to a similar meaning of *can* (as in *You can come in now*), especially in American English.
3. *Modals as reference point constructions.* Langacker (1991, 1999) regards modals as reference point constructions (and also grounding predications). The reference point tends to recede into the background once it has provided mental access to the target. Collapsing the first portion of the action chain associated with them, to be discussed in 2.4.2., is well compatible with such an analysis.
4. *Similarity with cognitive predicates.* Conceptual and grammatical structures associated with cognitive predicates reveal much of what appears in the conceptual

structures of modals but remains implicit in their grammatical structures, cf. (1) and (2). In 2.2 we will argue that modals and cognitive predicates may be complementary in the sense that the part of conceptual structure that remains hidden in one of them is often made explicit in the other.⁷

1.3.1 Case marking on the doer

In Section 2 we will examine how the dual role of the doer assumed in our extended force dynamic model can motivate an important choice in grammatical structure: the case marking of the subject in sentences containing modals. We will still concentrate on deontic *must* and *kell*, but the findings can probably be extended to other deontic modals as well. In Section 3 we will examine how case marking extends to epistemicity, a domain in which its motivatedness already becomes more problematic.

The two different roles played by the doer in the two portions of the action chain postulated for modals can motivate the non-nominative case of the subject with deontic auxiliaries. In some nominative languages, as in Russian, this is indeed the only option, and dative subjects can optionally appear in Romanian and Hungarian. In (5) we give a Hungarian example. (5a) is the standard, (5b) is conversational or colloquial:

- (5) a. *Neked ki kell tisztítani/(od) a cipődet.*
 You-DAT (out) must clean-inf-(2nd.sing) the shoes-ACC.-2nd. sing.POSS.ACC
- b. *Te ki kell, hogy tisztítsd a cipődet.*
 You-NOM (out) must that clean-2nd.sing.IMP the shoes-2nd.sing.POSS.ACC
 ‘You must clean your shoes.’

The structure in (5a) has a remarkable optional feature: a personal ending on the infinitive, which is highly unusual in Hungarian and only occurs with some modals. Its function is to mark concord of a non-finite verb with a non-nominative form that is, for this reason, to be regarded as a subject.

Non-nominative case marking and subject status appear to be in conflict in a nominative language and would be hard to resolve relying on the billiard-ball model alone. The next section will be devoted to an analysis of those properties of the conceptual structure of modals that can provide the underlying motivation for this construal.

7. Pelyvás (1996: 169–188, 2001b: 109, 115, 2006: 123–134) argues in detail that the exceptional syntactic behavior of cognitive predicates (resembling in significant ways a single-clause structure) makes it possible to consider including them with modals as grounding predications (but cf. Langacker 2004: 85).

2. Deontic modals and the billiard-ball model

We are now in a position to compare our action chain proposed for deontic modals with Langacker's (1999) billiard-ball model representing the prototype of energetic interaction on the semantic plane and a transitive clause on the syntactic one.

We mentioned in Section 1.2 that force dynamics was originally developed to describe the conceptual schemas underlying constructions with modals. Langacker's (1999) billiard-ball model, by contrast, was meant to describe the conceptual schemas underlying transitive constructions. As a result, any incompatibilities between the two found in this section are not to be taken as a criticism of the billiard-ball model. We will only attempt a comparison of the most important properties of the two models, registering the major differences and drawing conclusions. We are mainly concerned with the questions of how and why the conceptual schemas differ, and how these conceptual differences motivate grammatical structures. After a brief introduction to the model, this discussion will concentrate on four areas:

- the introduction of further (locative or experiencer) participants in the action chain;
- the implicitness or 'collapse' of part of the action chain;
- the role of the experiencer in the extension;
- the grammatical expression of the role(s) of the patient/experiencer argument.

2.1 Langacker's basic model of energetic interaction

Langacker (1999: 23) defines the billiard-ball model as one of the conceptual archetypes underlying the canonical event model.⁸ The prototypical grammatical realization of this model is the simple transitive clause, but numerous extensions are possible (cf. Langacker 1999: 29), often involving the inclusion of further participants. At least some transitive clauses can be analyzed as having a conceptual structure consisting of two portions (or sub-events) that jointly constitute an action chain. Consider the sentence in (6):

(6) John opened the door.

in which 'the door opening' can be conceptualized as an autonomous process, while 'John's action of opening' can only be conceptualized as non-autonomous and often as agentive or causal, as illustrated in Figure 4.

In Section 1.2 we noted that Sweetser's preferred force-dynamic model for *must* (given in Figure 1b) shows a deceptive similarity with this model – one reason to postulate for the modals a distinct alternative conceptual structure involving participants and forces associated with them.

8. The other is the *stage model*, a reflection of (stative) perceptual experience.

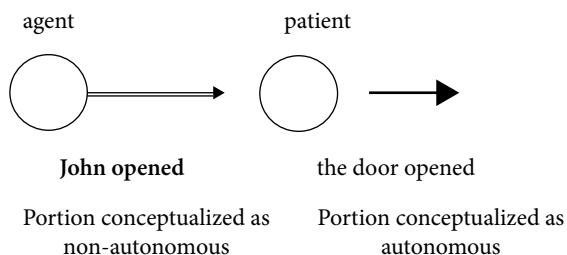


Figure 4. Internal structure of the action chain in *John opened the door*

2.2 Extensions from the prototypical action chain

One way of finding out more about the similarities and differences between the force dynamic model developed for the modals and Langacker's action chain is by examining those extensions from the latter which affect the role of the patient argument – the putative (near-)equivalent of the doer in the schema suggested for the modals. We will now consider three possible ways of extending the model.

The first case is perhaps not very frequent but quite intriguing and betrays a lot about the nature of the processes involved. Consider the often quoted example in (7):

- (7) John sneezed the napkin off the table.

This sentence integrates two situations normally seen as only loosely related into one closer-knit action chain (or interaction) in a conceptual blend, forcing a participant (*the napkin*) into a 'new' patient role at the tail of the first portion. This portion is now seen as non-autonomous, but originally it would not be regarded as such, since it would lack the participant whose identity is normally the strongest factor in linking the situations.⁹ The result is what could be called a 'quasi-transitive' structure (cf. Fauconnier & Turner 1996).

A second way of extending the schema is the addition of further participant roles, which is always a mark of greater conceptual complexity. The new element is often a 'dynamic locative' marking the course of some participant in the process conceptualized as autonomous.¹⁰ This situation is illustrated in (8):

- (8) John kicked the ball into the net.

When the target role of the non-autonomous process is construed as *human*, the general principle of the flow of energy may suffer, since that participant rarely remains entirely passive. It typically has an agent-like role in the process normally conceptualized as autonomous (reducing its autonomous nature in this way) and may also become

9. Other factors are agentivity or intentionality, which are also absent here.

10. Note that this also applies to the processes creating (7).

more active in the non-autonomous part. This role is no longer “exclusively downstream” in the sense of Langacker (1999: 30).¹¹ Examples of structures of this kind are given in (9).

- (9) a. The sergeant ordered his men into the icy river.
 b. John argued Mary into a frenzy.
 c. John argued Mary into submission.

It could be argued that the degree of the object argument’s initiative in the autonomous part (or target portion) increases significantly from (9a) to (9c), since the men invariably end up in the river. (This would not apply to the situation in (10)). *Mary’s frenzy* can be seen as coming at least partially from her own physiological or subconscious mental processes, while her *submission* is likely to be a result of some degree of considered decision. The object argument’s initiative is also increased somewhat with respect to the non-autonomous part in (9b) and (9c) with the appearance of mental processes.

The examples in (9) also mark a third operation in extending from the prototype, which is *collapsing* part of the action chain into the grammatical units of an NP, a PP (or an AP, as in *Frank washed the shirts clean*), which backgrounds the nature of the action involved in that part. In the examples under (9), the portion collapsed was originally always conceptualized as autonomous. This operation seems to counterbalance to some degree the reduction in autonomy of this portion brought about by the introduction of a human participant (discussed in 2 above). Compare (9a) and (10):

- (10) The sergeant ordered his men to jump into the icy river.

In (10), the probability that the men actually jumped into the river is significantly smaller than in (9a). In the “collapsing” sentence (9a), the action element remains implicit; as a result, a default action (like jumping) is implied but our attention is focused upon the other elements of the action chain, in particular its goal/tail. Collapsing part of an action chain thus may be an important tool in marking a sentence as factual (cf. Langacker 2004).

2.3 Profiling, case marking and the experiencer

Unlike in an ergative system, in nominative languages subject/object status and the case endings assigned to them are not directly associated with semantic roles. A nominative marks the head of the profiled portion of the action chain and an accusative its tail regardless of whether the portion in question is conceptualized as autonomous or not (cf. Langacker 1999: 35–38). More directly related to (construed) semantic roles is the dative case, which typically marks the experiencer. But even this relation is mediated by factors of profiling since, through the logic of the nominative system, the

11. This will be prototypical in deontic modals, cf. the counterforce associated with reluctance in 1.3.

experiencer can also take the nominative case when it marks the head of the profiled portion of the action chain. At the tail end, it typically takes the dative case or a particular prepositional adjunct, as in *This appeals to me*. But it may not always be easy to define which portion of the chain the experiencer actually belongs to, or which portion is profiled (and to what extent), especially in deontic modals. This motivates a nominative/dative alternation in experiencer-like roles that does indeed occur in some languages, e.g. in Hungarian. It will be shown that this phenomenon is perfectly compatible with the dual nature of the doer (cf. 1.3.1). Langacker (1999: 31) uses the term *experiencer* for a human participant in the way described above, and also emphasizes its dual nature.

2.4 Dual role of a participant: Case marking of the doer in deontic *must* and Hungarian *kell*

It is now clear that (in its intermediacy) the dual nature of the doer with deontic *must* and Hungarian *kell* (and of deontic modals in general) is comparable to the dual role of the experiencer of a complex action chain in Langacker's sense, in which the experiencer is a target (energy sink) and a source at the same time. But it is also apparent that there are differences as well: the task of this section is to decide how substantial they are and how they motivate different grammatical structures. We will be concentrating on the two shaded problem areas marked in Figure 2: the dual role of the doer and imposer-speaker correspondence.

2.4.1 *Experiencer vs. doer*

In the billiard-ball model the experiencer (e.g. *his men* in (9a)), though human, is mostly conceptualized as simply relaying the energy received from the source – hence the collapsibility of the autonomous part of the action chain: the action initiated by the source can more or less be taken for granted (cf. 2.2.). This never happens in modern English modals since they have already lost their ability to take direct objects in the OE period.¹²

In sentences with a deontic modal, the doer is conceptualized as inherently having energies that can to varying degrees counteract the energy coming from the source. In addition to being (potentially) active in the target, the doer is also (potentially) active in the source. In fact, with *must* or *kell*, the doer's action in the target depends to a great extent on his relative strength in the source. (This is essentially different from the relatively inert experiencer role in the billiard-ball model: it is more like hitting a potentially explosive target with a billiard-ball.)

This arrangement would motivate either of two cases for the doer in structures with deontic modals:

12. Lightfoot (1979) sees this change as accidental, but Pelyvás (2001b: 112–115) argues that this is an early symptom of increasing conceptual complexity, the first step in a series of related changes that led to the development of modern English modals.

- the *dative* could mark a participant, who is nevertheless not fully inactive, at the tail end of a process construed as non-autonomous;
- the *nominative* would mark the agent and head of the potential target process, which is not conceptualized as fully autonomous owing to the active nature of the doer. The nominative is also motivated to some extent by the doer's potentially active role in the non-autonomous source process (even though he is at the tail), and by the reference point nature of modals. As reference points and grounding predications, they have a tendency to shift prominence to the target (to be discussed below), which again concerns the issue of profiling within their conceptual structure.

2.4.2 *The non-autonomous portion: Source of obligation*

In deontic modals the portion of the action chain conceptualized as non-autonomous (the source portion) is invariably collapsed (removed from profile but not from immediate scope), in both English and Hungarian, cf. (1) vs. (2). This is extremely rare in clause structure elsewhere: by all evidence the conceptual content of the collapsed portion remains active but is not realized overtly, a factor that may be responsible for viewing in the 1960s sentences with modals as perhaps having a two-clause structure (cf. the comparison of cognitive predicates and deontic modals in Section 1.1.).

If we nevertheless assumed that the imposing portion of the action chain (the imposer – imposee relationship) was not profiled at all, then the nominative case of the doer as head of the profiled 'potential action' portion of the chain would be fully motivated. But the problem remains that the collapsed part cannot be entirely disregarded according to the analysis of the conceptual structure of modal sentences given in Section 1.3. It must be included in the immediate scope (OS) since its participants and the forces holding among them are essential for the adequate conceptualization of a deontic modal. There is also grammatical evidence that this is so: deontic modals cannot take progressive or perfect complements since that would not be compatible with the nature of permission or obligation. This is not necessarily the case in epistemic modals. As we will see in Section 3, a change in immediate scope motivates a number of differences between the two kinds of modality.

Reference points. The answer to this dilemma of 'fuzzy' profiling may lie in the reference point properties of all modals regardless of whether they are analyzed as grounding predications.¹³ A grounding predication is, by definition, a reference point construction, since it is the ephemeral nature of the reference point that makes sure that the profile determinant of the finite clause remains the grounded head (cf. Langacker

13. Langacker (1991, 1999, 2004) maintains that modals (both deontic and epistemic) are grounding predications. Although Pelyvás (1996, 2000, 2006) argues that the differences in the conceptual structures associated with the two kinds of modality are great enough to warrant regarding only epistemic modals as grounding predications, that model is still compatible with a reference point analysis of deontic modals as well.

1991: 244–245; Pelyvás 1996: 160–163). The implicit *issuer of an obligation* or a *permission giver* in a construction with a deontic modal can also be analyzed as a reference point.

The essence of a reference point in conceptualization including language is to “invoke the conception of one entity [the reference point, *R*] for the purposes of establishing mental contact with another [the target, *T*]” (Langacker 1999: 173). Once the target has been contacted, the reference point often recedes into the background to give prominence to the target *T*, a factor that can explain why the source portion in the conceptual structure of a deontic modal can show signs of being both profiled and unprofiled.

Reference points frequently remain unexpressed when, owing to the natural salience of the speaker, they are identical with that participant (cf. Pelyvás 2001a: 199–200). This naturally accounts for the ‘collapse’ of the non-autonomous part of the action chain. This process is, however, a matter of gradience: in Hungarian *kell*, unlike in English *must*, the issuer of the obligation is not necessarily the speaker, so that a stronger ‘trace’ of the reference point and a non-nominative option for the doer may be expected. But we admittedly do not have this option in English *should*, *ought to*, or *have to*, even though they are quite similar in this respect to *kell*.

For the doer, reference point status of (part of) the non-autonomous portion has the consequence that at one point in the comprehension process it may appear at the tail of the reference point process, but at the next, as attention shifts to the target, it is conceptualized as the head of the profile determinant target. This motivates a dative or a nominative, either of which can be realized in Hungarian (cf. (5)), but only the latter in English.¹⁴

3. The limits of motivation: Extension into the epistemic domain

3.1 The nature of the epistemic domain and case marking

As discussed in detail in Pelyvás (2000, 2006), the extension of modal meanings into the epistemic domain involves far more complex changes in conceptual structure than

14. Romanian, as described in Pelyvás (2002: 107), seems to add a further dimension since, along with the standard nominative option it also permits an alternative conversational dative construction, but only with *human* subjects:

Copilului îi *trebuie* *să* *mănânce*.
Child-DAT Pers pr. 3rd pers.DAT must conj. eat-subjunctive

In our terms this means that the tail of the non-autonomous portion of the action chain can only leave a ‘trace’ on grammatical structure in Romanian when it is elaborated by a participant that is really affected: can be permitted or compelled to perform actions and is capable of exerting a potential counterforce. This option is not available in the epistemic sense where the distinction would remain unmotivated, cf. Section 3.

metaphorical extension normally would. This is attributed to the significant differences between the deontic source and the target and the Invariance Principle, which guarantees that only those properties of the source that are compatible with the target are carried over in the extension. The net result of the changes is very similar to what Langacker (1999: 308, quoted in Section 1.2) describes for all modal meanings as attenuation of subject control. There are two processes in the extension to the epistemic domain that affect participant roles in fundamental ways.

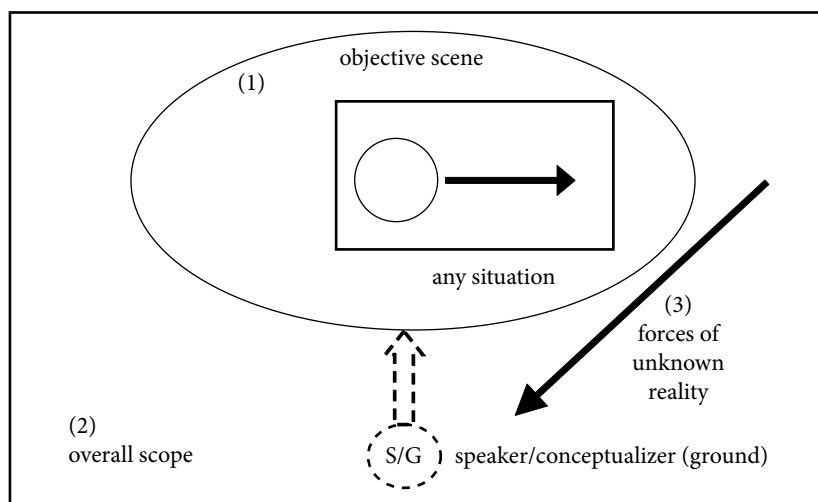
The first process is a restriction of the immediate scope (OS) to exclude most of the force dynamics that was essential to the prototypical deontic meaning. No obligation is imposed on any of the participants, nor is the original 'doer' of the deontic sense reluctant to perform a purposeful act (cf. (4) and the discussion in 1.3). This change is no longer seen as the 'collapse' of otherwise essential semantic content, since it also motivates major differences in possible grammatical constructions for epistemic modals (cf. 2.4.2).¹⁵

The second process is subjectification, i.e. the extension of the overall scope to include the speaker/conceptualizer directly (rather than by correspondence) as reference point in a grounding predication.¹⁶ The only remaining force in the epistemic situation is associated with reality unknown to the speaker/conceptualizer. This analysis is in agreement with Langacker's account of epistemic modal meanings in terms of a *dynamic evolutionary model* (Langacker 1991: 275–281). Figure 5 illustrates the conceptual structure associated with epistemic *must*.

We do not have the space here to examine the resulting grounding predication in any detail, but it is evident from Figure 5 that the overall effect of the extension is that the portion of the action chain conceptualized in the deontic sense as non-autonomous disappears in the epistemic sense. This certainly applies to the former dual role of the doer: the only force remaining in the situation that can qualify the force representing the speaker/conceptualizer's epistemic commitment is associated with some 'nebulous' source. This radical change of the (former deontic) doer's situation would predict that it can no longer appear at the tail end of any kind of action chain in this sense and thus any non-nominative case marking is left unmotivated. The prediction is that, like non-speaker issuers of deontic obligation in Dutch (cf. Sanders & Spooren (1997: 97), non-nominative doers will also have to disappear in the epistemic sense.

15. The process can again be seen as gradual, since this restriction of scope frequently occurs as early as the 'wide scope' deontic meanings of *should* and *ought to*.

16. Apart from the Dutch example mentioned in Note 6, English *should* and *ought to* can provide evidence here. The epistemic sense of these modals is in fact a blend between a deontic and an epistemic reading, often referred to as *deontic overtone*. The probability judgment *The passengers should all be dead by now* would be far more likely to come from the person who planted a bomb on the plane than from an impartial observer. What makes this especially relevant here is that in the 'true' deontic sense the imposer is normally not the speaker. For details, see Pelyvás (2006: 145).



1. restriction of OS – no difference left between *must* and *kell*
2. Subjectification (extension of overall scope to include conceptualizer)
3. The speaker's epistemic commitment qualified by forces of unknown reality

Figure 5. Extension of *must* into the epistemic domain

Since no non-nominative subjects can occur with the English modals, the prediction cannot be checked in English. It is borne out in Romanian, where the possibility of dative human subjects is no longer available in the epistemic sense. In Hungarian the situation is more complicated. The root to epistemic extension is far less regular than in English, but for *kell*, where it is possible, an unmotivated dative subject remains an option in the epistemic sense as well, mainly in informal spoken language, cf. (11):

- (11) a. Standard Hungarian
Jánosnak itt kell lenni(e) valahol.
 John-DAT here must be-INF-(3rd.sing.) somewhere
- b. Spoken Hungarian
János itt kell, hogy legyen valahol.
 John-NOM here must that be-3rd.sing.IMP somewhere

At this point we may seem to have arrived at the limits of motivation for this structure.

3.2 Possible motivations

Provided that the analysis of the conceptual structures given above is correct and that a dative subject is no longer clearly motivated in the epistemic sense, its retention in epistemic *kell* may be accounted for by a number of secondary motivating factors or by their combined effect.

First, there seems to be a tendency in metaphorical extension to preserve in the target domain grammatical structures associated with the source unless they are clearly incompatible with the target, as in **We were painting the town red last night when...*, used in the figurative sense of *having a noisy party in the streets in the small hours*. In the source domain the action would be telic, in the target it is not so: the meaning of the progressive would change in the extension. This tendency may even be stronger with grammatical categories, in other kinds of grammatical change as well. Lightfoot (1979: 105–108) argues that in the transition from an underlying SOV to SVO order in English there was a tendency to preserve a uniform syntax for the modals.

Second, since the grammatical functions *subject* and *object* are abstractions (primary/secondary figure or head/tail of the profiled portion of the action chain) and are not directly associated with specific semantic roles, their selection is accompanied rather than determined by case marking. Since the Hungarian structure containing *kell* has alternative means of expressing subjecthood (concord on the non-finite form, cf. 1.3.1. and also (11a)), case marking may not be crucial in this case.

Third, there may be a time factor in operation: the epistemic senses of modals may be too recent for clear linguistic differentiation to have taken place. Although I do not have reliable data in this respect, my intuition is that the nominative version given in (11b), although still conversational, is closer to being fully accepted in the epistemic sense than in the deontic one. This would mean that the no longer motivated form is slowly giving way in the epistemic sense to the fully motivated one.

Fourth, as we have seen, especially in Section 2.4.2, the structures associated with grounding predications are not very clearly analyzable. It is often not easy to define where *exactly* profiling of an action chain begins in a grounding predication.

Fifth, as Langacker (1999) notes, we may have a case of attenuation (rather than total loss) of subject control (in the epistemic sense). If this is the case, then the dative may still mark the end of some sort of chain, cf. *It likes us not*, a structure involving an experiencer that was not uncommon in English in Shakespeare's time. This may also be a hint that the epistemic meanings of modals could perhaps also be appropriately described in terms of the *stage model*, with the speaker/conceptualizer passively registering sensations (cf. 2.3.).

Sixth, conceptual integration (blending) of the two senses may be a factor in preserving the form that is unmotivated only in the epistemic sense. In (12) it would not be easy to decide whether we have a not very prototypical ('wide' scope) deontic sense (perhaps intrinsic necessity) or an epistemic one:

- (12) *Valahol itt kell lenni(e) a kocsimnak.*
 somewhere here must be-INF-(3rd.sing.) my car.
Világosan emlékszem, hogy ide parkoltam.
 clearly remember-(1st.sing.) that here parked-(1st.sing.)
 'My car must be around here. I distinctly remember parking it here'

A sophisticated English example with *must* comes from Kingsley Amis:

- (13) Bertrand must not be a good painter; he, Dixon, would not permit it.
 (Amis: *Lucky Jim*. Harmondsworth: Penguin, 1979: 112)

This is again probably best analyzed as a blend, since the deontic and epistemic senses are activated simultaneously. The epistemic sense emerges because the typical deontic sense of prohibition would not apply: '(not) being a good painter' cannot be seen as imposed potential action (see the discussion of (3) in Section 1.3). Yet the negated form *must not* excludes an epistemic reading and an (ad hoc) deontic interpretation is corroborated by the second clause.

4. Conclusions

The aim of this paper has been to explore the conceptual/semantic motivation behind case marking on the subject (the doer) of clauses containing English *must* and Hungarian *kell*. On the basis of English alone, the nominative appears to be unproblematic since it is well compatible with Langacker's (1999) definition of the subject in nominative languages as 'head of the profiled portion of the action chain'. An alternative dative case in Hungarian *kell*, combined with the clearly semantic factor of a *human* vs. *non-human* distinction motivating the choice in Romanian however, might suggest that the situation is perhaps more complex than anticipated.

In search for factors motivating non-nominative case marking, the paper compares the detailed conceptual structures suggested for root modals in Pelyvás (2000, 2006) with Langacker's analysis of the prototypical action chain for transitive clauses (the billiard-ball model). It reveals that the two structures, although superficially similar, differ substantially in at least two respects.

They differ in their way of conceptualizing the role of the participant at the interface of the two portions of the action chain: the *patient* in the billiard-ball model and the *doer* in the conceptual structures for *must* and *kell*. The main difference is that the *doer* needs to be conceptualized as potentially active, not only in its agent-like role in the *imposed action* portion (which, for this reason, cannot be construed as entirely autonomous), but also, more significantly, in the sense that the doer's reluctance (in the *obligation* portion) to perform this action is essential in construing the imposed action as potential rather than actual. This (potentially) active role at the tail of this portion of the action chain can motivate a dative case marking for the doer.

The two structures also differ substantially in the relationship of the profiled and unprofiled portions. While in the billiard-ball model the autonomous portion can indeed be construed as autonomous (e.g. in *The window broke* or *The witness collapsed* it is not inevitable to include some external agent or force responsible for the event), this, as we have seen, is not the case in the conceptual structure for modals. Profiling only the potential imposed action is largely the result of the reference-point nature of constructions with modals, which involves a shift of attention from one portion of the

chain to the other (cf. the near-identity of (1) and (2), which would not apply to *The window broke* vs. *The wind broke the window*).

If the profiled portion of the action chain cannot be determined without doubt, it is a natural consequence that head vs. tail positions or respective semantic roles in the different portions cannot be determined with full certainty. Since case marking is largely motivated by these factors, this property of modal conceptual structures can motivate different case marking options in different languages.

Finally, several possible motivational factors have been suggested to resolve the issue why alternative dative case marking of the subject extends to the Hungarian epistemic meanings, where this choice may no longer be so strongly motivated as the motivation rooted in the force dynamics of the deontic senses.

References

- Fauconnier, Gilles, and Mark Turner. 1996. Blending as a central process of grammar. In Adele Goldberg, ed. *Conceptual Structure, Discourse, and Language*, 113–129. Stanford: Center for the Study of Language and Information (CSLI).
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar*. Vol. I: *Theoretical Prerequisites*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1991. *Foundations of Cognitive Grammar*. Vol. II: *Descriptive Application*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1993. Reference-point constructions. *Cognitive Linguistics* 4 (1): 1–38.
- Langacker, Ronald W. 1995. Raising and transparency. *Language* 71 (1): 1–62.
- Langacker, Ronald W. 1999. *Grammar and Conceptualization*. Berlin and New York: Mouton de Gruyter.
- Langacker, Ronald W. 2004. Remarks on nominal grounding. *Functions of Language* 11 (1): 77–113.
- Lightfoot, David W. 1979. *Principles of Diachronic Syntax*. Cambridge: Cambridge University Press.
- Pelyvás, Péter. 1996. *Subjectivity in English: Generative Grammar versus the Cognitive Theory of Epistemic Grounding*. Frankfurt/Main: Peter Lang.
- Pelyvás, Péter. 2000. Metaphorical extension of *may* and *must* into the epistemic domain. In A. Barcelona, ed. *Metaphor and Metonymy at the Crossroads*, 233–250. Berlin and New York: Mouton de Gruyter.
- Pelyvás, Péter. 2001a. The reference point construction: Conceptual structure and grammatical form. In Hortensia Pârlog, ed. *B.A.S. (British and American Studies)*, 192–202. Timisoara: Hestia.
- Pelyvás, Péter. 2001b. On the development of the category *modal*: A cognitive view. How changes in image-schematic structure led to the emergence of the grounding predication. In P. Kocsány and A. Molnár, eds. *Wort und (Kon)text*, 103–130. Frankfurt/Main: Peter Lang.
- Pelyvás, Péter. 2002. The relationship of conceptual structure and grammatical structure in modals. In L. Komlósi, P. Houtlosser, and M. Leezenberg, eds. *Communication and Culture: Argumentative, Cognitive and Linguistic Perspectives*, 101–113. Amsterdam: Sic Sat.

- Pelyvás, Péter. 2006. Subjectification in (expressions of) epistemic modality and the development of the grounding predication. In A. Athanasiadou, C. Canakis, and B. Cornillie, eds. *Subjectification: Various Paths to Subjectivity*, 121–150. Berlin and New York: Mouton de Gruyter.
- Ross, John R. 1969. Auxiliaries as main verbs. In W. Todd, ed. *Studies in Philosophical Linguistics* I, 77–102. Evanston, IL: Great Expectations Press.
- Sanders, José, and Wilbert Spooren. 1997. Perspective, subjectivity and modality from a cognitive linguistic point of view. In W-A. Liebert, G. Redeker and L. Waugh, eds. *Discourse and Perspective in Cognitive Linguistics*, 85–112. Amsterdam: Benjamins.
- Sweetser, Eve. 1990. *From Etymology to Pragmatics: Metaphorical and Cultural Aspects of Semantic Structure*. Cambridge: Cambridge University Press.
- Talmy, Leonard. 1988. Force dynamics in language and cognition. *Cognitive Science* 2: 49–100.

The socio-cultural motivation of referent honorifics in Korean and Japanese*

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The highly developed honorific systems in Korean and Japanese are functionally similar but differ with respect to non-subject referent honorifics, which indicate the speaker's deference toward a non-subject referent participant in the event described. Korean expresses non-subject referent honorifics lexically, whereas Japanese expresses them morphologically. Moreover, the Korean pattern of non-subject referent honorifics is limited to a handful of verbs while the Japanese pattern is fairly productive. This paper compares expressions of honorifics for objectively identical situations in the two languages and argues that their different usages and productivities are motivated by socio-cultural factors.

Keywords: addressee honorifics, non-subject referent honorifics, productivity, socio-cultural motivation, subject referent honorifics, *uchi/soto*, verbal morphology

1. Introduction

Korean and Japanese share many typological characteristics. Both languages have developed similar grammatical systems of honorifics (or “social deixis” in Fillmore 1966;

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The transcriptions of Korean and Japanese are based on the Yale-style and the Kunreishiki-style romanizations, respectively. The following abbreviations are used in glosses: ACC = accusative; AH = addressee honorific; DAT = dative; NEG = negative; NOM = nominative; NSRH = non-subject referent honorific; PAST = past tense; RP = respected person; 1SG = 1st person singular; SRH = subject referent honorific; TOP = topic.

Levinson 1983), and both systems of honorifics are among the most highly developed ones cross-linguistically (Wenger 1982). The two languages differ, however, with respect to their systems of non-subject referent honorifics. In Korean, non-subject referent honorifics are expressed lexically and are not productive; in Japanese, non-subject referent honorifics are expressed morphologically and used fairly productively. This paper argues that these differences between the two honorific systems can be accounted for by language-independent, socio-cultural factors. Specifically, it argues that the use of non-subject honorifics in Japanese is motivated by its highly subjective stance in linguistic description (Langacker 1985; Uehara 2000, 2006) and the notions of *uchi* (inside) and *soto* (outside), a major theme of Japanese studies (Bachnik & Quinn 1994; Wetzel 1984).

The goal of this paper is two-fold: 1) to describe the honorific systems of Korean and Japanese, a linguistic structure that is rarely found in the Indo-European languages, and 2) to argue, in line with the theme of the current volume, that the difference between the honorifics of the two languages is motivated by socio-cultural factors.

In the following, Section 2 describes the honorific systems of Korean and Japanese and their different degrees of productivity. Section 3 accounts for differences in productivity on the basis of different socio-cultural motivations, and Section 4 summarizes the results.

2. Referent honorifics in Korean and Japanese

2.1 What are referent honorifics?

Referent honorifics, the topic of this paper, are a subtype of honorifics, by which the speaker shows her deference toward the referent of some participant of the event denoted by the proposition. Grammatically, referent honorifics are marked on the verbal form. Functionally, referent honorifics are contrasted with addressee honorifics, by which the speaker indicates deference, or psychological distance, toward the hearer without making reference to anything in the propositional content. The conceptual structures of referent and addressee honorifics used with the verb *RUN* (e.g. for the propositional content “the man is running”) are schematically represented below in Figures 1a and 1b, respectively.

Thus, referent honorifics indicate the speaker’s deference toward the person(s) talked *about* (the participant(s) ‘on stage’ in the event denoted by the proposition), while addressee honorifics show deference to the person(s) talked *to* (the participant(s) in the speech event).

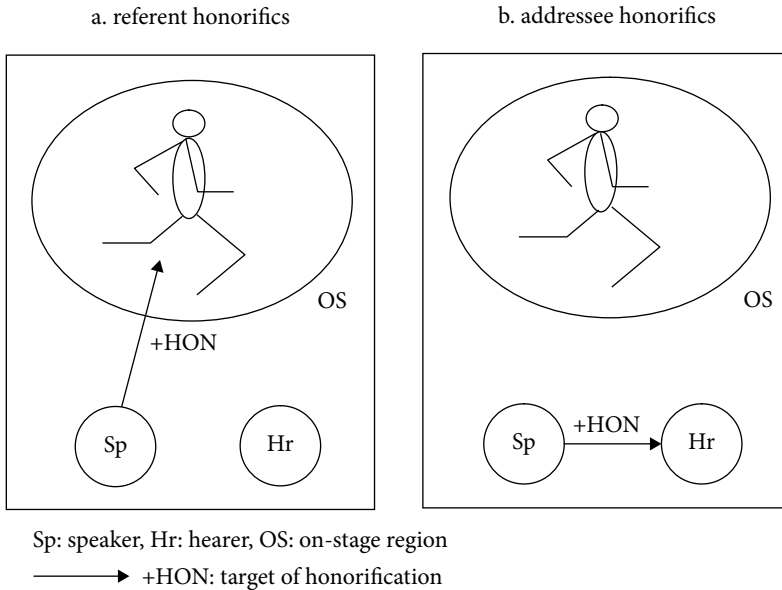


Figure 1. Referent and addressee honorifics

As is clear from the discussion and the figures above, referent honorifics can in principle be used irrespective of the presence of the referent person the speaker defers to. Thus, for example, the speaker can use referent honorifics in talking about her doctoral advisor, who is not present, and say *My advisor ran the marathon yesterday* to another professor, who is not present, and say *My advisor ran the marathon yesterday* to another professor in the same department. In this situation, the verb form of the utterance is marked with both referent honorific and addressee honorific morphemes, which indicate the student's deference toward both her advisor and the other professor. The conceptual structure of this utterance can be represented as the combination of the two figures above. The same verb form (marked with both honorifics) is also used when the student talks to her doctoral advisor about himself, *Professor, did you run the marathon yesterday?* Its conceptual structure is the same as the combined one described above except that in the latter one the deferred person on stage (the target of the referent honorific) is identical with the hearer (the target of the addressee honorific).

Structurally, the grammatical marking of the referent honorific in the two languages resembles verbal agreement in Indo-European languages. Indeed, Shibatani (1978: 57) points out that honorification is "highly comparable to subject-verb agreement in that both processes are triggered by one particular NP [...] and both involve some kind of marking on the predicate element." It might be said that Korean and Japanese verb forms obligatorily "conjugate" for *honorifics* in much the same way that Indo-European languages conjugate for *person* (Wetzel 1984).

It should be noted, however, that in the two languages the deferred referent can be linguistically implicit as far as the verbal form is marked for referent honorifics, which in part accounts for the so-called “pro-drop” nature of the two languages.¹ Brown and Levinson (1987: 284) also observe that “[t]he deletion of subjects [...] can be attributed to the pragmatic encoding of person in the kind of honorific chosen.”

2.2 Subject vs. non-subject referent honorifics

The referent honorifics in the two languages are functionally (and structurally, as will be illustrated below) categorized into two types: subject referent honorifics and non-subject referent honorifics. Subject referent honorifics (SRH) indicate the speaker’s deference toward the referent of the subject argument, and non-subject referent honorifics (NSRH) indicate the speaker’s deference toward the referent of an event participant other than the subject argument. In other words, both are referent honorifics in that the target of honorification is an on-stage participant, but they differ in the role the participant plays in that event.

The difference between the two types of referent honorifics is shown in the Cognitive Grammar (Langacker 1987, 1991) style of representation in Figure 2 with the verb of giving as an example. Verbs of giving profile three participants² in their semantic structure, each marked with a bold circle in Figure 2: the giver, the gift/theme and the recipient. The giver is the trajector (tr), which is defined as “the primary figure within a profiled relation” (Langacker 1991: 555) and functions as the subject at the clausal level of organization. The gift and the recipient are both landmarks (lm) defined as “a salient substructure other than the trajector of a relational predication” (ibid.: 549) and function as the (direct or indirect) object within a clause-level profiled relation. Bold arrows marked with [+HON] indicate the function of the morphemes of referent honorifics, i.e. the target of the speaker’s deference.

1. In other words, the referent honorific verbs are (social) deictic verbs like the verb ‘come’ in that the reference point, which is the speaker in these cases, is implicit but necessarily evoked by the verb.

2. ‘Profile’ is defined in Cognitive Grammar as the entity that an expression designates, and ‘profiling’ means designating a concept in an expression. Intransitive, transitive and ditransitive verbs typically have one, two and three participants, respectively, in their profile. ‘Profiling’ is also used to indicate the type of profile that the expression belongs to. Thus, nouns designate/profile a ‘thing’ while verbs, adjectives and others, a ‘relation’. It should be noted that meanings are equated with conceptualizations and construals in cognitive linguistics so that the difference in profile between verbs (e.g. *explode*) and their counterpart deverbal nouns (*explosion*), for instance, indicates a difference in construal, i.e. the speaker conceives of an objectively identical situation as a ‘relation’ in the former and as a ‘thing’ in the latter.

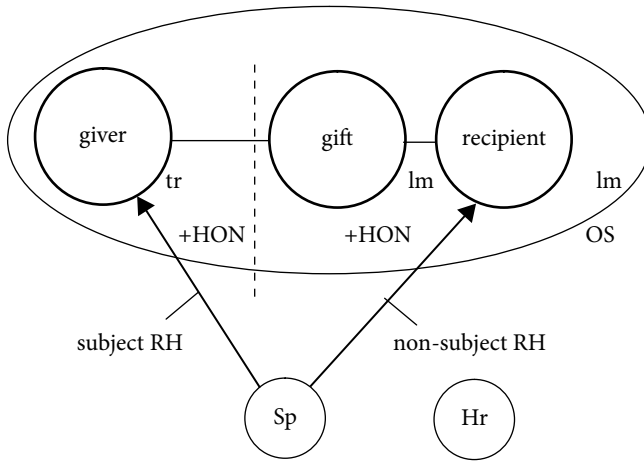


Figure 2. Subject vs. non-subject referent honorifics

Let us first illustrate the structural patterns of the two languages' honorification with some examples of subject referent honorifics. Both languages have productive verbal morphology for subject referent honorifics: in Korean, *-(u)si* is attached to the verbal stem to yield *V-(u)si*, and in Japanese, *o-* and *-ni naru* are circum-affixed to the verbal stem to yield *o-V-ni naru*.³ In sentences (1) and (2) below, the respected persons (RP for short), i.e. the targets of the speaker's deference, are 'grandmother' (*halmeni* in Korean and *obaasan* in Japanese) and 'teacher' (*sensayngnim* in Korean and *sensei* in Japanese), respectively, and the verbs 'walk' (*kel-* in Korean and *aruki-* in Japanese) and 'read' (*ilk-* in Korean and *yomi-* in Japanese), respectively, are marked with the subject referent honorific morpheme.

(1) Korean:

halmeni-kkeyse ecey-nun ppalli kel-usy-essta.
 grandmother-NOM yesterday-TOP fast walk-SRH-PST
 'grandmother(RP) walked(SRH) fast yesterday.'

Japanese:

obaasan-ga kinoo-wa hayaku o-aruki-ni.nat-ta.
 grandmother-NOM yesterday-TOP fast walk-SRH-PST
 'grandmother(RP) walked(SRH) fast yesterday.'

3. There exists another verbal affix (*r*)*are* for subject referent honorifics in Japanese, for which basically the same descriptions apply as for *o-V-ni naru* here. Unlike the latter and its Korean counterpart, however, the former is poly-functional in that it is also used as a marker for passive and spontaneous forms.

(2) Korean:

sensayngnim-kkeyse swuepcwung-ey manhwa-lul ilk-usy-essta.
 teacher-NOM class-in comics-ACC read-SRH-PST
 ‘The teacher(RP) read(SRH) comic books in class.’

Japanese:

sensei-ga zyugyootyuu-ni manga-o o-yomi-ni nat-ta.
 teacher-NOM class-in comics-ACC read-SRH-PST
 ‘The teacher(RP) read(SRH) comic books in class.’

The productivity of the subject honorific pattern in the two languages is indicated by regular subject honorific morphemes, which can be attached to a number of verbs, as exemplified in Table 1.

As in ordinary verbal inflectional patterns, there are irregular lexical forms of subject referent honorifics as well. The verb forms are irregular in that their derivational patterns are not predictable from the base verb forms: they are basically formed by suppletion. Some of the irregular verbs in both languages are listed in Table 2.⁴

2.3 Productivity of referent honorification and its cross-linguistic difference

The productivity of a type of referent honorification is defined as the number of verbs that can undergo the process of honorification in question and have counterpart honorific forms. In other words, a type of referent honorification is productive when it has

Table 1. Regular subject referent honorific verbs

English gloss	Korean		Japanese	
	base	→ SRH form	base	→ SRH form
‘walk’	<i>ket-ta</i>	→ <i>kel-usi-ta</i>	<i>aruku</i>	→ <i>o-aruki-ni.naru</i>
‘read’	<i>ilk-ta</i>	→ <i>ilk-usi-ta</i>	<i>yomu</i>	→ <i>o-yomi-ni.naru</i>
‘buy’	<i>sa-ta</i>	→ <i>sa-si-ta</i>	<i>kau</i>	→ <i>o-kai-ni.naru</i>
‘write’	<i>ssu-ta</i>	→ <i>ssu-si-ta</i>	<i>kaku</i>	→ <i>o-kaki-ni.naru</i>
‘wait’	<i>kitali-ta</i>	→ <i>kitali-si-ta</i>	<i>matu</i>	→ <i>o-mati-ni.naru</i>
‘listen’	<i>tut-ta</i>	→ <i>tul-usi-ta</i>	<i>kiku</i>	→ <i>o-kiki-ni.naru</i>
‘use’	<i>ssuta</i>	→ <i>ssu-si-ta</i>	<i>tukau</i>	→ <i>o-tukai-ni.naru</i>
‘meet’	<i>manna-ta</i>	→ <i>manna-si-ta</i>	<i>au</i>	→ <i>o-ai-ni.naru</i>
‘-’	<i>V-ta</i>	→ <i>V-(u)si-ta</i>	<i>V-(r)u</i>	→ <i>o-V-ni.naru</i>

4. Although Table 1 and Table 2 list verbs which are regular and irregular in both languages, this does not mean that the regular/irregular distinction always matches the verbs of a similar meaning in the two languages. The verb ‘go’, for instance, has a regular subject honorific form in Korean (*ka-ta* => *ka-si-ta*) while it is an irregular/suppletive form in Japanese (*iku* => *irassiyaru*).

Table 2. Irregular/lexical subject referent honorific verbs

English gloss	Korean			Japanese		
	base	=>	SRH form	base	=>	SRH form
'be'	<i>iss-ta</i>	=>	<i>kyeysi-ta</i>	<i>iru</i>	=>	<i>irassyaru</i>
'eat'	<i>mek-ta</i>	=>	<i>capswusi-ta/tusi-ta</i>	<i>taberu</i>	=>	<i>mesiagaru</i>
'sleep'	<i>ca-ta</i>	=>	<i>cwumwusi-ta</i>	<i>neru</i>	=>	<i>o-yasumi-ni.naru</i>
'die'	<i>cwuk-ta</i>	=>	<i>tolakasi-ta</i>	<i>sinu</i>	=>	<i>nakunaru</i>
'-'	<i>V1-ta</i>	=>	<i>V2-ta</i>	<i>V1-(r)u</i>	=>	<i>V2-(r)u</i>

a great number of instantiations elaborating the schema of that type, irrespective of the formal (ir)regularity. The notion of productivity with respect to honorifics is a matter of "more" and "fewer" verbs that permit honorification.

With this definition of productivity in mind, subject referent honorifics in both Korean and Japanese can be said to be highly productive. As shown in Tables 1 and 2, the verbs that can undergo subject honorification are multiple and can be further multiplied with the use of their respective regular verbal affixes of subject referent honorifics.

The high productivity of the subject referent honorific pattern in the two languages is motivated by functional aspects: every verb has a subject argument/trajector in its event structure profile and thus every verb has the potential to undergo subject referent honorification. To form a subject referent honorific pattern, the speaker only has to conceive of some event in which some respected person or entity fills the position of the verb's subject argument, the primary figure in any event profile.⁵

The same functional account leads us to predict much less productivity for non-subject referent honorification because not all verbs have non-subject arguments (most typically, the object argument/profiled landmark) in their conceptual structures for the formation of non-subject referent honorifics to take place. In other words, ordinary intransitive verbs have only one participant, the subject argument/trajector, in their event structure profile, hence they allow the formation of subject referent honorifics, but not of non-subject referent honorifics. The event of walking, for instance, does not involve anyone other than the subject participant (i.e. the walker) even in the periphery of its event structure profile, hence there are no non-subject referent honorific forms in either Korean or Japanese, while the verb's subject referent honorific forms are readily available in both languages as exemplified in (1) above.

The productivity of non-subject referent honorifics is further limited by the requirement that the non-subject argument position in question, i.e. the target of honorification, must be a human participant. Verbs of breaking, for instance, have their

5. It is interesting in this regard to note that in Japanese, at least in some of its dialectal varieties, even the event of rain-falling 'It rains' can be expressed with subject referent honorifics. Thus, in the Mikawa dialect of Japanese, where *o-V-ru* is the subject referent honorific pattern, (*ame-ga*) *yoku o-huri-ru nee* is attested and literally means 'It honorably rains well'.

object argument instantiated by inanimate things only and, in fact, have no non-subject referent honorific verbal form in Korean or Japanese. Furthermore, to form a non-subject referent honorific, the verbal action and/or the intention of its subject (typically, the speaker) performing the action must be appropriate for showing deference toward a respected person. Verbs of hitting (a person), for instance, have no non-subject referent honorific verbal form in either language presumably because people do not normally hit a respected person in order to show their respect for him. In other words, an event of hitting does not constitute a context in which a speaker normally employs expressions of deference toward the person in the verbal object argument position, i.e. the ‘hittee’.

Our event structure analysis, therefore, predicts that non-subject referent honorific formation will be limited to verbs that have a *human* non-subject participant profiled in their event structure (e.g. the object argument) and refer to actions that directly affect or involve a respected person, most commonly as a recipient, beneficiary or source.

This prediction is in fact borne out. In Korean, the non-subject honorific pattern is limited to a handful of verbs that have the right qualifications above; namely, verbs of giving, meeting, telling, asking and taking a person somewhere. Their non-honorific base forms and respective non-subject referent honorific forms (meaning ‘give something to an RP’, ‘meet an RP’, ‘say something to an RP’, ‘inquire an RP about something’, and ‘take an RP somewhere’) are listed in Table 3 below.⁶ Sentence (3) illustrates the use of a non-subject referent honorific verb of giving in Korean.

- (3) *nay-ka kuke sensayngnim-kkey tuli-essta.*
 1SG-NOM that teacher-DAT give(NSRH)-PAST
 ‘I gave(NSRH) that to the teacher(RP).’

Table 3. Non-subject referent honorific verbs in Korean

English gloss	base form	→	NSRH form
‘give to someone’	<i>cwu-ta</i>	→	<i>tuli-ta</i>
‘see/meet someone’	<i>po-ta/manna-ta</i>	→	<i>poyp-ta</i>
‘tell someone’	<i>malha-ta</i>	→	<i>malssum.tuli-ta</i>
‘inquire someone’	<i>mwut-ta</i>	→	<i>yeccwup-ta</i>
‘take someone to’	<i>teyli-ta</i>	→	<i>mosi-ta</i>

6. The list of non-subject honorific verbs in Korean is exhaustive to the best of the author’s knowledge: Martin (1964) notes that there is only one verb *poypta* ‘see.NSRH’ and Kim-Renaud (1999: 421) states that NSRH “has been virtually lost, leaving its trace only in some suppletive forms such as *poyp-*.” Chang (1996: 195) and Umeda (1977: 45) each list four verbs, which are both included in the list in Table 3.

All non-subject referent honorific forms in Korean are irregular in the sense that there are no common morphemes to indicate this type of honorifics; hence no honorific forms are fully predictable from their base forms. This is why non-subject referent honorification in Korean is often described as a “lexical phenomenon” (Kim 1987). Thus, while Korean has derivational morphemes for subject referent honorifics, it lacks regular derivational morphology for non-subject referent honorifics, which means that the Korean system of non-subjective referent honorifics is not productive.⁷

Turning to non-subject referent honorifics in Japanese, we find that the pattern used there is more productive and applicable to a greater number of verbs than that of Korean. Not only the equivalents of the Korean verbs listed in Table 3, but many more verbs are available as non-subject referent honorific verbs in Japanese. In terms of semantic equivalence, the non-subject referent honorific verbs in Korean are only a subset of those found in Japanese. Compare the five Korean NSRH verbs listed in Table 3 with the (still partial) list of Japanese irregular/lexical NSRH verbs in Table 4 below. Sentence (4) represents the Japanese counterpart expression to the Korean sentence (3) with the verb of giving.

- (4) *watasi-ga sore-o sensei-ni sasiage-ta.*
 1SG-NOM that-ACC teacher-DAT give(NSRH)-PAST
 ‘I gave(NSRH) that to the teacher(RP).’

Table 4. Irregular/lexical non-subject referent honorific verbs in Japanese

English gloss	base form	→	NSRH form
‘give to someone’	<i>ageru</i>	→	<i>sasi-ageru</i>
‘see/meet someone’	<i>au</i>	→	<i>o-me-ni-kakaru</i>
‘say to someone’	<i>iu</i>	→	<i>mousi-ageru</i>
‘inquire/visit someone’	<i>kiku/tazuneru</i>	→	<i>ukagau</i>
‘get/eat/drink something’	<i>morau/taberu/nomu</i>	→	<i>itadaku</i>
‘receive something’	<i>uketoru</i>	→	<i>haizyu-suru</i>
‘look at something’	<i>miru</i>	→	<i>haiken-suru</i>
‘listen to something’	<i>kiku</i>	→	<i>haityou-suru</i>
‘go/come’	<i>iku/kuru</i>	→	<i>mairu</i>
‘be/stay’	<i>iru</i>	→	<i>oru</i>
‘_’	V1-(r)u	→	V2-(r)u

7. It should be noted in passing that there is another pattern which can involve the non-subject (and subject) referent honorification in Korean as well as in Japanese, the benefactive construction. This construction employs a verb of giving with its referent honorific form as an auxiliary verb to the main verb to add the sense of benefaction to the main verb meaning. Benefactive constructions are different from non-subject referent honorific expressions in that the latter do not necessarily involve a benefit to the target of honorification (e.g. ‘meeting’ and ‘inquiring’ an RP in Table 3).

The Japanese system of non-subject referent honorific morphology most conspicuously differs from that of Korean in that it has irregular/lexical patterns of non-subject referent honorifics as well as a regular derivational pattern (*o-* *-suru*), which its Korean counterpart lacks altogether. In Japanese, *o-* and *-suru* are circum-affixed to the verbal stem to yield *o-V-suru* for non-subject referent honorifics. Table 5 below lists some such verbs of regular NSRH formation.

- (5) *watasi-wa sono hon-o sensei-kara o-kari-si-ta.*
 1SG-TOP that book-ACC teacher-from borrow-NSRH-PAST
 ‘I borrowed(NSRH) that book from the teacher(RP).’

Although the non-subject referent honorific pattern in Japanese with the regular *o-V-suru* pattern appears to be productive, it is still not comparable to the subject referent honorific pattern in either language (Table 1), which may apply to virtually all person-subject-taking verbs. There are a great many verbs in Japanese, including the verb ‘walk’ discussed above, that may undergo subject referent honorification (as in (1) above) but not non-subject referent honorification: the form **o-aruki-suru*, which is theoretically constructible from *aruku* ‘walk’, sounds bizarre and is never used in Japanese.

We can sum up the descriptions of the referent honorific patterns used in Korean and Japanese in terms of their productivity as follows: Subject referent honorifics are highly productive both in Korean and Japanese. They are formed with regular subject referent honorific affixes (*-(u)si* and *o- -ni.naru*, respectively) as well as irregular lexical subject referent honorific forms. By contrast, non-subject referent honorifics are less productive in both languages. In Korean, they lack a regular structural pattern and their productivity is restricted to a handful of irregular lexical verbs for non-subject

Table 5. Regular non-subject referent honorific verbs in Japanese

English gloss	base form	→	NSRH form
‘take someone to’	<i>tureru</i>	→	<i>o-ture-suru</i>
‘implore someone’	<i>negau</i>	→	<i>o-negai-suru</i>
‘call someone’	<i>yobu</i>	→	<i>o-yobi-suru</i>
‘talk to someone’	<i>hanasu</i>	→	<i>o-hanasi-suru</i>
‘inquire someone’	<i>kiku</i>	→	<i>o-kiki-suru</i>
‘inquire someone’	<i>tazuneru</i>	→	<i>o-tazune-suru</i>
‘invite someone’	<i>sasou</i>	→	<i>o-saso-i-suru</i>
‘invite someone’	<i>maneku</i>	→	<i>o-maneki-suru</i>
‘show to someone’	<i>miseru</i>	→	<i>o-mise-suru</i>
‘lend to someone’	<i>kasu</i>	→	<i>o-kasi-suru</i>
‘borrow from someone’	<i>kariru</i>	→	<i>o-kari-suru</i>
‘_’	<i>V-(r)u</i>	→	<i>o-V-suru</i>

Table 6. Differences in productivity of referent honorifics in Korean and Japanese

	Korean	Japanese
Subject referent honorifics	highly productive	highly productive
Non-subject referent honorifics	restricted	somewhat productive

referent honorifics. In Japanese, non-subject referent honorifics are somewhat productive and less restricted: they have a regular structural pattern with some restricted productivity along with some dozen irregular lexical verbs that allow the expression of non-subject referent honorifics.

Table 6 above summarizes the productivity of the referent honorifics found in the two languages.

As shown above, the argument structure of verbal semantics accounts for the high productivity of subject referent honorifics and the restricted productivity of non-subject referent honorifics. However, the somewhat productive nature of non-subject referent honorifics in Japanese remains unaccounted for and calls for an explanation.

3. Factors motivating the difference in productivity

The higher productivity of non-subject referent honorifics in Japanese as opposed to Korean is motivated by two related (cognitive and) socio-cultural factors present in Japanese:

- i. egocentric viewing arrangement (Langacker 1985)
- ii. *uchi/soto* ('inside/outside') distinction (Wetzel 1984)

These two socio-cultural factors have the effect of lifting the default restrictions on the non-subject referent honorifics. These factors and how they work are discussed in the next two sections.

3.1 The socio-cultural factor of the viewing arrangement in Japanese

The first motivating factor of the productivity of non-subject referent honorifics in Japanese, the egocentric viewing arrangement, is seen in the fact that, in Japanese traditional grammar, the non-subject referent honorifics in question are treated as "self-humbling". In other words, the function of non-subject referent honorifics in Japanese is viewed as "lowering oneself" rather than "exalting others". This is to say that, in terms of the argument structure of events, the speaker's deference toward the event's non-subject referent participant is expressed by lowering the event's subject referent participant, which is identified as the speaker herself, to the effect that the non-subject referent is indirectly elevated in its relation to the humbled subject referent.

This view of non-subject referent honorifics in Japanese is not far-fetched if we consider the strong tendency of Japanese to lean toward an egocentric viewing arrangement. In his theory of linguistic subjectivity, Langacker (1985, 1990) distinguishes two types of viewing arrangements, “optimal” and “egocentric”, which differ with respect to the speaker’s prominence in the overall conceptualization. In what Langacker (1985: 109) calls an optimal viewing arrangement, “the observer/observed asymmetry is maximized”, which is diagrammed in Figure 3a. In the diagram, ‘S’ stands for the subject of conception (or observer), ‘O’ for the object of conception (or observed), the arrow for the direction of conception, and the broken-line circle for the objective scene.

With respect to the optimal viewing arrangement in Figure 3a, Langacker (1985: 121) notes that “S can be characterized as maximally subjective, and O as maximally objective.”

In the egocentric viewing arrangement, diagrammed in Figure 3b, the locus of viewing attention is expanded to include the position of S and his/her immediate surroundings. The subject of conception S is no longer simply an observer, but to some degree an object of conception as well, and S receives a more objective construal while the scene conceived becomes more subjective. Thus, the conceptualization diagrammed in Figure 3b represents the semantic structure of ‘subjective’ expressions.

As expressions like “maximally subjective” and “more subjective” indicate, subjectivity is a matter of degree, and Langacker introduces the notion of a subjectivity scale along which linguistic expressions can be ranked.

Uehara (2000, 2006) proposes to apply the notion of a subjectivity scale for cross-linguistic research, and compares Japanese and Korean along with other languages. One of the findings there is that the default viewing arrangement in Japanese is more “egocentric” than that in Korean. What this means is that in describing the same states of affairs, Japanese shows a greater tendency to employ expressions in which *the speaker is put on stage/referred to*,⁸ i.e. the speaker functions as a reference point for the

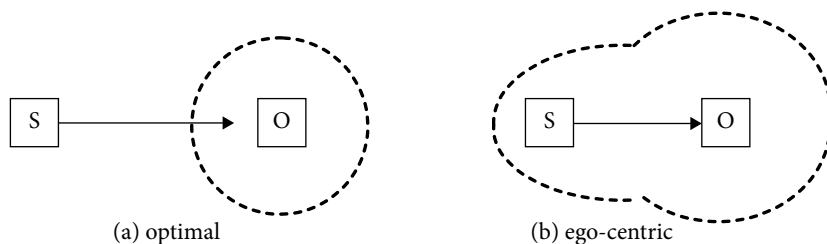


Figure 3. Two viewing arrangements (Langacker 1985)

8. Such reference to the speaker is typically implicit linguistically, like the verb *come*, whose reference to the speaker in its landmark position is implicit, i.e. without any expression of linguistically explicit reference to the speaker, such as *here* or *to me*, accompanying it.

depicted event. One reflection of this tendency is the deictic distinction made between verbs of giving in Japanese, which does not exist in Korean (or in English, for that matter): Japanese has two verbs of giving: *ageru* 'give (to someone other than the speaker)' and *kureru* 'give (to the speaker)'. The distinction between these verbs is based on the (non-)existence of, and hence reference to, the speaker as the recipient of an act of transfer. Korean, like English, has only one verb of giving, *cwu-ta*, which covers the whole range expressed by the two verbs in Japanese, and hence makes no such obligatory reference to the speaker in describing an event of giving.

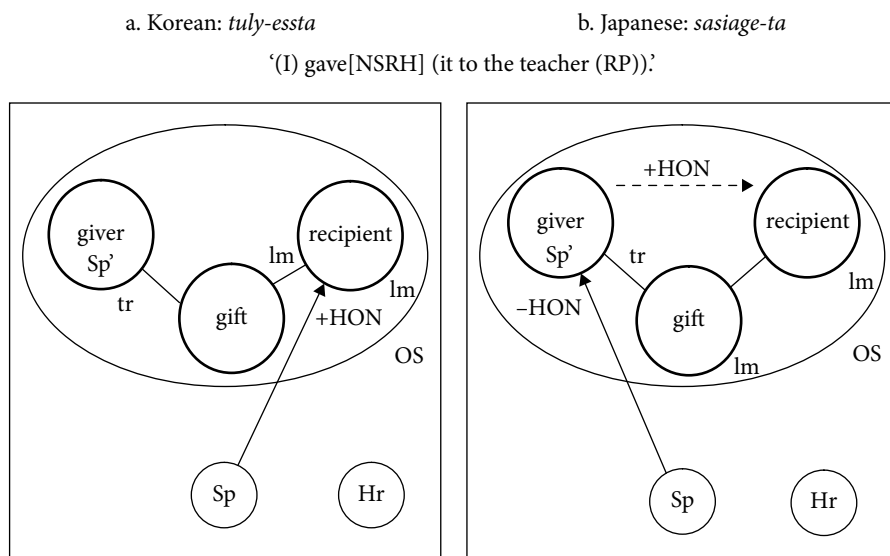
The difference in the degree of "egocentric" viewing arrangement between the two languages reflects a functional difference between the two construals of non-subject referent honorifics: While the Korean construal of non-subject referent honorifics directly refers to the RP in the **non-subject** participant position, the Japanese construal refers to the speaker in the **subject** participant position of the verbal action and humbles herself in her relation to the RP in the event (hence, its traditional name "subject/self-humbling") for the same honorific effect.

Let us illustrate the difference between the Korean and Japanese non-subject referent honorific patterns with the examples under (3) and (4), which are reproduced below under (6). In (6), all nominal elements are in parentheses to indicate that they are optional in natural discourse and that the verbal form can stand alone (and indicate deference toward the implicit referent RP) in either language. The conceptual structures of the two non-subject referent honorific verbs are schematically represented in Figure 4.

- (6) Korean: (*nay-ka kuke sensayngnim-kkey*) *tuli-essta*.
 Japanese: (*watasi-ga sore-o sensei-ni*) *sasiage-ta*.
 1SG-NOM that(-ACC) teacher-DAT give(NSRH)-PAST
 'I gave[NSRH] it to the teacher(RP).'

The difference between the Korean and Japanese construals can be described as follows: The Korean verb *tuly-essta* '(I) gave[NSRH] (it to the teacher(RP))' directly refers to the recipient RP (i.e. the teacher) to show the speaker's deference toward him, as shown in Figure 4a, while the Japanese *sasiage-ta* does so indirectly by referring to the subject referent, which is the speaker herself, thereby having the speaker humbling herself relative to the recipient RP, as shown in Figure 4b.

The "subject-humbling" nature of the non-subject referent honorifics in Japanese makes them somewhat more productive than those in Korean, since the speaker's self-humbling operates on the profiled *subject* argument (just as the subject referent honorifics does) and makes only indirect reference to the RP, the ultimate target of self-humbling, via that subject referent. In other words, Japanese non-subject referent honorifics can apply even when the target of the honorification, the RP, is not profiled in the event denoted by the predicate verb – as long as the speaker conceptualizes in her action something having an effect on the RP.



Sp: speaker, Hr: hearer, OS: on-stage region. ○ : profiled participant,
 —→ : target of honorification (+HON)/humbling (-HON),
 - - - → +HON: target of indirect honorification

Figure 4. Non-subject referent honorific actions of giving in Korean and Japanese

This point can be demonstrated by comparing the list of Korean non-subject referent honorific verbs in Table 3 with the lists of those in Japanese in Tables 4 and 5 and by examining the types of verbs that undergo non-subject referent honorification in Japanese but not in Korean and the kinds of roles the RP plays in relation to the events denoted by such verbs. The Korean verbs in Table 3 are all either transitive or ditransitive and the RP fills the direct or indirect object position of them ('meeting' the RP, 'inquiring of' the RP, 'taking' the RP (to some place), and 'giving/saying something to' the RP). The group of Japanese verbs listed in Tables 4 and 5 includes all such event types in Table 3 and still more: It also includes verbs with the RP in the direct or indirect object role ('imploring/calling/inviting' the RP and 'showing/lending something to' the RP) and even verbs with the RP in the ablative role ('receiving/borrowing something from' the RP) or in the possessive/genitive role of the direct object ('getting/eating/drinking/looking at/listening to' something *belonging to* the RP). Thus, for verbs like 'borrowing', for example, no non-subject referent honorific form is available in Korean because the person in the source (i.e. the lender) role is not a profiled (direct or indirect object) participant in the event. By contrast, the form *o-kari-suru* 'borrow[NSRH]' is available in Japanese, as listed in Table 4 and exemplified in sentence (5) above, because the lender role is a relevant and salient participant even if it is not profiled in the borrowing event.

The farthest departure of Japanese non-subject referent honorifics from those of Korean lies in its use with *intransitive* verbs, such as verbs of going, coming and being located or staying. Since the subject referent is the sole argument of such intransitive verbs, the target of non-subject referent honorifics, the RP, cannot be found anywhere in the objective scene/event profile of the verb; the target RP can be someone outside of the on-stage region, namely the addressee (marked as ‘Hr’ in the figures above), as long as the speaker’s action has some bearing on that RP. This is possible because, again, non-subject referent honorifics in Japanese, as “self-humbling” operations, apply to the subject referent of the verb, be it transitive or intransitive, and the speaker’s honorification toward its target is attained indirectly via the relationship between the subject referent’s action and the RP. Such relationships can be inherently semantic (participants in the same event/on-stage region) and/or contextually dependent (the relevance the speaker conceives of her action to the RP addressee at the speech time, for example to the addressee’s benefit). The non-subject referent honorific verbs of going, coming and staying/being located can thus be felicitously used when the speaker’s motion toward/from, or staying/being located at, a certain location is on behalf of, for the sake of, or for the reference or information of the RP addressee.

Let us illustrate this point with the non-subject referent honorific verb of ‘staying/being located’, *oru*, in Japanese, compared with its basic (i.e. non-honorific) equivalent verb in Korean, *iss-ta* ‘stay/be located’. The typical context for the two expressions is where the speaker, a company employer, receives a call on her cell phone from her company president and, asked where she is at the moment, says, “I am at the station.” In this context, the verbal form *iss-ta* ‘stay/be located’ is used in Korean without NSRH since, as we have seen, no non-subject referent honorific form of this intransitive verb is available in the language, while in Japanese the non-subject honorific verb *oru* is used, as in (7). Note that the verbs in both sentences are marked with the addressee honorific (AH) morpheme to indicate the speaker’s deference toward the addressee (her company president in this case).

(7) Korean: *yek-eyse iss-supnita.*
 station-at be-AH
 ‘(I) am[AH] at the station.’

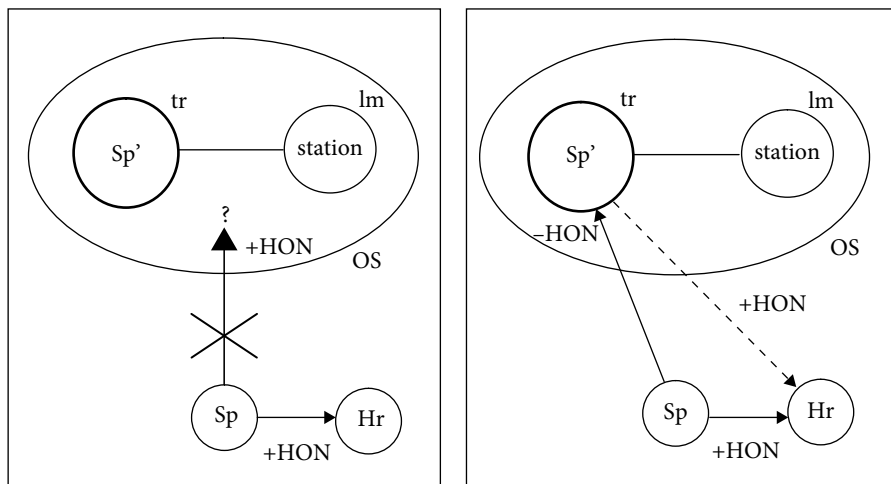
Japanese: *eki-ni ori-masu.*
 station-at be.NSRH-AH
 ‘(I) am[NSRH][AH] at the station (for you(RP)r information).’

The conceptual structures of the two expressions are schematically represented in Figure 5. Non-subject referent honorifics cannot apply to the event of “being located” in Korean because that would require a profiled participant other than the subject referent in the depicted event, which is not existent in the intransitive verbal event. By contrast, non-subject referent honorification is potentially applicable to the verb of “being located” in Japanese because it operates on the subject argument of verbal actions, and it does apply when the speaker conceptualizes the relevance of her action of

a. Korean: *yek-eyse iss-supnita.*
station-at be-AH

b. Japanese: *eki-ni ori-masu.*
station-at BE.NSRH-AH

‘(I) am at the station.’ (an employer saying to her company’s president)



Sp: speaker, Hr: hearer, OS: on-stage region, ○ : profiled participant,

—→ : target of honorification (+HON)/humbling (-HON),

- - - → : +HON: target of indirect honorification

Figure 5. Actions of staying/being located in Korean and Japanese

“being located at the station” to the RP addressee, which fulfills its remaining requirement. In both languages, addressee honorifics apply, which is indicated by the honorification arrow leading from the speaker to the hearer in the figures above.

Further supporting evidence for the current analysis is found in the fact that the non-subject referent honorific form *oru* of the verb of staying/being located, as well as those of other Japanese intransitive verbs (e.g. *mairu* ‘go/come[NSRH]’),⁹ cannot stand alone without the addressee honorific marker, *masu*. This is shown in the sentences under (8), where these intransitive NSRH verbs in (b, c) are contrasted with a prototypical NSRH verb of giving *sasi-ageru* in (a).

- (8) a. *kyoo sasi-ageru./sasi-age-masu.*
today give.NSRH/give.NSRH-AH
‘(I) will give (it) (to the RP) today.’

9. Other intransitive NSRH (i.e. self-humbling) verbs are *gozaru/gozai-masu* ‘exist[inanimate]’ and *de gozaru/de gozai-masu* ‘be(COPULA)’. The former form in each pair, i.e. that without the addressee honorific marker *masu*, is not found in present-day Japanese use.

- b. *kyoo *oru*.¹⁰/*ori-masu*.
 today be.NSRH/be.NSRH-AH
 ‘(I) will be (there) today.’
- c. *kyoo *mairu*./*mairi-masu*.
 today go.NSRH/go.NSRH-AH
 ‘(I) will go (there) today.’

Thus, the use of *oru* and other intransitive, non-subject referent honorific verbs presupposes the speaker’s deference toward the hearer, and they can be used only if the addressee is the RP as the target of (non-subject referent) honorification/self-humbling, as depicted in Figure 5b.

3.2 The socio-cultural factor of *uchi/soto*

The second factor contributing to the greater productivity of non-subject honorifics in Japanese is the Japanese socio-cultural factor of the *uchi/soto* (‘inside/outside’) distinction (Wetzel 1984; Bachnik & Quinn 1994; inter alia). *Uchi/soto*, literally ‘inside’ and ‘outside’, are generally “defined by the movement of our bodies in space”, but “the Japanese have specifically linked ‘inside’ and ‘outside’ to meanings that specify ‘self’ and ‘society.’” (Bachnik 1994: 6). Wetzel (1994: 75) states that “in Japanese, the deictic center is not in fact ego as understood or intended by those of us who share a Western cultural heritage [...]. This *uchi* must always include the speaker, but its boundaries shift from moment to moment.”

We have seen in the previous section that the egocentric viewing arrangement factor in Japanese brings about some productivity in non-subject referent honorifics. Its productivity is further increased by the extension of the self/others boundary to the in-group/out-group boundary, i.e. the speaker’s self in the self-humbling honorification is extended to other people in her in-group as well, such as her family or company, in relation to some RP in her out-group. In other words, the Japanese speaker projects herself onto, or identifies herself with, someone else in her in-group¹¹ so that non-subject honorifics can be used not only for the speaker’s own action but also for actions by other members of the same group as well, to the effect that one’s self-humbling becomes in-group humbling. The use of non-subject referent honorifics, therefore, applies to more situations in Japanese and, concomitantly, the use of non-subject referent honorifics increases in frequency.

Let us illustrate this point with examples whose context brings to the fore the contrast in the ways referent honorifics apply in Korean and Japanese. The speaker, a

10. The grammatical judgment for *oru* ‘stay/be located[NSRH]’ being ungrammatical without *-masu* applies to standard Japanese. The form is acceptable in some dialects (most notably the Kansai dialect) of Japanese, where *oru* is (still) used as the non-honorific verb of staying/being located equivalent to *iru* in standard Japanese.

11. See also to Ikegami (2004) for what he calls “self-projection”.

secretary to the department chief of her company, receives a call from a client company representative. Being asked if the chief is in today, she says, “(He) is not in.” The expressions employed in the two languages in this context are as follows.

(9) Korean: *cikum an kyeysi-pnita.*
 now NEG be.SRH-AH
 ‘(He) is[SRH][AH] not in.’

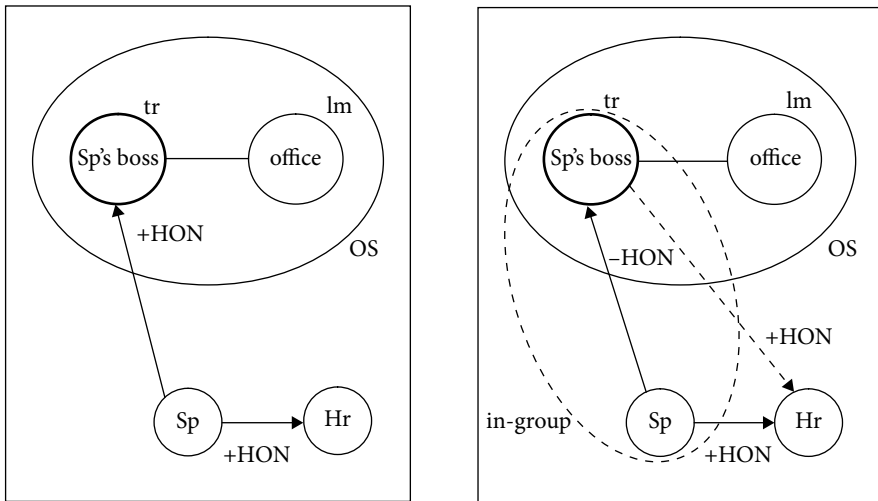
Japanese: *ima ori-mas-en.*
 now be.NSRH-AH-NEG
 ‘(He) is[NSRH][AH] not in (for you(RP)r information).’

In this context, the Korean secretary uses *kyeysi-ta* ‘be’, the **subject** referent honorific verbal form, because the subject referent of the event she is conveying is her boss, while the Japanese secretary uses the **non-subject** referent honorific (i.e. subject-humbling) verbal form *oru* ‘be’ rather than the subject honorific verbal form *irassyaru* ‘be’ because, although he is her boss, the speaker conceptualizes him as her in-group member as opposed to the addressee calling from ‘outside’. The difference in the way the two expressions construe the objectively identical situations is schematically shown in Figure 6.

a. Korean: *an kyeysi-pnita.*
 NEG be.SRH-AH

b. Japanese: *ori-mas-en.*
 be.NSRH-AH-NEG

‘(He) is not in.’ (a secretary saying about her boss to a client)



Sp: speaker, Hr: hearer, OS: on-stage region, ○ : profiled participant,
 —→ : target of honorification (+HON)/humbling (-HON),
 - - - → : target of indirect honorification, ⟨ ⟩ : in-group boundary

Figure 6. Reporting the absence of one’s boss in Korean and Japanese

The imposition of the *uchi/soto* distinction thus creates a context in which the same situation is expressed with **subject** referent honorifics in Korean and with **non-subject** referent honorifics in Japanese. This accounts for the higher degree of productivity for non-subject referent honorifics in Japanese than in Korean.

The idea that the use of Japanese honorifics, as well as other grammatical structures of Japanese, is based on the *uti/soto* distinction is not new and has been noted by many scholars (e.g. Makino 1996 for some grammatical distinctions in Japanese). To make clear the point of the current contrastive linguistic study, we have to show that the in-group/out-group distinction is non-existent or at least much less prominent in Korean than in Japanese in linguistic phenomena other than honorifics as well. To show that something is non-existent (i.e. the *uchi/soto* distinction in Korean) is a difficult task to do, but recent comparative discourse studies on “politeness strategies” (Brown & Levinson 1987) used in the two languages provide support. Yim (2004), for example, compared positive politeness strategies used in Japanese and Korean refusal discourse and found that the positive politeness strategies used by Japanese speakers can be classified according to the principles of *uchi/soto* while those of Korean cannot. That is to say, the *uchi/soto* distinction of Japanese is irrelevant in the positive politeness strategies of Korean.

4. Concluding remarks

In this paper, we have examined and compared the grammatical systems of referent honorifics in Korean and Japanese and argued that the most characteristic difference between the two highly grammaticalized systems, namely the difference in predicate morphology of non-subject referent honorifics, is motivated by socio-cultural factors.

The application of the referent honorifics in Korean and Japanese has been shown to be possible only when the respected person fills the participant position profiled by the verb. This semantic restriction in principle limits the application of the non-subject referent honorifics to a handful of verbs, and in fact Korean shows this strict limitation in that its non-subject referent honorification is a lexical phenomenon. Japanese, by contrast, has a verbal affix for non-subject referent honorification and exhibits a somewhat higher degree of productivity.

The productivity of non-subject referent honorifics in Japanese is motivated by two socio-cultural factors: the egocentric viewing arrangement and the distinction between *uchi* ‘inside’ and *soto* ‘outside’. The former factor even allows non-profiled participants to undergo non-subject referent honorification. The latter factor, by extending the self/others boundary to the in-group/out-group boundary, multiplies the contexts in which the first factor can be applied so that together they lead to the productivity of the language’s non-subject referent honorifics. Thus, the socio-cultural factor of *uti/soto* motivates the higher productivity of non-subject referent honorifics

in Japanese, while the lack of it in Korean limits the application of non-subject referent honorifics in that language.

The notion of construal is of paramount importance to meaning. Construals are motivated, but not determined, by the objective scene. The Korean and Japanese honorific systems constitute prime examples of differences in the construal of objectively identical scenes. The current paper has demonstrated that these cross-linguistic differences in construals are motivated by socio-cultural factors and that such socio-cultural factors lead to differences in the morphological structure and productivity of the languages' referent honorifics. It is hoped that this study, although limited in its scope, may have shown that a socio-cultural perspective is indispensable for the understanding of the grammatical structures of language.

References

- Bachnik, Jane M. 1994. Introduction: *uchi/soto*: Challenging our conceptualizations of self, social order, and language. In Bachnik and Quinn, eds.: 3–37.
- Bachnik, Jane M., and Charles J. Quinn, eds. 1994. *Situated Meaning: Inside and Outside in Japanese Self, Society, and Language*. Princeton: Princeton University Press.
- Brown, Penelope, and Stephen C. Levinson. 1987. *Politeness: Some Universals in Language Usage*. Cambridge: Cambridge University Press.
- Chang, Suk-Jin. 1996. *Korean*. Amsterdam and Philadelphia: John Benjamins.
- Fillmore, Charles, J. 1966. Deictic categories in the semantics of *come*. *Foundations of Language* 2: 219–227.
- Ikegami, Yoshihiko. 2004. Locutionary subjectivity and its linguistic indices (1). In M. Yamanashi, et al., eds. *Studies in Cognitive Linguistics* 3: 1–49. Tokyo: Hitsuji Shobo.
- Kim, Yong-Bum. 1987. A GPSG approach to Korean honorifics. In S. Kuno, et al., eds. *Harvard Studies in Korean Linguistics II*: 229–238. Seoul: Hanshin.
- Kim-Renaud, Yong-Key. 1999. Pragmatic embedding for honorification and politeness. In S. Kuno, et al., eds. *Harvard Studies in Korean Linguistics VIII*: 419–435. Seoul: Hanshin.
- Langacker, Ronald W. 1985. Observations and speculations on subjectivity. In J. Haiman, ed. *Iconicity in Syntax*, 109–150. Amsterdam/Philadelphia: John Benjamins.
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar*, Vol. 1: *Theoretical Prerequisites*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1990. Subjectification. *Cognitive Linguistics*, 1–1: 5–38.
- Langacker, Ronald W. 1991. *Foundations of Cognitive Grammar*, Vol. 2: *Descriptive Application*. Stanford: Stanford University Press.
- Levinson, Stephen C. 1983. *Pragmatics*. Cambridge: Cambridge University Press.
- Martin, Samuel E. 1964. Speech levels in Japan and Korea. In D. Hymes, ed., *Language in Culture and Society: A Reader in Linguistics and Anthropology*, 407–415. New York: Harper & Row.
- Makino, Sei-Ichi. 1996. *Uchi to Soto no Gengo-bunka-gaku: Bunpô o Bunka de Kiru*. Tokyo: ALC.
- Shibatani, Masayoshi. 1978. Mikami Akira and the notion of 'subject' in Japanese. In J. Hinds and I. Howard, eds. *Problems in Japanese Syntax and Semantics*, 52–67. Tokyo: Kaitakusha.

- Uehara, Satoshi. 2000. The speaker's roles in a cross-linguistic perspective: Toward a typology of linguistic subjectivity. Paper presented at The International Conference on Cognitive Typology, University of Antwerp, Antwerp, Belgium, April 2000 (published in Japanese in *Proceedings of the First Annual Meeting of the Japanese Cognitive Linguistics Association*, 1–11, 2001).
- Uehara, Satoshi. 2006. Toward a typology of linguistic subjectivity: A cognitive and cross-linguistic approach to grammaticalized deixis. In A. Athanasiadou, C. Canakis and B. Cornillie, eds. *Subjectification: Various Paths to Subjectivity*, 75–117. Berlin: Mouton de Gruyter.
- Umeda, Hiroyuki. 1977. Chousengo ni okeru keigo. In S. Ohno and T. Shibata, eds., *Keigo* [Iwanami Kouza Nihongo 4], 247–270. Tokyo: Iwanami Shoten.
- Wenger, James R. 1982. *Some Universals of Honorific Language with Special Reference to Japanese*. Ph.D. dissertation, Department of Linguistics, University of Arizona.
- Wetzel, Patricia Jean. 1984. *Uti and Soto (In-Group and Out-Group): Social Deixis in Japanese*. Ph.D. dissertation, Department of Linguistics, Cornell University.
- Wetzel, Patricia Jean. 1994. A movable self: The linguistic indexing of *uchi* and *soto*. In Bachnik and Quinn, eds.: 73–87.
- Yim, Hyun Soo. 2004. Positive politeness strategy of the Japanese-Korean refusal discourse. *The Japanese Journal of Languages in Society*, 6 (2): 27–43.

PART II

Motivation in the Lexicon

Conceptual motivation in adjectival semantics

Cognitive reference points revisited

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Reference-point reasoning is a pervasive cognitive phenomenon intrinsic to many domains of human activity. However, very little is known about linguistic aspects of this phenomenon. This paper elaborates the reference-point model by applying it to lexical semantics and, more specifically, to the semantics of dimensional adjectives. It is argued that a panoply of reference points may be used to anchor conceptual specifications of adjectives, prototypes being only a special case of the reference-point mechanism. For example, dimensional adjectives may be interpreted vis-à-vis an average value of the property (norm), endpoints of the scale and dimensions of the human body (EGO). Each of these reference points motivates crucial semantic and functional properties of dimensional adjectives.

Keywords: antonymic pairs, asymmetry, degree modification, dimensional adjectives, ego, markedness, norm, prototype theory, scale structure

1. Introduction

Prototype theory, which was initiated by Rosch (1973), has been pervasive in the semantic research of the last thirty years. The advent of prototype theory was fostered by the studies of focal colors (e.g. Rosch 1971, 1972). Since then, color terms have often been cited as prime examples of prototypical categories. Importantly, prototype theory is able to explain how perceptual properties of focal colors *motivate* functional properties of color terms. For example, focal colors – being most perceptually salient – proved to be most “codable” across languages (Rosch 1971). In addition, names of focal colors were shown to be more easily remembered by adults (Rosch 1972; Rosch & Olivier 1972) and first learnt by children (Mervis, Catlin & Rosch 1975; Rosch 1971).

However, as indicated among others by Cuyckens (1984) and Wierzbicka (1996), in spite of being helpful analytical tools, prototypes cannot be indiscriminately applied throughout. The adjectival category, for instance, is too heterogeneous to allow the

application of prototypes to the semantic analysis of *all* adjectives. Whereas adjectives of color and shape easily lend themselves to analysis in terms of prototypes (e.g. Tribushinina 2006), it is difficult to come up with prototypes of the properties denoted, for instance, by scalar adjectives such as *short*, *blunt*, or *wet*.

The purpose of this paper is to show that while prototypes constitute a specific type of cognitive reference point (henceforth CRP), i.e. mentally prominent items that other entities are seen in relation to (Rosch 1975), there are other types as well.

This study will focus on dimensional adjectives denoting vertical size (e.g. *tall*, *short*). These adjectives were chosen because, as suggested by several studies (Kamp & Partee 1995; Taylor 2003; Tribushinina 2006), they are to a lesser degree oriented to prototypes than, for instance, color terms. Notice, however, that most dimensional adjectives are vague terms. So it is fair to assume that their conceptual specifications have to be anchored *somehow*. Put another way, if prototypes are only marginally relevant to the semantic make-up of vague scalar adjectives, what *other* reference points are used to anchor the conceptual specifications of these words? And, importantly, how do these reference points *motivate* their semantics and use?

In this paper, motivation is understood as a non-arbitrary relation between the conceptual structure of a word (including CRPs) and the functional properties of that word (e.g. default and contextual interpretations, markedness, ability to combine with other words). In this specific case, the content of a lexical item is a source of a motivational process; functional properties of a word constitute a target of motivation; and a reference point is a language-independent factor, i.e. a driving force of a motivational process whose scope reaches far beyond language and also operates in other cognitive domains (cf. Radden & Panther 2004, Panther & Radden this volume).

The paper is structured as follows. Section 2 introduces the reference-point model and gives an overview of its applications in a number of disciplines, including cognitive psychology and linguistics. Section 3 presents a semantic analysis of dimensional adjectives in terms of several CRP types. Conclusions are presented in Section 4.

2. Cognitive reference points

2.1 Roschean cognitive reference points

The notion of CRP was introduced by Rosch (1975). As a starting point she used Wertheimer's (1938) claim that among perceptual stimuli there are ideal types that serve as anchoring points in perception. Building on earlier research on prototypicality effects, Rosch (1975) pursued the question whether focal colors and prototypical members of other categories can "be actual examples of ideal types which serve as reference points within our cognitive categories and classification systems" (Rosch 1975: 532).

CRPs are defined by Rosch as stimuli that other items are seen in relation to. Therefore the main criterion of a reference-point status used in Rosch (1975) was an

asymmetry between a CRP and a non-CRP item. Two tasks – a linguistic and a spatial one – provided very similar results in three different domains – color, numbers and line orientation. In all cases, non-prototypical instantiations were judged closer to the prototype than the prototype to a non-prototypical instantiation. From the obtained results Rosch concluded that prototypes “can serve as reference points in relation to which other category members are judged” (Rosch 1975: 545). Crucially, this formulation implies that prototypes are by no means the only CRPs involved in various cognitive activities.

2.2 Elaborations of the Roschean model

The notion of CRP introduced by Rosch (1975) was eagerly taken up by scholars in many fields of research, including cognitive and social psychology, behavioral economics, marketing and management research. In the space of this paper, we cannot go into the details of these studies and will consider only a few examples. The purpose of this section is to show that the reference-point reasoning discovered by Rosch through the study of prototypes has a much wider scope than prototypes as such. In other words, a prototype is but one realization of a very pervasive cognitive strategy to use CRPs.

Perhaps the most straightforward applications of the Roschean CRP model are studies of similarity judgments in cognitive psychology (Tversky 1977; Tversky & Gati 1978). These studies replicated Rosch (1975) in that they found that people usually have one preferred direction of comparison, viz. they usually compare a less prominent (salient, familiar, concrete) item to a more prominent item (CRP). For instance, a sentence like *North Korea is similar to China* is usually preferred to *China is similar to North Korea*, because China is a more salient item.

Studies in social psychology have shown that the self is an important CRP shaping our social judgments (e.g. Holyoak & Gordon 1983; McFarland & Miller 1990). For instance, people usually judge others as more similar to themselves than themselves to others (notice again the CRP/non-CRP asymmetry).

A CRP also constitutes one of the basic notions in Prospect Theory (Kahneman & Tversky 1977). On this view, a reference point divides the space of outcomes into the regions of gains and losses. Thus, people do not see outcomes as neutral, but characterize them in terms of success or failure. Prospect Theory has been applied to the analysis of numerous aspects of human economic and organizational behavior, such as negotiation, intertemporal consumption, gambling and betting.

Marketing researchers also make ample use of the Roschean reference-point model. To give just one example, consumers usually compare the actual prices with a CRP price they have stored in their mind (Chen & Bei 2005; Thomas & Menon 2007).

In brief, CRP reasoning has proved to be a ubiquitous cognitive phenomenon. Various cognitive domains have been shown to be structured by a restricted set of salient reference points. An important aspect of reference-point reasoning observed across various kinds of human activity is the asymmetry between CRP and non-CRP items.

Given the ubiquity of CRPs, it is reasonable to expect that language also involves a lot of reference-point reasoning. This expectation is based on one of the major tenets of cognitive linguistics that language is not a separate module, but an integral part of cognition, whose organizing principles stem from the general properties of the human mind. The following section presents an overview of linguistic applications of the reference-point model.

2.3 Cognitive reference points in linguistic research

2.3.1 *Reference-point constructions in cognitive grammar*

Perhaps the most influential reference-point model in linguistics was developed by Langacker (1991, 1993) within the framework of Cognitive Grammar. Initially, Langacker (1991) introduced the notion of reference points in the analysis of possessive constructions. On this view, what all possessives have in common is that a salient reference-point entity is evoked for the purpose of establishing mental contact with a less salient target. For instance, in *Kate's car*, Kate is a more prominent participant that functions as a reference point for the dominion of her possessions, including the car. A dominion is defined as a set of possible targets that can be accessed through a particular reference point.

In a later publication, Langacker (1993) extends the reference-point model from the analysis of possessives to a wider range of grammatical phenomena, which he calls *reference-point constructions*. These include topic and topic-like constructions, pronoun-antecedent relationships and metonymy. This analysis was adopted and further elaborated in a number of studies (e.g. Brône & Feyaerts 2004; Cienki 1995; Cornillie 2005; Janssen 2003; Smith 2006; Van Hoek 1997; Willemse 2006).

A question that arises in this connection is how reference-point constructions studied in Cognitive Grammar relate to the CRPs identified by Rosch (1975). Are we dealing with the same cognitive phenomenon or with different phenomena referred to by the same term – *reference points*? I would like to suggest that the Roschean and the Langackerian reference points are essentially the same cognitive phenomenon. Firstly, Langacker (1993: 35f) himself places his reference-point constructions in the same group of phenomena as figure-ground alignment, comparison (involving a point of reference and a target), metaphor (involving source and target domains), and prototypes (the Roschean CRPs).

Secondly, it is noteworthy that Rosch defined CRPs as cognitively salient items that other entities are seen in relation to. This is exactly the way dominions are defined in Cognitive Grammar: “The dominion consists of the conceptual structures that are construed *in relation to* [emphasis mine] the reference point” (Van Hoek 1997: 55).

Thirdly, a crucial feature of the reference-point relationship on both the Roschean and the Langackerian account is the asymmetry between CRPs and non-CRPs. People judge a non-focal red as more similar to the focal red than vice versa. They also consider non-salient locations to be closer to salient landmarks than the other way around.

The reason is that focal colors and important locations constitute better reference points than non-prototypical colors and less prominent locations. Similarly, language users find it more appropriate to say *Kate's car* than *the car's Kate*, because human beings are better reference points than non-human and/or inanimate objects.

Although Langacker (1991, 1993) applies the reference-point model only to the analysis of grammatical phenomena and metonymy, he strongly emphasizes that reference-point reasoning is a very fundamental image-schematic ability and “we ought not to be surprised to find it manifested at multiple levels of conceptual and grammatical organization, even within a single expression” (Langacker 1993: 25). This means that we should be able to find aspects of reference-point reasoning not only in grammar, but also in other linguistic domains. In the following section, I turn to the use of the reference-point model in lexical semantics and show that semanticists (unlike psychologists and grammarians) have adopted a very narrow understanding of CRPs that is largely equated with the notion of prototypes.

2.3.2 *Reference points in lexical semantics*

The only CRP type that has been studied quite intensively in lexical semantics is the prototype. The prototype-based approach to word meaning has expanded enormously over the last thirty years (e.g. Coleman & Kay 1981; Dirven & Taylor 1988; Geeraerts 1997; Kelly, Bock & Keil 1986; Kuczaj 1982; Šarić 2006; Vogel 2004).

Despite the fact that Rosch (1975) strongly suggested that prototypes are but one special case of a ubiquitous strategy to use reference points, only this case has attracted much attention in lexical semantics. With the exception of several studies of CRP numerals (Dehaene & Mehler 1992; Pollman & Jansen 1996; Sigurd 1988) and reference points in spatial prepositions (Van der Zee 2007; Van der Zee et al. 2007), realizations of reference-point reasoning beyond the prototypes remained largely uncovered in semantic research.

I would like to argue that this state of affairs is problematic, since there is a lot more to reference-point phenomena in word meanings than just prototypicality effects. I fully agree with Wierzbicka (1996: 167) that, if a prototype is “treated as a magical key to open all doors without effort, the chances are that it will cause more harm than good”. Prototypes proved useful for the semantic description of some lexical groups (e.g. color terms), but they cannot be applied throughout, since “a number of lexical items do not – or only partly – lend themselves to a prototypical description” (Cuyckens 1984: 174).

In the rest of this paper, I will elaborate this idea by focussing on the semantics of dimensional adjectives denoting vertical size. As explained in Section 1, dimensional adjectives are to a much lesser degree oriented to prototypes than color terms. However, they are vague terms and therefore must be anchored *somehow*. The following section provides some examples of conceptual entities that might function as CRPs in the semantics of dimensional adjectives and motivate their functional peculiarities.

3. Cognitive reference points in dimensional adjectives

3.1 Norm

3.1.1 *Previous studies*

Perhaps one of the central assumptions when one comes to think about relative adjectives, such as *tall* and *large*, is that they are interpreted vis-à-vis a *norm* in the middle of the scale (e.g. Bierwisch 1989; Croft & Cruse 2004; Lyons 1977). The norm is usually defined as an average value of the property established for a contextually relevant comparison class. For example, if a particular dog exceeds the average dimensions of its class, a *supra* term such as *large* will be used. In contrast, sub terms such as *small* are employed for smaller-than-average dogs. (I have borrowed the terms *supra* and *sub* from Croft and Cruse 2004.)

A norm is a good example of a reference-point phenomenon in the semantics of relative adjectives, in the sense that average dimensions of a comparison class often provide mental access to specific properties denoted by means of dimensional adjectives. Through repeated exposure to numerous instantiations of an object category we store a visual image of a normal representative of that category. A sentence like *His dog is very big* can activate this knowledge of an average dog, which will give the listener mental access to the target values above the norm. The visual image of a usual-sized dog is more entrenched than various individual instantiations of the dog class. Crucially, this is another manifestation of a CRP vs. non-CRP asymmetry.

Barner and Snedeker (2007) provide experimental evidence suggesting that even four-year-old children use an average value as a reference point for dimensional adjectives. When presented with a series of novel objects (*pimwits*) varying in size, children agreed to call the top third of the array *tall* and the bottom third *short*. And, more importantly, when the average was altered by adding either bigger or smaller objects to the series, the subjects' responses changed as well. These results demonstrate that four-year-olds *do* use class-bound reference points in the middle of the scale for interpreting dimensional adjectives.

This notwithstanding, I would like to suggest that the norm is not the only CRP type involved in the interpretation of relative adjectives and that it cannot be applied throughout. Below, I will present arguments against the overall applicability of the average value.

3.1.2 *Norm-free constructions*

To begin with, there are a number of constructions in which dimensional adjectives are interpreted irrespective of the norm. For instance, both subs and supras are norm-free in comparatives and superlatives; see examples (1) and (2) from the British National Corpus (BNC).

- (1) Some of the palm trees look **taller** than the elm trees in our wood. (BNC)

- (2) If your display will be in the centre of a table, your **shortest** flowers should be placed around the sides of the container, and the tallest in the middle. (BNC)

The comparative *taller* in (1) does not say anything about the actual location of the tree height on the scale vis-à-vis the norm. The only fact that matters in this case is that the height of the palm trees exceeds the height of the elms. Similarly, the use of the superlative form in (2) does not imply that the flowers dubbed *shortest* were shorter than average; rather they are short compared to other flowers in the array. The reference points relevant in cases such as (1) and (2) are incidental landmarks (elm trees, other flowers), rather than an average value.

In addition to comparatives and superlatives, supra terms are not contingent on the norm in constructions with measure phrases (example 3), questions with *how* (example 4), equatives (example 5), and correlative degree constructions (examples 6 and 7).

- (3) He was small in stature, only **five feet two inches tall**. (BNC)
 (4) The steely-grey eyes ran over Paula again. **How tall** are you? Five nine and a half. (BNC)
 (5) The wheels were almost **as tall as he** was. (BNC)
 (6) Brownie Owl was **tall enough**, by standing on tip toe, to look over and down into the hollow trunk of the decayed tree. (BNC)
 (7) You're getting far **too tall** for that pony. (BNC)

In the above examples, *tall* does not mean that the vertical size of the entities exceeds some expected average. Rather, other CRPs are used to anchor conceptual specifications of *tall* here. In (3) and (4), *tall* is interpreted with respect to a *zero point* on the scale of height, which serves as a starting point for taking measurement. In these contexts, the focus is on the vertical extent measured from a zero point (e.g. ground level) rather than on the degree of deviation from the norm (see further Section 3.2).

The reference point relevant in (5) is an incidental landmark, i.e. a degree of the property in another entity, cf. (1) and (2).

The CRPs operating in contexts such as (6) and (7) may be termed *incidental minimum* and *incidental maximum*, respectively. Just as in the preceding examples, the average height of a comparison class is not relevant in these contexts. What is relevant is that Brownie Owl's height in (6) reached some minimum value that enabled her to look down into the trunk. In a similar vein, the subject's height in (7) exceeds the maximum value that would allow her to ride a pony.

In summary, there are many entrenched correlations between construction types and CRP types. For example, constructions with measure phrases and questions with *how* trigger the zero point as their primary CRP. The primary reference point for comparatives, superlatives and equatives is an incidental landmark. Correlative degree constructions are usually interpreted vis-à-vis contextually determined maximum or minimum values. Notice that none of these constructions triggers a norm as a reference point for the processing of relative adjectives.

3.1.3 Norm-free uses of the positive form

The observation that the constructions considered above are interpreted irrespective of the norm is not new. Researchers have noticed on numerous occasions that norm-orientedness is structurally determined (e.g. Bierwisch 1989; Cruse 1986; Lyons 1977). However, what has not been hitherto explicated is that these norm-free constructions have their own salient CRPs. As shown in the preceding section, it is not the case that adjectives used in constructions with measure phrases or questions with *how* do not have any reference points, as suggested, for instance, by Pander Maat (2006). Rather, norm-free constructions trigger other CRP types, such as a zero point, an incidental landmark, maximum and minimum values.

Furthermore, even when used in their bare form (i.e. outside the specific constructions considered above), relative adjectives may be interpreted vis-à-vis reference points, other than the norm. By way of illustration, consider (8):

- (8) For example, a person witnesses the following events in a swimming pool: A tall adolescent boy walks purposefully up behind a small coloured child and pushes him strongly into the pool. (BNC)

Although the norm-related reading is not completely excluded in the above example, it is more plausible that the adolescent is called *tall* by virtue of being taller than the colored child (incidental landmark), rather than due to exceeding the average height of his age group. Likewise, the child is called *small* not because he is smaller than children of his age, but because he is smaller than the incidental landmark – the adolescent. Thus, the reference point relevant in this case – which is by no means exceptional – is probably an incidental landmark, rather than an average value. This is evidence that not only comparatives and superlatives, but also relative adjectives in the positive can be interpreted with respect to an incidental standard of comparison instead of the norm. Consider also the following examples from Suzuki (1970):

- (9) Giraffes have long necks.
 (10) ?Men have short/long necks.
 (11) Some people have short/long necks.

Suzuki makes a good observation that the average value for a comparison class specified by the subject is unlikely to be relevant to the interpretation of *long* in (9). He claims that the “measure” (CRP) that is relevant in such cases is the human body, or rather proportions of the human body. This makes generic judgments about humans exemplified by (10) infelicitous. Dimensional judgments about human body-parts are only acceptable if an individual person or a group of people are described vis-à-vis the norm for humans, as in (11). This issue will be further elaborated in Section 3.3.

In brief, dimensional adjectives in the positive form may evoke reference points other than the norm (average value for a comparison class specified by the subject). There are two important implications of this finding. Firstly, it undermines the well-established view that “the positive of dimensional adjectives without a complement is

always [emphasis mine] norm-related” (Bierwisch 1989: 95). Secondly, it shows that a whole range of various reference points is involved in adjectival semantics, prototypes and norms being only special cases of the CRP phenomenon. In the remainder of this article, I will focus on two CRP types that have already been introduced in this section – a zero point and the human body.

3.2 Zero point

3.2.1 *Introductory remarks*

As indicated above, a zero point on a gradual scale can also function as a CRP providing mental access to the conceptual specifications of dimensional adjectives. As illustrated by examples (3)–(4), a zero provides a starting point for measurement when adjectives are used in constructions with measure phrases and questions with *how*. This section will show that even bare adjectives may be oriented to the zero point. What is more, this orientation may motivate functional properties of dimensional adjectives. Two implications of the zero point for the linguistic behavior of relative adjectives will be discussed in this section: asymmetry qua markedness and asymmetry qua degree modification.

3.2.2 *Motivation of the markedness asymmetry*

It is well-known that only one member of an antonymous pair can be used to refer to the whole scale (e.g. height) rather than profile a specific subscale (e.g. tallness or shortness). This type of use is called *unmarked*, or *nominal*, and is opposed to *marked*, or *contrastive*, uses. It is always the supra term that is unmarked in constructions with measure phrases, questions with *how*, equatives and correlative degree constructions with *enough* (see examples (3)–(6) above). In all these cases, *tall* does not mean that the dimensions of its referents exceed some expected average; *tall* in the unmarked sense merely names the scale on which the measurement is taken (height rather than length, depth, etc.).

Sub terms used in these constructions are always marked. Witness (12)–(15):

- (12) She is **five feet short**, and has long dark hair with blonde highlights.
(<http://member.wayn.com/KailasMummie>)
- (13) Jackie is short. He’s so short you can see his feet on his driver’s license. **How short** is he? That boy is short as hell. (<http://www.darkhorizons.com/news10>)
- (14) But then Stuart meets a little girl who is fully human but every bit **as short as Stuart**, and his heart is lost to her. (BNC)
- (15) I thought with this hat this dress was **short enough**. (BNC)

The sentences in (12)–(15) not only say something about the vertical extent of the referents from the zero point, they also imply that the subjects were indeed short vis-à-vis some expected (average) value.

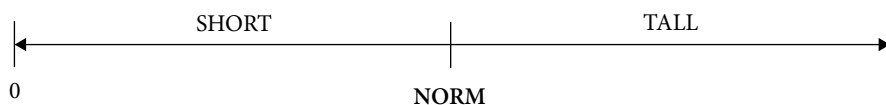


Figure 1. Subscales of tallness and shortness

The question that arises in this respect is why only supras are unmarked in the constructions listed above, whereas their sub counterparts are always used contrastively. I would like to argue that this asymmetry is motivated by the reference-point status of the zero. Notice that supra terms denote subscales extending from the norm in the middle of the scale towards the maximum endpoint (or infinity), as shown in Figure 1. In contrast, sub terms denote subscales extending from the norm in the direction of the zero.

Now observe that the general scale of height starts at the zero point and goes in the direction of the maximum endpoint. Thus, the direction of the general scale coincides with the direction of the *tall* subscale and is counter to the direction of the *short* subscale. It follows that *short* and other sub terms cannot be used in the unmarked sense (i.e. refer to the whole scale) because the direction of their subscale is counter-directional to the whole scale.

3.2.3 Motivation of the boundedness asymmetry

In this section, we turn to another type of asymmetry between the members of the antonymous pair – asymmetry in their abilities to combine with degree modifiers. I will argue that this type of asymmetry is also motivated by the reference-point status of the zero.

It is widely assumed that relative adjectives, such as *tall*, *good* and *fast*, are unbounded terms, *viz.* they trigger open scales that have no endpoints. A major argument used in favor of this view is that relative adjectives are incompatible with maximizing adverbs, such as *completely* and *absolutely* (*#completely tall*, *#absolutely low*). Indeed, this observation holds for English (Kennedy & McNally 2005; Paradis 1997), Dutch (Klein 1997), Swedish (Paradis & Willners 2006) and probably a number of other languages (e.g. Catalan, Spanish). However, there are a lot of languages that *do* allow modification of relative adjectives by maximizers. For instance, according to my informants, relative adjectives in Hungarian, Greek and French can be combined with maximizing adverbs (e.g. Hung. *teljesen hosszú* ‘completely long’; Grk. *τελείως χαμηλός* ‘completely low’; Fr. *tout petit* ‘entirely small’). In a similar fashion, Cantonese relative adjectives are felicitous in combination with a maximizing particle meaning that the highest possible degree of the property has been reached (Wong 2007). Further, relative adjectives in Slavic languages are perfectly acceptable with maximizing adverbs meaning ‘completely, entirely’.

Let us take Russian relative adjectives as an example. As shown by Apresjan (1974), Červenková (1974) and Vorotnikov (2000), Russian sub terms can be combined with

the maximizing adverbs *sovsem* ‘completely’, *soveršenno* ‘perfectly’ and *absolutno* ‘absolutely’ (e.g. *sovsem korotkij* ‘completely short’, *absolutno nizkij* ‘absolutely low’, *soveršenno glupyj* ‘perfectly stupid’). See also examples (16)–(18) from the Russian National Corpus (RNC).

- (16) *Da i topor na čerdake vysoko ne zaneses’,*
 PCL and axe on attic high NEG raise
potomu što kryša sovsem nizkaja.
 because roof completely low (RNC)
 ‘Moreover, you cannot raise your axe high enough in the attic, because the roof is extremely low.’
- (17) *Da i, nakonec, sam-to on razve takaja*
 PCL and finally self.PCL he PCL such
važnaja ptica –dela ego soveršenno ploxi. (RNC)
 important bird affairs his perfectly bad
 ‘And, after all, he is not a big shot himself. His own life can’t be worse.’
- (18) *A lišat’ ljudej informacii v sovremennyx*
 PCL deprive people information in modern
uslovijax– delo absolutno glupoe.
 conditions affair absolutely stupid (RNC)
 ‘But depriving people of information nowadays is absolutely stupid.’

In contrast to subs, supra terms are by default incompatible with maximizers in Russian (e.g. #*sovsem vysokij* ‘completely high’; #*soveršenno xorošij* ‘perfectly good’; #*absolutno umnyj* ‘absolutely clever’). For this reason, Apresjan (1974) and Červenková (1974) call supra terms *unbounded* and subs *bounded* adjectives, in the sense that subscales triggered by supras have no endpoint, whereas subscales of sub terms have a maximum endpoint at which the degree of the property reaches its highest value. The same type of asymmetry is observed in other Slavic languages (e.g. Bulgarian, Czech, Polish). Also in Greek, subs are compatible with maximizers, whereas supras are infelicitous with maximality adverbs (e.g. *τελείως κοντός* ‘completely short’ vs. #*τελείως μακρός* ‘completely long’; *τελείως χαμηλός* ‘completely low’ vs. #*τελείως ψηλός* ‘completely high’; *τελείως φτωχός* ‘completely poor’ vs. #*τελείως πλούσιος* ‘completely rich’).

I would like to suggest that the boundedness asymmetry in the domain of relative adjectives in general and dimensional adjectives in particular is conceptually motivated by the reference-point status of the zero. The fact that there is a salient reference plane in the proximity of the lower boundary and no salient reference plane in the vicinity of the upper boundary renders the maximum value associated with sub terms more prominent than the maximum value of supras. In the case of dimensional adjectives denoting vertical size, the zero plane (ground, floor) is not only conceptually, but also perceptually salient. Therefore, in languages where dimensional adjectives can take maximizing degree adverbs, only subs, but not supras, tend to be felicitous with

maximizers. Even in languages such as Hungarian, where both sub and supra terms may be combined with maximizers (e.g. *teljesen hosszú* ‘completely long’, *teljesen rövid* ‘completely short’), maximizing expressions with subs are much more frequent than maximizing expressions with supras (Anikó Lipták, p.c.).

To summarize, at least two kinds of asymmetry between adjectives constituting an antonymous pair – asymmetry qua markedness and asymmetry qua degree modification – seem to be motivated by the CRP status of the zero point.

3.3 EGO

Another reference point that deserves attention in the context of this paper is the human body, its dimensions and proportions. Following Clark (1973), this CRP type will be referred to as EGO. The semantic analysis presented in Section 3.1.3 has already shown that dimensional adjectives are sometimes interpreted vis-à-vis EGO; this is why a sentence such as *Giraffes are tall* is felicitous, whereas *People are tall* is odd. This section will demonstrate that EGO can also motivate the distribution of dimensional adjectives with head-nouns.

Several studies have shown that adjectives meaning ‘high’ are usually applied to entities that are taller than EGO. Goy (2002) has demonstrated this for Italian *alto* ‘high’, Vogel (2004) for Swedish *hög* ‘high/tall’ and Tribushinina (2008) for Russian *vysokij* ‘high/tall’ (see also Rakhilina 2000).

In using both elicited and non-elicited data, Tribushinina (2008) has also shown that EGO motivates the distribution of the Russian near-synonymous adjectives *nevysokij* ‘not.high’ vs. *nizkij* ‘low/short’. *Nevysokij* ‘not.high’ is usually employed when the vertical size of an entity is lower than expected for its comparison class (norm), but as tall as, or taller than, EGO. In contrast, *nizkij* ‘low/short’ tends to be used for objects whose vertical size is both below the norm for their comparison class and smaller than EGO (cf. Rakhilina 2000). Crucially, this finding bolsters the claim made in this paper that the norm is not the only CRP type relevant to dimensional adjectives. More than one reference point may be simultaneously involved in the interpretation of relative adjectives.

In a similar vein, Dirven and Taylor (1988) and Taylor (2003) argue that *tall* has human verticality as its reference point. Therefore, it is most frequently used with reference to human beings or entities having crucial properties of human-like verticality, such as prominence of the vertical dimension, dynamic conceptualization of vertical extent and standing out from the background. This makes vegetation and buildings good candidates for modification by *tall*. This claim was supported by the elicited data reported in Dirven and Taylor (1988) and the corpus studies analysing the use of *tall* in the Birmingham University Corpus (Dirven & Taylor 1988) and the LOB corpus (Taylor 2003).

The findings from Dirven and Taylor (1988) and Taylor (2003) are confirmed by the distribution of *tall* in the BNC. The frequencies of various referent categories of *tall* in the BNC are listed in Table 1. (Both positive and non-positive forms were taken into

Table 1. Referent categories of *tall* in the BNC

Referent categories	Examples	Tokens	%
Human beings	man, girl, woman	3,096	62.66
Vegetation	bush, grass, plant, tree	569	11.52
Constructions	bell-tower, building, house	477	9.65
Containers	bottle, box, glass	103	2.08
Animals	bull, dog, horse, rhinoceros	97	1.96
Furniture and appliances	bookcase, chair, stool	90	1.82
Openings	door, portal, window	83	1.68
Vehicles	car, caravan, ship	63	1.28
Eminences	cliff, hill, mountain	55	1.11
Supports	base, leg, stem	47	0.95
Enclosures	fence, gate, hedge	43	0.87
Clothing	hat, helmet, collar	38	0.77
Monuments	obelisk, sculpture, statue	26	0.53
Interior	apartment, gallery, room	22	0.45
Body parts	head, limb, thigh	10	0.2
Other	book, candle, cane	122	2.47

account.) The figures in the table show, in line with Dirven and Taylor (1988) and Taylor (2003), that the most frequent referent category of *tall* in the BNC are human beings. Other prominent referents are vegetation and constructions, i.e. objects that, like humans, stand out as *gestalts* from the background, have support on the ground and grow upwards either by a natural process (vegetation) or through human activity (buildings).

In sum, the reference-point status of EGO has several important implications for the semantics of dimensional adjectives denoting vertical size. Like the zero-point, EGO has been shown to motivate adjective-noun combinability and distribution of near-synonymous adjectives.

4. Conclusion

Reference-point reasoning is a ubiquitous cognitive phenomenon intrinsic to perception, categorization, spatial orientation, and social, organizational and marketing behavior of human beings, among other things. Nonetheless, we still know too little about *linguistic* aspects of the reference-point phenomenon. Even less is known about CRPs in lexical semantics.

Using a tiny piece of lexical landscape as a case study, this paper has demonstrated that there is a lot more to the reference-point aspects of word meaning than prototypes.

For one, adjectives of vertical size were shown to be anchored by such CRPs as a norm (average value), incidental landmarks, minimum and maximum values, a zero point and EGO.

What is more, these reference points proved to have important implications for the semantics and distribution of dimensional adjectives. For example, the cognitive salience of the zero point motivates two kinds of asymmetries between the adjectives constituting an antonymous pair. First, sub terms cannot be used in the unmarked sense because they trigger subscales running *towards* the zero point, rather than *from* it. Second, across languages, subs, but not supras, tend to be compatible with maximizing adverbs, which is probably due to the prominence of the zero plane.

Further, the scalar reference points discussed in this paper may motivate patterns of adjective-noun combinability. For instance, adjectives meaning 'high/tall' are commonly applied to entities that are as tall as, or taller than, EGO.

In a nutshell, the reference-point account allows us to ground semantic analysis in more general principles of human cognition and to pinpoint patterns of conceptual motivation of a word's functional properties. It will be a matter for future research to discover other types of reference points relevant to word meaning.

References

- Apresjan, Jurij D. 1974. *Leksičeskaja semantika: sinonimičeskie sredstva jazyka* [Lexical semantics: Synonymic means in language]. Moskva: Nauka.
- Barner, David and Jesse Snedeker. 2007. Compositionality and statistics in adjective acquisition: 4-year-olds interpret *tall* and *short* based on the size distributions of novel noun referents. In H. Caunt-Nulton, S. Kulatilake and I. Woo, eds. *Proceedings of the 31st Annual Boston University Conference on Language Development*, 81–92. Somerville, MA: Cascadilla Press.
- Bierwisch, Manfred. 1989. The semantics of gradation. In M. Bierwisch and E. Lang, eds. *Dimensional Adjectives: Grammatical Structure and Conceptual Interpretation*, 71–261. Berlin, etc.: Springer.
- Brône, Geert and Kurt Feyaerts. 2004. Assessing the SSTH and GTVH: A view from cognitive linguistics. *Humor* 17 (4): 361–372.
- Chen, Etta Y.I. and Lien-Ti Bei. 2005. The effects of price dispersion and suggested list price on consumers' internal reference price. *Consumer Interests Annual* 51: 160–170.
- Cienki, Alan. 1995. The semantics of possessive and spatial constructions in Russian and Bulgarian: A comparative analysis in Cognitive Grammar. *The Slavic and East European Journal* 39 (1): 73–114.
- Clark, Herbert H. 1973. Space, time, semantics, and the child. In T. E. Moore, ed. *Cognitive Development and the Acquisition of Language*, 27–63. New York/London: Academic Press.
- Coleman, Linda and Paul Kay. 1981. Prototype semantics: The English word *lie*. *Language* 57 (1): 26–44.
- Cornillie, Bert. 2005. On modal grounding, reference points, and subjectification. *Annual Review of Cognitive Linguistics* 3: 56–77.

- Croft, William and D. Alan Cruse. 2004. *Cognitive Linguistics*. Cambridge: Cambridge University Press.
- Cruse, D. Alan. 1986. *Lexical Semantics*. Cambridge: Cambridge University Press.
- Cuyckens, Hubert. 1984. Prototypes in lexical semantics: An evaluation. In H. Krenn, J. Niemeyer and U. Eberhardt, eds. *Sprache und Text*, 174–182. Tübingen: Max Niemeyer.
- Červenková, Irina. 1974. O pokazateljax mery priznaka: na materiale sovremennogo russkogo literaturnogo jazyka [On the quantitative determiners for quality: on the basis of the contemporary Russian literary language]. *Annuaire de L'université de Sofia, Faculté des Philologies Slaves, Problèmes de la linguistique Russe* 68 (1): 7–108.
- Dehaene, Stanislas and Jacques Mehler. 1992. Cross-linguistic regularities in the frequency of number words. *Cognition* 43: 1–29.
- Dirven, René and John R. Taylor. 1988. The conceptualisation of vertical space in English: The case of *tall*. In B. Rudzka-Ostyn, ed. *Topics in Cognitive Linguistics*, 379–402. Amsterdam/Philadelphia: John Benjamins.
- Holyoak, Keith J. and Peter C. Gordon. 1983. Social reference points. *Journal of Personality and Social Psychology* 44 (5): 881–887.
- Geeraerts, Dirk. 1997. *Diachronic Prototype Semantics: A Contribution to Historical Linguistics*. Oxford: Clarendon Press.
- Goy, Anna. 2002. Grounding meaning in visual knowledge. In K. R. Coventry and P. Oliver, eds. *Spatial Language: Cognitive and Computation Perspectives*, 121–145. Dordrecht, etc.: Kluwer Academic.
- Janssen, Theo A. J. M. 2003. Monosemy versus polysemy. In H. Cuyckens, R. Dirven and J. Taylor, eds. *Cognitive Approaches to Lexical Semantics*, 93–122. Berlin: Mouton de Gruyter.
- Kahneman, Daniel and Amos Tversky. 1979. Prospect theory: An analysis of decision under risk. *Econometrica* 47: 263–291.
- Kamp, Hans and Barbara Partee. 1995. Prototype theory and compositionality. *Cognition* 57: 129–191.
- Kelly, Michael H., J. Kathryn Bock and Frank C. Keil. 1986. Prototypicality in a linguistic context: Effects on sentence structure. *Journal of Memory and Language* 25: 59–74.
- Kennedy, Christopher and Louise McNally. 2005. Scale structure, degree modification, and the semantics of gradable predicates. *Language* 81: 345–381.
- Klein, Henny. 1997. *Adverbs of Degree in Dutch*. [Groningen Dissertations in Linguistics 21] Groningen: University of Groningen.
- Kuczaj, Stan A. 1982. Young children's overextensions of object words in comprehension and/or production: Support for a prototype theory of early object word meaning. *First Language* 3 (8): 93–105.
- Langacker, Ronald W. 1991. *Foundations of Cognitive Grammar*. Vol. II. *Descriptive Application*. Stanford: Stanford University Press.
- Langacker, Ronald W. 1993. Reference-point constructions. *Cognitive Linguistics* 4 (1): 1–38.
- Lyons, John. 1977. *Semantics*. Vol. 1. Cambridge: Cambridge University Press.
- McFarland, Cathy and Dale T. Miller. 1990. Judgments of self-other similarity: Just like other people, only more so. *Personality and Social Psychology Bulletin* 16 (3): 475–484.
- Mervis, Carolyn B., Jack Catlin and Eleanor Rosch. 1975. Development of the structure of color categories. *Developmental Psychology* 11 (1): 54–60.
- Pander Maat, Henk. 2006. Subjectification in gradable adjectives. In A. Athanasiadou, C. Canakis and B. Cornillie, eds. *Subjectification: Various Paths to Subjectivity*, 279–322. Berlin/New York: Mouton de Gruyter.

- Paradis, Carita. 1997. *Degree Modifiers of Adjectives in Spoken British English*. [Lund Studies in English 92]. Lund: Lund University Press.
- Paradis, Carita and Caroline Willners. 2006. Antonymy and negation: The boundedness hypothesis. *Journal of Pragmatics* 38 (7): 1051–1080.
- Pollmann, Thijs and Carel Jansen. 1996. The language user as an arithmetician. *Cognition* 59: 219–237.
- Radden, Günter and Klaus-Uwe Panther, eds. 2004. *Studies in Linguistic Motivation*. Berlin: Mouton de Gruyter.
- Rakhilina, Ekaterina V. 2000. *Kognitivnyj analiz predmetnyx imen: semantika i sočetaemost'* [A cognitive analysis of common nouns: Semantics and combinability]. Moskva: Russkie slovari.
- Rosch Heider, Eleanor. 1971. "Focal" color areas and the development of color names. *Developmental Psychology* 4 (3): 447–455.
- Rosch Heider, Eleanor. 1972. Universals in color naming and memory. *Journal of Experimental Psychology* 93 (1): 10–20.
- Rosch, Eleanor. 1973. Natural categories. *Cognitive Psychology* 4: 328–350.
- Rosch, Eleanor. 1975. Cognitive reference points. *Cognitive Psychology* 7: 532–547.
- Rosch Heider, Eleanor and Donald C. Olivier. 1972. The structure of the color space in naming and memory for two languages. *Cognitive Psychology* 3: 337–354.
- Sigurd, Bengt. 1988. Round numbers. *Language in Society* 17: 243–252.
- Smith, Michael B. 2006. Reference point constructions, the underspecification of meaning, and the conceptual structure of Palauan *er*. *Oceanic Linguistics* 45 (1): 1–20.
- Suzuki, Takao. 1970. An essay on the anthropomorphic norm. In R. Jakobson and S. Kawamoto, eds. *Studies in General and Oriental Linguistics*, 552–556. Tokyo: TEC.
- Šarić, Ljiljana. 2006. On the meaning and prototype of the preposition *pri* and the locative case: A comparative study of Slavic usage with emphasis on Croatian. *Rasprave Instituta za hrvatski jezik i jezikoslovlje* 32: 225–248.
- Taylor, John R. 2003. Near synonyms as co-extensive categories: 'High' and 'tall' revisited. *Language Sciences* 25 (3): 263–284.
- Thomas, M. and Menon, G. 2007. When internal reference prices and price expectations diverge: The role of confidence. *Journal of Marketing Research* 44(3): 401–409.
- Tribushinina, Elena. 2006. *Absolute and Relative Adjectives* [MPhil dissertation]. Vrije Universiteit Amsterdam: Department of Linguistics.
- Tribushinina, Elena. 2008. EGO as a cognitive reference point: The case of *nevysokij* and *nizkij*. *Russian Linguistics* 32 (3): 159–183.
- Tversky, Amos. 1977. Features of similarity. *Psychological Review* 84: 327–352.
- Tversky, Amos and Itamar Gati. 1978. Studies of similarity. In E. Rosch and B. B. Lloyd, eds. *Cognition and Categorization*, 79–98. Hillsdale: Lawrence Erlbaum.
- Van der Zee, Emile. 2007. Reference frames and reference points in spatial language. Paper presented at the Fifth International Conference on Engaged Research in Organisation and Management, University of Lincoln, 29 March 2007.
- Van der Zee, Emile et al. 2007. Reference frames and reference points in spatial language. Paper presented at the First Conference of the Swedish Association for Language and Cognition, Lund, November 29 – December 1, 2007.
- Van Hoek, Karen. 1997. *Anaphora and Conceptual Structure*. Chicago/London: University of Chicago Press.
- Vogel, Anna. 2004. *Swedish Dimensional Adjectives*. Stockholm: Almqvist and Wiksell International.

- Vorotnikov, Jurij L. 2000. Bezotnositel'nye stepeni kačestva v russkom jazyke [Absolute degrees of a property in Russian]. *Izvestija AN. Serija literatury i jazyka* 59 (1): 36–43.
- Wertheimer, Max. 1938. Numbers and numerical concepts in primitive peoples. In W. D. Ellis, ed. *A Source Book of Gestalt Psychology*, 265–273. New York: Hartcut.
- Wierzbicka, Anna. 1996. *Semantics: Primes and Universals*. New York: Oxford University Press.
- Willemse, Peter. 2006. Esphoric *the N of a(n) N*-nominals: Forward bridging to an indefinite reference point. *Folia Linguistica* 40 (3/4): 319–364.
- Wong, Leo N.F. 2007. Structuring of event by postverbal particles in Cantonese. Presentation for the LUCL PhD Discussion Group, Leiden, 30 October 2007.

Metonymy, metaphor and the “weekend frame of mind”

Towards motivating the micro-variation in the use of one type of metonymy

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A series of corpus-based case studies on the availability of metonymically used proper names in the language of media, where the name of a capital is used to refer indirectly to the government, shows that this particular type of metonymy is available in Hungarian and Croatian but underused in comparison with English and German. The picture is all the more puzzling because the distribution of metonymies is very uneven in Hungarian and Croatian – some texts exhibiting hardly any such metonymies while they abound in some other texts. When examined along the temporal dimension, the data reveal a cyclic variation in the availability of these metonymies, with productivity regularly peaking at the weekend. These contrasts appear to be ultimately motivated by the workings of a cultural model whose essential ingredient is a correlation obtaining between two very general conceptual metaphors: TIME IS SPACE and SOCIAL AND MENTAL WORLD IS PHYSICAL WORLD.

Keywords: cross-linguistic comparison, cultural model, referential metonymy, variation

1. Introduction

Proper names have always been of great interest to almost anyone concerned with language. A whole range of philosophical and linguistic issues have been raised and various proposals and/or claims put forward. In the more linguistically-minded contributions dealing with one or the other aspect of proper names (such as Lehrer 1999; Anderson 2003, 2004; Barcelona 2003, 2004; Kleiber 2004) we find that discussions of the grammatical structure and behavior of proper names are intertwined with thoughts on their reference. In this paper we are concerned with metonymic uses of

one type of proper names, i.e. with the use of names of capitals in the CAPITAL FOR GOVERNMENT metonymy. This type of metonymy counts as a stock example of referential metonymy (cf. Lakoff & Johnson 1980 and Radden & Kövecses 1999 for this type of metonymy, and Panther and Thornburg 1999: 335–336 for their pragmatic typology of metonymies).

Recent cross-linguistic studies on metonymy have indicated that the availability of various types of referential metonymies is limited in various languages, although they seem to be subject to less severe constraints than predicational ones. A series of corpus-based case studies on the availability of metonymically used proper names in the language of media where the name of a capital is used to refer indirectly to the government, such as in (1), shows that this particular type of metonymy is available in Hungarian and Croatian, but underused in comparison with English and German, where it is ubiquitous (cf. Brdar-Szabó & Brdar 2003; Milić & Vidaković 2007).

- (1) a. *Beijing* was outraged, and it looked like *Washington* had done it on purpose.
- b. Russian President Vladimir Putin's top foreign policy adviser yesterday expressed optimism that *Moscow* and *Washington* could resolve their differences over a post-war settlement in Iraq by early next month.
- c. *Berlin* has long argued that it is unfair to eliminate safeguards such as poison pills if countries can retain multiple voting rights.
- d. They were less keen to talk about the US-inspired caveat that any increased threats by *Pyongyang* would “require consideration of further steps” – code for military action or, more likely, sanctions, both of which *Seoul* opposes.

A search for the motivation of these cross-linguistic differences is far from easy, as a number of factors seem to be at work here, some of which are interrelated in more or less complex ways (cf. Radden & Panther 2004 for an overview of what constitutes motivation in linguistics and in particular in cognitive linguistics). The task is all the more complicated by the fact that we apparently do not have to do with a “flat” sort of cross-linguistic variation, i.e. with a simple case of differences obtaining across the board and producing average distributions in the sense that any segment of a set of empirical data (i.e. any section of a corpus of media discourse) would exhibit the same statistical likelihood for the presence or absence of the phenomenon in question. Instead, there seem to obtain differences in the availability of the metonymy under study between certain subsections of our corpora.

Our goal in this paper is, first, to try to identify some dimensions along which variation in the use of the CAPITAL FOR GOVERNMENT metonymy occurs in Croatian and Hungarian, in particular concentrating on micro-variation in time, and secondly, to suggest a possible motivation for the observed patterns of variation. We will argue that a conceptual metaphor is the central element in a cultural model which provides cognitive motivation for the temporal micro-variation in the use of the CAPITAL FOR

GOVERNMENT metonymy. Further, we will demonstrate that the workings of this metaphor can be observed on two levels, on the one hand, as a fairly direct form of motivation, and, on the other hand, also as mediated through an interplay of the structural properties of the medium of newspapers and the structural givens of the whole linguistic system involved.

The structure of the paper is as follows. In Section 2 we start from overall differences in the use of the CAPITAL FOR GOVERNMENT metonymy in English, German, Croatian and Hungarian, and then look at the internal variation in the Croatian and Hungarian subcorpora, focusing on a cyclic type of micro-variation over time. In Section 3.1 we discuss the conceptual metaphor PROXIMITY/DISTANCE IN TIME AND MENTAL WORLD IS THE PROXIMITY/DISTANCE IN THE SOCIOPHYSICAL WORLD as an essential ingredient of the cultural model providing the more or less direct cognitive motivation for the micro-variation. In Section 3.2 we link this micro-variation with some structural aspects of media discourse, on the one hand, and with some structural properties of Croatian and Hungarian, on the other. Finally, in Section 4 we present our conclusions.

2. Cross-linguistic and intra-linguistic variation in the use of the CAPITAL FOR GOVERNMENT metonymies

Several previous studies have documented cross-linguistic differences in the use of the CAPITAL FOR GOVERNMENT metonymy in the language of media (cf. Brdar-Szabó 2002; Brdar-Szabó & Brdar 2003; Tomka 2003). Brdar (2007a) compares the use of this type of metonymy in international hot news in selected English, German, Croatian and Hungarian daily newspapers (cf. Table 1). The texts in the four subcorpora were news articles (but not leaders or commentaries) from foreign/international sections of daily newspapers with national circulation. In order to make the four subcorpora roughly comparable in terms of reference, we decided to sample articles on seven randomly chosen weekdays between September 2001 and November 2006, which we believe should ensure that there is a high degree of overlap concerning the events reported.

The data are presented in the table in both the absolute form (in terms of types and tokens), as well as in a normalized form (giving the frequency of tokens normalized to the standard basis per 1,000 words). This procedure makes it possible to offset any relative differences in the number of articles and their relative length across papers and languages.

The difference in these numbers between English and German is not so conspicuous, but it is nevertheless not unimportant. On the other hand, both Croatian and Hungarian, while close to each other in terms of the frequency of metonymies in question and the number of tokens, are well below what could be considered the average value. Some of the constraints – and thus some of the unevenness in the distribution – have been shown to be pragmatic and grammatical in nature (cf. Brdar-Szabó &

Table 1. The use of the CAPITAL FOR GOVERNMENT metonymy in international news in English, German, Croatian and Hungarian dailies (in seven issues on random days between September 2001 and November 2006)

<i>Language</i>	<i>Papers</i>	<i>Subcorpus size (number of words)</i>	<i>CAPITAL FOR GOVERNMENT metonymy</i>		
			<i>In absolute numbers</i>	<i>Number of tokens per 1,000 words</i>	<i>Types</i>
<i>English</i>	1. Financial Times	57,606	163	2.82	26
	2. Guardian				
<i>German</i>	1. Frankfurter Allgemeine Zeitung	62,560	166	2.65	24
	2. Süddeutsche Zeitung				
<i>Croatian</i>	1. Vjesnik	38,380	71	1.85	16
	2. Večernji list				
<i>Hungarian</i>	1. Népszabadság	47,278	84	1.77	18
	2. Magyar Nemzet				
	<i>Total</i>	205,824	484	2.35	

Brdar 2003; Brdar 2007a,b), but there is a considerable residue of such cross-linguistic and intra-linguistic contrasts that has gone undiscussed and unexplained so far, and which seems to suggest that we might be dealing with a phenomenon calling for a (cognitive) sociolinguistic approach (cf. Janicki 2006, as well D. Geeraerts interviewed by Marín-Arrese 2007).

The picture is all the more puzzling because the distribution of metonymies in question is very uneven in Hungarian and Croatian. There are hardly any such metonymies in some texts, while they abound in some other texts. Such extreme deviations are, on the other hand, absent in our English and German data. It appears that there is some sort of cyclic oscillation or temporal variation in the productivity of this type of metonymies in newspaper texts on some days.

In order to check whether there is any regularity in this variation, we decided to take a closer look at the distribution of this type of metonymies in the international news sections of one Croatian and one Hungarian newspaper, and study how the productivity varies from day to day within 10 randomly selected weeks between May 2007 and July 2008. The size of the two corpora was 188,962 words for Croatian, and 193,829 words for Hungarian.

We provide some of the representative examples for Croatian in (3), and in (4) for Hungarian:

- (3) a. *Teme poput Kosova, gdje se stavovi*
 topics like Kosovo where REFL positions
Moskve i Bruxellesa razilaze...
 MOSCOW-GEN and BRUXELLES-GEN depart
 ‘Topics like Kosovo, where the positions of Moscow and Bruxelles depart’
 (Vjesnik, May 19, 2008)
- b. *Cilj je obustaviti borbe između*
 goal is stop fights between
snaga pod kontrolom Khartouma,
 forces under control Khartoum
etničkih milicija i pobunjenika u Darfuru.
 ethnic militia and rebels in Darfur
 ‘The goal is to stop the fights between the forces controlled by Khartoum,
 ethnic militia and the rebels in Darfur’ (Vjesnik, March 9, 2007)
- (4) a. *Berlin ezen túlmenően diplomáciai*
 Berlin this-on surpassing diplomatic
nehézségekkel is szemben találja magát.
 difficulties-with too in-front-of finds itself
 ‘In addition to this, Berlin also faces diplomatic difficulties’
 (Magyar Nemzet, July 24, 2008)
- b. *Peking tiltakozott a tervezett utazás ellen*
 Beijing protested DEF planned travel against
 ‘Beijing protested the planned travel’ (Magyar Nemzet, April 17, 2008)

Noting the rhythm of relative peaks and downs, we assumed that we are dealing with weekly cycles in productivity, with relative peaks centering around Fridays, and most downs in the middle of the week, i.e. on Tuesdays or Wednesdays. Our findings for Croatian are presented in Table 2 and Figure 1, and in Table 3 and Figure 2 for Hungarian.

The first figure in each cell is the absolute number of metonymic uses of names of capitals to refer to governments (tokens). The second figure is the number of words in the international hot news section in a particular issue of the newspaper in question. The figure in the third row in each cell is the number of metonymic tokens in a normalized form (normalized to the standard basis per 1,000 words) to offset the differences in the number of words between individual issues.

As is quite clear from the tables and figures above, our starting assumption concerning the cyclic variation is apparently confirmed. A discussion of the significance of these findings as well as a possible motivation follow in Parts 3.1 and 3.2 below.

Table 2. The use of CAPITAL FOR GOVERNMENT metonymies in the Croatian corpus, broken down by weeks and days

Day Week	Mon	Tue	Wed	Thu	Fri	Sat
2007	8	11	3	2	5	9
02/05–10	2,587	3,894	3,653	2,610	3,740	2,620
	3.092	2.824	0.821	0.383	1.336	3.435
2007	5	9	14	5	1	4
02/12–17	2,599	3,136	3,255	2,507	2,242	2,467
	1.923	3.484	4.301	1.302	0.446	1.621
2007	8	5	6	4	7	6
03/05–10	4,129	3,365	3,507	2,218	2,380	3,367
	1.559	1.485	1.710	1.803	2.941	1.782
2007	8	7	12	5	7	7
03/12–17	3,200	2,318	3,999	1,136	1,272	2,307
	2.500	3.019	3.000	4.401	5.503	3.034
2007	4	6	3	0	3	2
04/16–21	2,022	3,578	2,677	888	2,494	2,384
	1.978	1.676	1.120		1.202	0.838
2007	3	2	1	0	12	2
05/07–12	3,633	3,230	2,381	3,232	3,109	2,176
	0.825	0.619	0.419		3.859	0.919
2007	8	9	0	7	5	3
05/14–19	3,463	3,779	1,319	3,739	2,430	2,635
	2.310	2.910		1.872	2.057	1.138
2008	6	6	10	15	8	16
02/25–03/01	3,466	2,837	2,747	7,091	2,505	5,924
	1.731	2.114	3.640	2.115	3.193	2.700
2008	3	6	5	11	6	37
03/03–08	2,720	2,276	1,833	6,098	2,938	8,271
	1.102	2.636	2.727	1.803	2.042	4.473
2008	7	5	1	4	6	1
07/21–26	3,047	3,009	2,848	1,929	3,028	2,316
	2.297	1.661	0.351	2.073	1.981	0.431
Number of metonymies	59	59	40	53	62	87
Number of words	30,886	33,064	29,219	31,448	29,878	34,467
Number of metonymies per 1,000 words	1.910	1.784	1.368	1.685	2.075	2.524

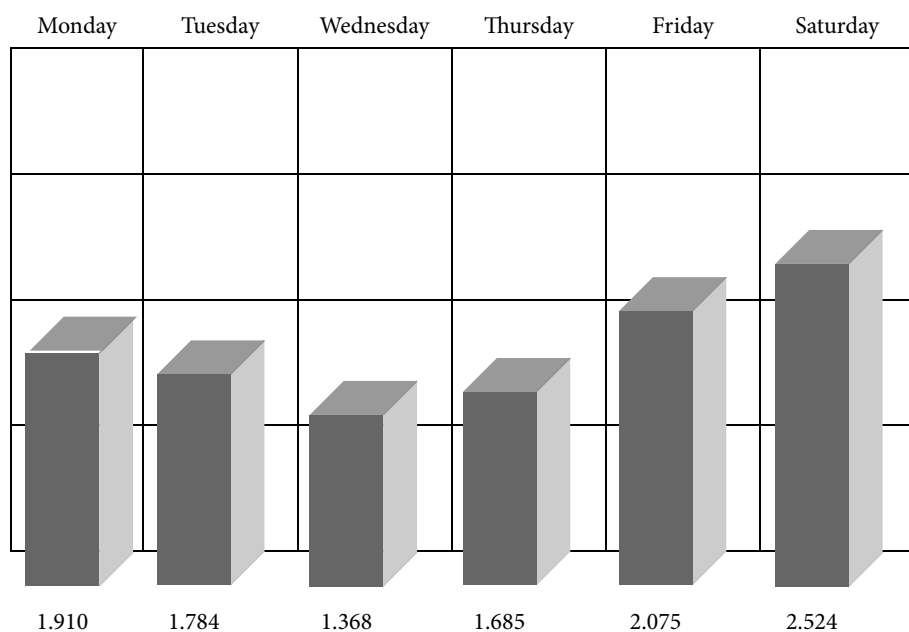


Figure 1. The use of CAPITAL FOR GOVERNMENT metonymies in the Croatian corpus, broken down by days

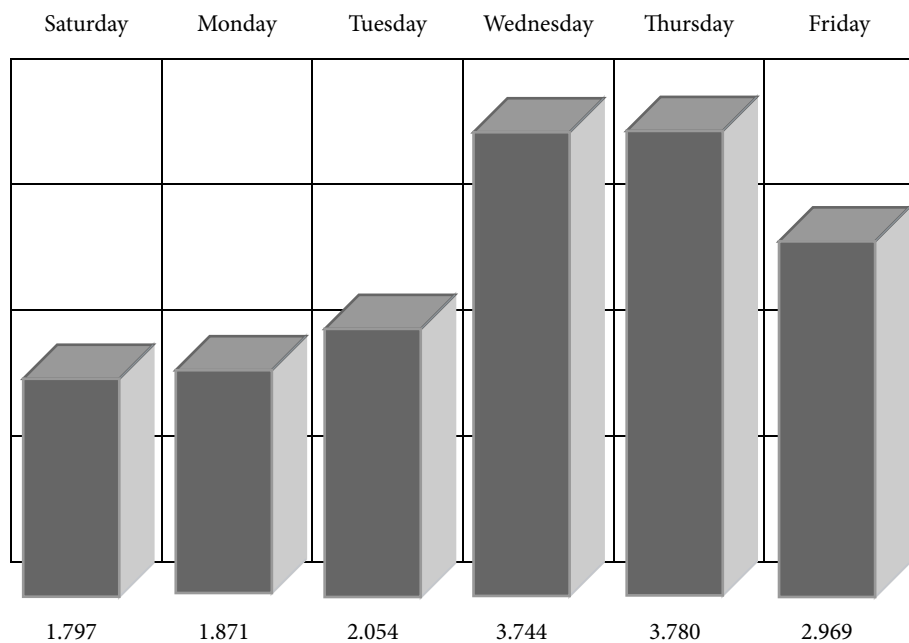


Figure 2. The use of CAPITAL FOR GOVERNMENT metonymies in the Hungarian corpus, broken down by days

Table 3. The use of CAPITAL FOR GOVERNMENT metonymies in the Hungarian corpus, broken down by weeks and days

Week \ Day	Mon	Tue	Wed	Thu	Fri	Sat
2007	10	3	4	8	16	19
02/05–10	4,319	3,585	1,973	3,478	4,904	2,887
	2.315	0.836	2.027	2.300	3.262	6.581
2007	10	13	12	18	5	12
02/12–17	4,538	3,820	3,010	1,983	1,719	4,226
	2.203	3.403	3.986	9.077	2.908	2.839
2007	3	9	2	9	15	10
03/19–24	3,350	3,286	2,922	2,281	3,262	3,654
	0.895	2.738	0.684	2.052	4.598	2.736
2007	9	2	8	8	16	6
03/26–31	4,073	3,077	2,988	2,861	2,710	3,154
	2.209	0.649	2.677	2.796	5.904	1.902
2007	2	2	2	13	12	13
04/16–21	3,633	4,217	2,787	3,097	4,014	4,540
	0.550	0.474	0.717	4.197	2.989	2.863
2007	8	9	9	12	4	4
05/14–19	3,630	4,063	3,061	3,092	3,533	3,219
	2.203	2.215	2.940	3.880	1.132	1.242
2007	7	6	1	12	7	19
06/05–10	3,980	3,617	2,988	3,398	3,272	3,790
	1.758	1.658	0.334	3.531	2.139	5.013
2008	3	8	2	13	21	–
03/10–16	2,683	3,253	2,871	2,209	2,655	
	1.118	2.459	0.696	5.885	7.909	
2008	1	6	8	4	18	5
04/14–19	2,460	3,387	3,167	2,634	3,229	2,328
	0.406	1.543	2.526	1.515	5.574	2.147
2008	11	9	11	19	10	1
07/21–26	2,935	2,492	3,588	3,209	4,563	3,230
	3.747	3.617	3.065	5.920	2.191	0.309
Number of metonymies	64	67	59	108	128	89
Number of words	35,601	35,791	28,714	28,842	33,861	31,020
Number of metonymies per 1,000 words	1.797	1.871	2.054	3.744	3.780	2.869

3. Motivation for the micro-variation of the CAPITAL FOR GOVERNMENT metonymies in Croatian and Hungarian

To the best of our knowledge, the only other published cognitive linguistic study discussing a similar case of micro-variation in time is Boers (1999), an ingeniously devised corpus-based study of seasonal variation in the frequency of the use of HEALTH metaphors in the editorials of *The Economist* over a ten-year period. The fact that frequencies clearly peak from December to March, the time period in which people are more concerned with health because they have more problems with their health then, nicely shows how literally embodied our everyday metaphors are. However, in our case, the micro-variation in time that we observed cannot be motivated in such a direct and effective manner.

3.1 Conceptual motivation: the role of the cultural model and the metaphor PROXIMITY/DISTANCE IN TIME AND MENTAL WORLD IS THE PROXIMITY/DISTANCE IN THE SOCIOPHYSICAL WORLD

We would like to submit that some contrasts in the availability of the CAPITAL FOR GOVERNMENT metonymies can be ultimately motivated by the workings of a cultural model whose essential ingredient is a very general conceptual metaphor: PROXIMITY/DISTANCE IN TIME AND MENTAL WORLD IS THE PROXIMITY/DISTANCE IN THE SOCIOPHYSICAL WORLD. What we witness here is a correlation of two metaphoric processes. We start from the following conceptual metaphors:

1. TIME IS SPACE (and more specifically, PROXIMITY/DISTANCE IN TIME IS PROXIMITY/DISTANCE IN SPACE), and
2. SOCIAL AND MENTAL WORLD IS PHYSICAL WORLD (and more specifically, PROXIMITY/DISTANCE IN THE SOCIAL AND MENTAL WORLD IS PROXIMITY/DISTANCE IN SPACE (IN THE PHYSICAL WORLD)).

The entailment of the two metaphors being used in combination is:

PROXIMITY/DISTANCE IN THE SOCIOPHYSICAL AND MENTAL WORLD IS PROXIMITY/DISTANCE IN TIME.

What we mean in this paper by the expression “the weekend frame of mind” boils down to two related phenomena. On the one hand, we suppose that journalists are by the end of the week prone to assume a more holistic perspective, giving them more distance in their view of the week’s events, particularly if they are writing about some events introduced earlier in the week. On the other hand, pragmatic factors such as perspective and the degree of the empathy and respect or their detachment that journalists feel (and, of course, their readership if they adopt the perspective suggested in the paper) towards the political authority in question seem to play an important role.

We surmise that the viability of CAPITAL FOR GOVERNMENT metonymies is diminished in Hungarian and Croatian news due to journalists' subconscious deference towards authorities and traditional reluctance to breach the "safe distance" in real time reporting. However, just before, or at the beginning of weekends, this distance is increased as journalists relax and anticipate their time off duty (as the newspapers in question do not have Sunday editions), projecting themselves mentally into an off-real-time state with more distance from events and entities involved than they otherwise have in covering them in almost real time.

Some tentative conclusions may be drawn about the intercultural differences concerning the work-week structure imposed by the cultural models current in the Croatian and Hungarian general and/or journalist community, respectively. Note that the availability of the metonymies in question steadily rises in Hungarian from Monday to Friday. In contrast, in Croatian we have a rising tendency starting midweek, on Wednesday and continuing until Saturday, which is followed by a gradual drop ending on Tuesday, where a new cycle starts. Thus, while the weekend is relatively sharply distinguished from the rest of the week in our Hungarian corpus, though the "week-end frame of mind" apparently also includes Thursday but not Monday, the Croatian corpus seems to justify our claim that here we have to do with a cultural model of an extended weekend, in which Monday, perhaps even Tuesday, is included.

Note that the same distance metaphor motivates some other unexpected constraints on the use of the metonymy type in question. If the CAPITAL FOR GOVERNMENT metonymy is in principle available, although its overall distribution in texts may be lower in some languages, as we have just shown, we might expect, at least in principle, that any capital should be a viable metonymic source. This is of course just theory, as governments, capitals and countries in question must be salient enough for the speakers of a given linguistic community. It is plain enough why Belmopan hardly stands any chance of being used metonymically in a Croatian or Hungarian news article for the government of Belize, or Bridgetown for the Barbados government, or Funafati being used to metonymically refer to the Tuvaluan government.

The picture that we get from the newspaper component (9 million words when the data in the Table 4 were retrieved in 2004) of the Croatian National Corpus largely conforms to the above expectation of uneven distribution.

Washington, Moscow and Baghdad clearly lead the list. But it appears that cultural saliency alone does not tell the whole story. The governments in Berlin, Paris, and London are all perceived in Croatia as important political players in Europe, but the number of metonymically used instances of Berlin lags behind Paris and London. Why should their distribution be as it is?

There are apparently many factors at play here, but in this contribution, we concentrate on just one among the whole set of prominent factors. It is our claim that the propensity for metonymies in question may again be constrained by the same culturally mediated conceptual metaphor discussed above. First of all, names of capitals are used metonymically only in certain types of articles, most of the time in news on

Table 4. Frequency and metonymic uses of capital names in the newspaper subcorpus of the Croatian National Corpus (retrieved in 2004)

Capital	Total	Metonymic uses	
	number of tokens	tokens	% of the total number of tokens
Berlin	257	5	1.94
Paris	764	20	2.61
Sarajevo	1,247	36	2.88
London	515	24	4.66
Beograd	982	90	9.16
Moskva	338	57	16.8
Washington	561	146	26.02
Bagdad	85	32	37.64

international affairs, i.e. in articles dealing with relationships between countries, then in business news, but relatively infrequently in news on domestic affairs. This last observation in fact squares with the observation that in some communities journalists are not so ready to use the name of the capital of their own country metonymically, while they often refer to other countries' governments in this way. What we presume to be playing an important role here, as pointed out above, are pragmatic factors such as perspective and the degree of empathy or detachment that the journalist feels towards the authority in question. What, on the other hand, underlies this way of marking the perspective and expression of empathy, i.e. what makes them possible, is in our opinion a variant of the distance metaphor: *EMOTIONAL DISTANCE IS DISTANCE IN PHYSICAL SPACE*.

The cultural viability of the *CAPITAL FOR GOVERNMENT* metonymy depends on the place of the political institutions in question on a metaphorical scale of closeness with respect to the deictic centre or ego. This deictic centre or the collective ego is the cultural and linguistic community, specifically journalists as the producers and readers as the addressees of news articles, taken together. Both friends and foes come very close to the ego.

Friends are close because the ego relies on them, foes are close because as antagonists they come close when they are engaged in combat. This explains why Washington and Baghdad occupy such prominent positions in Table 4. The status of Moscow is, however, more ambiguous. It is certainly not perceived as a friend, although it is not a foe. We might be tempted to reformulate the conceptual system of friends and foes by adding the concepts of global power brokers (held in high esteem), and global or local villains (held in low esteem). Global power brokers should of course also be handled with care and from a safe distance.

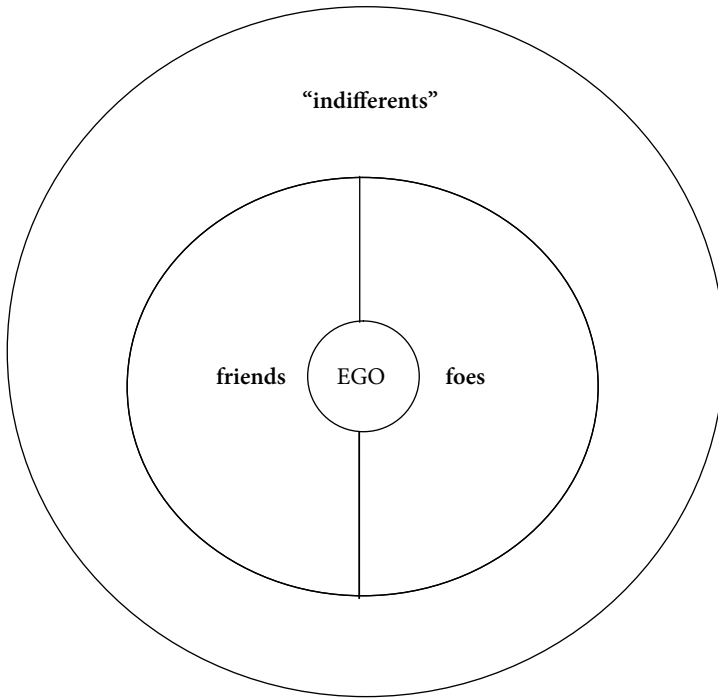


Figure 3. Metaphorical scale of (conceptual and emotional) closeness to the deictic centre or ego

This now might explain the status of Moscow, but we should still be puzzled about Berlin lagging behind Paris and London, because Germany is more readily perceived in Croatia as a friend than the UK or France. This seems to be borne out by the results of a recent opinion poll carried out by the GfK Centre for Market Research. According to this poll, Germany, Austria and Italy are the countries towards which Croatian citizens have the most positive attitude. Looking at the big powers, France fares best with its position in the middle, followed by Great Britain, and the USA, in that order, Russia lagging far behind. As for neighboring countries, Bosnia and Herzegovina comes in the middle, while in the case of Slovenia and Serbia and Montenegro negative attitudes outweigh positive ones, particularly so in the case of Serbia and Montenegro.

We hypothesize that friends on the scale come closer to the ego or the deictic centre than mere power brokers that are otherwise neutral. If we convert the revised scale implicit in Figure 1 into a flat linear representation, more in line with the idea of a graphic such as Figure 5 emerges.

If Figure 5 is correct, then the highest frequency of metonymic uses would be expected in the middle of the metaphoric scale of closeness, while it drops as we approach the extreme ends of the scale. We might then also predict that the community's own capital, as it is on the extreme end of the scale (in the deictic centre), should also be underused as metonymic source.

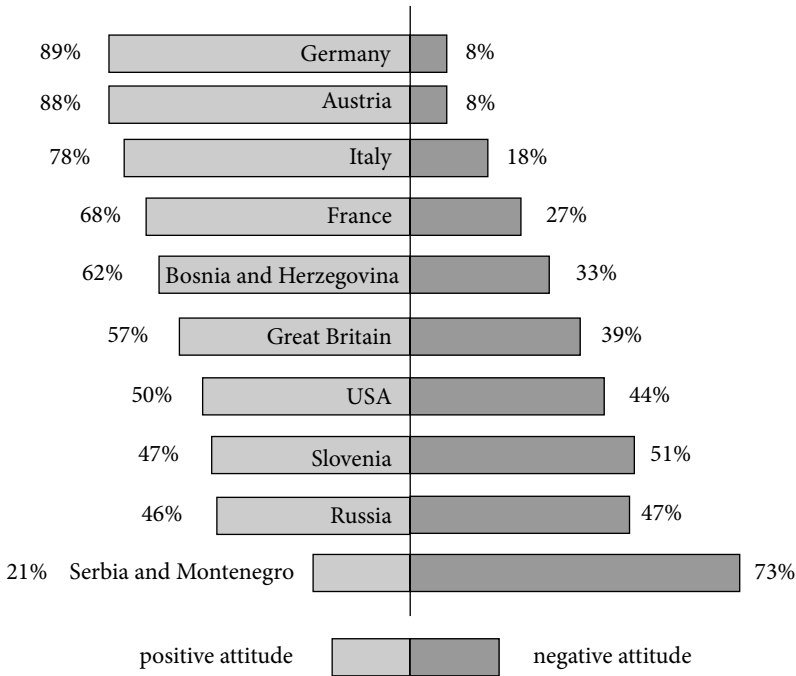


Figure 4. Metaphorical scale of (conceptual and emotional) closeness to the deictic center or ego

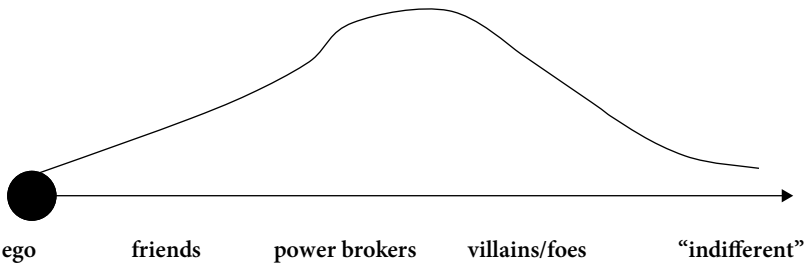


Figure 5. The distribution of metonymic references along the revised metaphorical scale of closeness

3.2 Structural and discourse-pragmatic motivation

A number of structural and discourse-pragmatic facts about the metonymies in question seem to corroborate the hypothesis formulated at the end of the preceding section. We first turn to the problem of metonymic topic-maintenance, and then to the relationship of metonymic chains and news text length.

3.2.1 *Metonymic topic-maintenance*

As we have shown elsewhere (Brdar-Szabó & Brdar 2003; Brdar 2007a,b), although Croatian and Hungarian, as pro-drop languages, can in general tolerate quite long stretches without any explicit topic-maintenance work, unlike English or German, which obligatorily require at least pronominals to fill the subject slot, metonymically used names of capitals that function as subjects may ultimately require explicit anaphorical reference, but even before that there may be need for some agreement features (number, person, gender) to appear on verbal elements.

An attempt to use anaphoric pronouns in pro-drop languages like Croatian or Hungarian in order to maintain such metonymic topics – the most marked or unnatural solution of the four we mention above – would yield odd results. For example, regardless of whether we choose a pronoun according to the gender of the capital, i.e. neuter *ono* ‘it’ for *Sarajevo*, or masculine *on* ‘he’ for *Berlin*, or *London*, or *Washington*, etc. or whether we choose the feminine pronoun *ona* ‘she’ compatible with the target, i.e. the feminine noun *vlada*, ‘government’, there seems to be a break in the topic continuity, because the switch from a double-barrelled topic seems to be too abrupt. Even with more straightforward referents, it is usually assumed that a pronoun in subject position is quite likely to introduce a new topic, or effect a backshift to one of the topics mentioned before the last one. With metonymic double-barrelled nouns, such a shift becomes intolerable. The same happens sooner or later in the case of elegant variation between capital and country names, as the nouns can be of different gender, too.

Hungarian, of course, has a rudimentary gender system, but nevertheless such a switch to an overt 3rd person personal pronoun would be unusual, if not felt to be impossible, and is not once attested in our corpus. The third person singular personal pronoun seems to be used exclusively for animate antecedents, while the 3rd person demonstrative pronoun is mostly used for inanimate objects (*azt* ‘this-ACC’). This virtually leaves us with a zero pronoun option for inanimate subjects.

This means that even if Croatian and Hungarian can initially get around the problem of the selection of anaphoric pronouns by simply avoiding these pronouns, the problem of the selection of the appropriate agreement features cannot be that easily solved. Of course, a possible strategy is to avoid metonymy altogether, which accounts for a relatively frequent situation: newspaper articles in Croatian and Hungarian that exhibit no metonymically used names of capitals whatsoever.

Another unnatural solution to the pressure of maintaining topic continuity, attested both in Croatian and Hungarian texts in our corpus, is to stick to a whole series of metonymic uses of the same capital name within a single text. Such metonymic chains are admittedly a very awkward solution in stylistic terms, but nevertheless not infrequent. This state of affairs accounts for another aspect of unevenness in the distribution of the metonymies in question, as mentioned in our introduction, which is at first blush unrelated to the weekend frame of mind variation. We would like to claim that the two are, however, closely related. A fairly long metonymic chain is only possible in a longer newspaper text. As predicted by our PROXIMITY/DISTANCE metaphor,

distance from the events in the mental world and temporal distance, characteristic of weekends, result in longer texts, often in commentaries and editorials, and this is bound to produce an environment favorable to longer metonymic chains.

3.2.2 *Metonymic chains and the length of news texts*

As predicted by our proximity/distance metaphor, the distance from the events in the mental world and the temporal distance, characteristic of weekends, result in longer texts, often in commentaries and editorials. As can be seen in Tables 2 and 3, the number of words for both languages in our corpus happens to be the lowest mid-week, i.e. on Wednesday, and it is the highest on Saturday in Croatian. Longer texts are a more favorable environment for metonymic chains for the reasons discussed in 3.2.1. above.

Note also the significance of the fact that the number of types, as shown in Table 1, is considerably higher for English and German than for Croatian and Hungarian. In other words, a smaller number of names of capitals is used more frequently in both Croatian and Hungarian, possibly chained in one and the same text, as shown by the following two examples.

It so happens that 4 out of the total 8 metonymies of this type attested on Friday, February 29, in the Croatian corpus are instances of the metonymic use of *Moskva* ‘Moscow’, accompanied by two mentions of *Prague*, all in a single article.

Similarly, in the Hungarian corpus we find in a single article on Friday, April 18, 5 chained instances of *Moszkva*, accompanied by 4 instances of *Tripoli*. This is, however, not the longest chain in that issue, we also find 7 instances of *Peking* ‘Beijing’ in a single article. The two texts thus account for 16 out of the total of 18 metonymies of the type under discussion in this single issue of *Magyar Nemzet*. The two articles contain 408 and 413 words, respectively, which is roughly one fourth of the total number of words in this issue with 14 “hot news” texts on international relations. Theoretically, we might have expected to find 14 texts of around 230 words each, and roughly 1.28 metonymies per text. Considering the length of the two texts with the highest metonymy density, if the distribution of metonymies were even, i.e. not exhibiting any variation, they might have been expected to contain only something like 2.4 metonymies each. Instead, they are metonymic oases, exhibiting a metonymy productivity 3.6 times higher than expected.

This does not, of course, mean that all long texts will contain such metonymic chains. We just claim that, if the text is longer, metonymic chains are more likely to occur than in shorter texts, since metonymic chains are one possible answer to the structural-communicative pressure of topic-maintenance.

4. Conclusions

On the basis of the observations above we are in the position to draw a number of conclusions, some of which are more directly related to the metonymy type under examination, while some have far-reaching theoretical and methodological consequences.

First of all, we have shown that the distribution of the CAPITAL FOR GOVERNMENT metonymy is far from being completely irregular and unpredictable. Specifically, what seems to be unexpected ups and downs in its incidence can at least in part be motivated by the workings of a very basic conceptual metaphor producing cyclic variation, peaking on certain days in a week. The conceptual metaphor that is the central element in the cultural model providing cognitive motivation for the temporal micro-variation in the use of the CAPITAL FOR GOVERNMENT metonymy works at two levels. On the one hand, it is present as a fairly direct form of motivation in the cognitive sociolinguistic sense. On the other hand, it is mediated through an interplay of the structural properties of the medium of daily newspapers and the structural givens of the whole linguistic system involved.

Secondly, it appears that constraints on the cross-linguistic availability of certain types of referential metonymies are the result of an intricate interplay of conceptual, structural and discourse-pragmatic factors. It is certainly interesting in light of some recent claims that metonymy is more fundamental/basic than metaphor that in our case the availability of the CAPITAL FOR GOVERNMENT metonymy seems to be dependent on a conceptual metaphor.

Having demonstrated this sort of interaction between conceptual structures/processes and linguistic systems we have not in any way called in question the foundations of cognitive linguistics. On the contrary, if cognitive linguistics does not want to doom itself to the status of a partial model, it should in its search for external motivation take a clue from structural and functional linguistics as a welcome corrective and also consider the role of the existing linguistic system. Bearing in mind that linguistic structures in question that are said to motivate the availability of metonymy may themselves be results of layers of complex interaction between cognitive and structural factors (the ultimate primacy of cognitive factors not ruled out), cognitive linguistics thus becomes a more realistic framework capable of accommodating more authentic data and variation, even if the net result is a more complicated description.

References

- Anderson, John M. 2003. On the structure of names. *Folia Linguistica* 37: 347–398.
- Anderson, John M. 2004. On the grammatical status of names. *Language* 80: 435–474.
- Barcelona, Antonio. 2003. Names: A metonymic “return ticket” in five languages. *Jezikoslovlje* 4 (1): 11–41.
- Barcelona, Antonio. 2004. Metonymy behind grammar: The motivation of the seemingly “irregular” grammatical behavior of English paragon names. In G. Radden and K.-U. Panther, eds. *Studies in Linguistic Motivation*, 357–374. Berlin and New York: Mouton de Gruyter.
- Boers, Frank. 1999. When a bodily source domain becomes prominent: The joy of counting metaphors in the socio-economic domain. In R. W. Gibbs and G. J. Steen, eds. *Metaphor in Cognitive Linguistics: Selected Papers from the 5th International Cognitive Linguistics Conference, Amsterdam, July 1997* [Amsterdam Studies in the Theory and History of Linguistic

- Science. Series IV. Current Issues in Linguistic Theory 175], 47–56. Amsterdam and Philadelphia: John Benjamins.
- Brdar, Mario. 2007a. Topic-continuity, metonymy and locative adverbials: A cognitive-functional account. *Suvremena lingvistika* 33(1): 13–29.
- Brdar, Mario. 2007b. Metonymy across discourse types and cultures: How can corpus study help in establishing macro-equivalence? In J. Muráth and Á. Oláh-Hubai, eds. *Interdisziplinäre Aspekte des Übersetzens und Dolmetschens. Interdisciplinary Aspects of Translation and Interpreting*, 151–163. Wien: Praesens Verlag.
- Brdar-Szabó, Rita. 2002. Referentielle Metonymie im Sprachvergleich. In M. Barota, P. Szatmári, J. Tóth, and A. Zsigmond, eds. *Sprache(n) und Literatur(en) im Kontakt: Konferenz – 25.-26. Oktober 2001* [Acta Germanistica Savariensia 7], 53–65. Szombathely: Pädagogische Hochschule “Berzsenyi Dániel”.
- Brdar-Szabó, Rita, and Mario Brdar. 2003. Referential metonymy across languages: What can cognitive linguistics and contrastive linguistics learn from each other? *International Journal of English Studies* 3(2): 85–105.
- Janicki, Karol. 2006. *Language Misconceived: Arguing for Applied Cognitive Sociolinguistics*. Mahwah, N.J.: Lawrence Erlbaum Associates.
- Lakoff, George, and Mark Johnson. 1980. *Metaphors We Live by*. Chicago and London: The University of Chicago Press.
- Kleiber, Georges. 2004. Peut-on sauver un sens de dénomination pour les noms propres? *Functions of Language* 11: 115–145.
- Lehrer, Adrienne. 1999. Proper names: Linguistic aspects. In K. Brown and J. Miller, eds. *Concise Encyclopedia of Grammatical Categories*, 311–313. Amsterdam et al.: Elsevier.
- Marín-Arrese, Juana I. 2007. Dirk Geeraerts: Cognitive sociolinguistics and the sociology of Cognitive Linguistics. *Annual Review of Cognitive Linguistics* 5: 289–305.
- Milić, Goran, and Dubravka Vidaković. 2007. Referential metonymy of the type capital-for-government in Croatian. In K. Krzysztof Kosecki, ed. *Perspectives on Metonymy: Proceedings of the International Conference ‘Perspectives on Metonymy’, Held in Łódź, Poland, May 6–7, 2005* [Łódź Studies in Language 14], 253–270. Frankfurt am Main: Peter Lang.
- Panther, Klaus-Uwe, and Linda L. Thornburg. 1999. The POTENTIALITY FOR ACTUALITY metonymy in English and Hungarian. In K.-U. Panther and G. Radden, eds. *Metonymy in Language and Thought* [Human Cognitive Processing 4], 333–357. Amsterdam and Philadelphia: John Benjamins.
- Radden, Günter, and Zoltán Kövecses. 1999. Towards a theory of metonymy. In K.-U. Panther and G. Radden, eds. *Metonymy in Language and Thought* [Human Cognitive Processing 4], 17–59. Amsterdam and Philadelphia: John Benjamins.
- Radden, Günter, and Klaus-Uwe Panther. 2004. Introduction: Reflections on motivation. In G. Radden and K.-U. Panther, eds. *Studies in Linguistic Motivation* [Cognitive Linguistics Research 28], 1–46. Berlin and New York: Mouton de Gruyter.
- Tomka, Tímea. 2003. Metonymie in einigen deutschen, kroatischen und slowenischen Zeitschriften. Seminar paper. Budapest: Loránd Eötvös University.

Intrinsic or extrinsic motivation?

The implications of metaphor- and metonymy-based polysemy for transparency in the lexicon

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This paper is concerned with motivation and transparency in the lexicon. After a theoretical discussion of motivation, the author presents an empirical study that focuses on the motivation of formally simple and complex polysemous Italian words. It is shown that the motivatability of polysemous words does not depend on formal complexity alone, but also on the cognitive relation (metaphor vs. metonymy) that connects the meanings of a polysemous word.

Keywords: directionality of motivation, iconicity, interdependence of form and meaning, lexical motivation, lexical unit, motivatability, motivational partner, speaker judgment

1. Introduction

This article is a contribution to modern research on lexical motivation within the Cognitive Linguistics paradigm (Koch 2001; Radden & Panther 2004; Koch & Marzo 2007; Lehmann 2007; Marzo 2008). Its main goal is to define the contribution of polysemy to motivation and transparency in the lexicon. Though polysemy is nowadays generally assumed to be an important aspect of lexical motivation (Radden & Panther 2004) and its theoretical status among different types of motivation has been redefined from a cognitive perspective (Koch 2001), its impact on transparency in the lexicon has not yet been described adequately. Almost every word is polysemous and thus could, in principle, be motivated by polysemy (cf. Marzo 2008). For a researcher it is thus very difficult to judge whether a lexical unit is more likely to be motivated intrinsically via polysemy or extrinsically via other motivational devices such as word-formation. Consequently, linguists who study lexical motivation by introspection tend to assume an extreme position in their treatment of polysemy. For practical reasons, they either overestimate (Koch & Marzo 2007) or underestimate (Sanchez 2008: 57) its importance.

Some approaches even deny that polysemy is relevant for transparency in the lexicon (Waugh 1992, 1994; Waugh & Newfield 1995; critique in Marzo 2008). However, there are reasons to believe that, while polysemy definitely is a motivational factor in the lexicon and almost every lexical unit can be motivated intrinsically, it is not necessarily the most important motivational device.

In a pilot study reported in an earlier paper (Marzo 2008), I have shown for a small set of German stimuli that native speakers do not automatically consider polysemous words to be motivated. The findings of this study show that the motivation of polysemous words depends on the cognitive relation by which the meanings of a polysemous word are connected. More specifically, there seems to be a significant difference between metaphorical (similarity-based) and metonymic (contiguity-based) relations. The present paper provides a more systematic test of this assumption for Italian. Section 2 outlines the theoretical background of the study, provides definitions of lexical motivation, polysemy and transparency and describes the implications that polysemy has for transparency in the lexicon. In Section 3 I develop in more detail the hypothesis that the motivation of polysemous words depends on the cognitive relation connecting a word's meanings, and I add a second hypothesis concerning differences between formally complex and formally simple lexical units. Then I discuss the results of an empirical study that tested both of these hypotheses. In Section 4 I draw some general conclusions and give an outlook on further research.

2. Theoretical background

2.1 Lexical motivation

I understand lexical motivation in the sense of Koch (2001: 1156): A lexical unit is motivated if and only if there are both a perceived formal and a perceived cognitive relation to another lexical unit (see also Koch & Marzo 2007: 263–264). Italian *libreria* 'bookstore', for instance, is motivated with respect to *libro* 'book': *libreria* is morphologically derived from *libro*, and their meanings are related as well. In this case they belong to the same conceptual frame, that is, there exists a contiguity relation between them. Other cognitive relations that can assume the same role are metaphorical similarity, conceptual contrast, taxonomic relations, and others (cf. Koch 2001; Koch & Marzo 2007). Note that according to the definition used here motivational relations are not necessarily directed. This means that the members of a motivational pair can, in principle, motivate each other. This is, for instance, the case with contiguity-based motivation, which, at least in principle, is reversible. However, some motivational relations are more restricted with respect to their directionality, such as metaphorical similarity, which is usually considered to be unidirectional (cf. e.g. Radden & Kövecses 1999: 22). As to the formal aspect of lexical motivation, most word formation researchers would consider it to be directional (cf. Jacobini 2000), but from a strictly synchronic

perspective this directionality might lose its importance as soon as the derivatives are lexicalized (cf. Umbreit 2010).

What is important for a cognitive characterization of lexical motivation is that words are not simply motivated as a whole, but rather via lexical units in the sense of Cruse (1986: 49, 86), that is, via pairs of one form/one meaning (Koch 2001; Radden & Panther 2004; Koch & Marzo 2007; see also Umbreit this volume). Given the notion of lexical unit, it follows that polysemy can be understood as being motivated both formally and semantically. The difference between polysemous words, such as Italian *macchina* 'automobile' and *macchina* 'machine', and morphologically distinct lexical units, such as *libro* 'book' and *libreria* 'bookstore', is that in the latter case the two lexical units are formally *similar* whereas in the former case they are formally *identical*. The impact of polysemy on transparency in the lexicon will be discussed in more detail in Sections 2.2 and 2.3.

Another important aspect of Koch's definition of lexical motivation is the notion of *perceived* formal and cognitive relations. This concept necessarily leads to the distinction drawn by Rettig (e.g. 1981: 75–76) between *motivatedness* (Motiviertheit) and *motivatability* (Motivierbarkeit). Rettig argues that lexemes are not motivated *per se*, but can be motivated by native speakers upon active reflection. This is what happened when I established the relation between *libreria* and *libro*: I motivated *libreria* by perceiving a motivational relation to *libro*. Strictly speaking, metalinguistic reflection merely shows that *libreria* is *motivatable*. In order to solve the problem of *motivatedness* it is not sufficient to rely on metalinguistic reflections, but psycho- and neurolinguistic experiments are also necessary.¹

The issue of metalinguistic reflection confronts us with another problem: the linguist's way of motivating lexical units may not be representative of the speech community. First, it might be influenced by etymological knowledge. Given that lexical motivation is a synchronic phenomenon, etymological considerations may distort the results. Second, among different possibilities, researchers may not pick the motivational relation that is the most salient for naïve native speakers (cf. Marzo & Rube 2006: 154). Especially in view of the fact that almost every word is polysemous, this might pose a serious problem. Thus, one and the same formally complex lexical unit can always be motivated in at least two ways: *intrinsically* via polysemy, i.e. with respect to a formally identical lexical unit, and *extrinsically* via other motivational devices such as word-formation, i.e. with respect to a formally more or less similar lexical unit. Italian *segatore* 'circular saw', for example, could be motivated by *segare* 'to saw' or by *segatore* 'person whose profession it is to saw'. They are related both formally and semantically to *segatore* 'circular saw'. The researcher's decision on salient motivational partners may not coincide with native speakers' intuitions. As this paper addresses the question under which circumstances lexical units are motivated intrinsically and under which

1. Marzo and Rube (2006: 154–156) have shown that in the investigation of lexical motivation psycholinguistic experiments are problematic in various respects.

circumstances they are motivated extrinsically, it is absolutely necessary to rely on speaker judgements, and as little as possible on the introspection of linguists.

2.2 Polysemy and lexical motivation

The claim that polysemy can be motivated both formally and cognitively (see Section 2.1) needs to be explained in more detail.² Koch's definition of lexical motivation is closely connected to Peirce's notion of *diagram*. Peirce (CP 2.277, 1960[1903]) calls diagrams those signs that are characterized by a structural analogy between signified and signifier. This definition became the starting point for an important tradition of research on iconicity mainly in grammar (see e.g. Haiman 1980, 1985). Although the importance of this definition for iconicity in the *lexicon* was recognized in 1965 by Roman Jakobson (cf. 1971 [1965]: 354), its impact on the lexicon received serious attention only much later (e.g. Waugh 1992, 1994; Hiraga 1994; Waugh & Newfield 1995; Ungerer 1999). In general, iconicity in the lexicon is exemplified by cases such as German *Apfelsaft* 'apple juice' (more examples in Ungerer 1999) and English *singer* 'person who sings' (cf. Dressler 1985), whose formal structures resemble, in a way, the structures of their content. The forms *Apfelsaft* (*Apfel* + *Saft*) and *singer* (*sing* + *er*) are binary the same way as the concepts APPLE JUICE and SINGER are (JUICE + MADE OF APPLES and PERSON + WHO SINGS; for a more detailed and critical discussion of compounds, cf. Blank 2001; Marzo 2009). As the phenomenon of polysemy is incompatible with the

2. As the question to what extent polysemy contributes to lexical motivation and iconicity largely depends on the definition of polysemy, I should state what exactly I mean by polysemy. First of all, polysemy has to be distinguished from other types of ambiguity. Blank (2003) as well as Croft and Cruse (2004) discern polysemy from *homonymy* on the one hand and *contextual variation* (Blank 2003) or *sub-sense units* such as *facets* and *microsenses* (Croft & Cruse 2004) on the other hand. Both Blank (2003: 273–278) and Croft and Cruse (2004: 111) use the criterion of semantic relatedness to tell polysemy from homonymy: If one relation of a set of cognitive-semantic relations holds between two different senses, they are meanings of one and the same polysemous word (examples in Blank 2003: 274–276 and Marzo 2008). In this paper I essentially follow Blank's set of semantic-cognitive relations (contiguity, metaphorical similarity, co-taxonomic similarity, taxonomic subordination or superordination, conceptual contrast, cf. Blank 1997 and Koch 2001) because it comprises more relations than Croft and Cruse's set, who limit their discussion to metaphor and metonymy (Croft & Cruse 2004: 111). However, the presence or absence of a semantic relation is not sufficient to define the "lower limit" of polysemy, as semantic relations also hold between contextual variants or sub-sense units. Blank's criterion (2003: 274–276) to distinguish between polysemy and contextual variation is the referential class. If the referential class of two word senses is the same, they cannot be considered independent meanings. Contextual variants thus correspond to Croft and Cruse's microsenses (2004: 126–127), which also point to the same referential class as other microsenses, though they are, in a given context, incompatible with all other possible microsenses of the same sense. To conclude, in this chapter I understand polysemy in the same way as Blank (2003) and Croft and Cruse (2004): a word is polysemous if its meanings are related semantically and point to different referential classes.

principle of compositionality of meaning, it has been claimed to be anti-iconic (Waugh 1992, 1994; Waugh & Newfield 1995), though Jakobson (1971 [1965]: 352) quotes polysemous examples such as English *star* (cf. *stars* in the sky vs. film *stars*) as being diagrammatically iconic. In Marzo (2008) I argue that approaches that deny the contribution of polysemy to iconicity in the lexicon interpret Peirce's definition of icons in an inappropriate way, because Peirce's icons are not necessarily and exclusively of the structural and hence compositional kind. As Hiraga (1994: 8) points out, a form does not only reflect the structure of its own content but also the content of other forms. In fact, the binary English form *sing* + *er* reflects not only the binary structure of the concept PERSON + WHO SINGS but also the content of the form *sing*, to which it is related by rules of word-formation. Thus, formally complex signs are not only iconic from a structural, but also from a relational perspective. It is this relational perspective that Jakobson adopts when he claims that polysemous words such as English *star* are diagrammatically iconic. The view that similarity of forms is a precondition for motivational relations corresponds to Koch's conception of lexical motivation, which treats the formal identity of two lexical units as an extreme case of formal similarity (see Jakobson 1971 [1965]: 355 and Marzo 2008 for a more detailed discussion of this issue).

Moreover, there is one Peircean type of icon, namely metaphor, that is relational by definition and that is accepted as such – but not taken into account – by the fiercest supporters of compositional and hence structural iconicity, because metaphors are “Those which represent [...] by representing a parallelism in something else [...]” (Peirce CP 2.277, 1960 [1903]). In order to be understood, a metaphor needs a perceptible relation of similarity to a “Third” that allows highlighting certain characteristics of the signified. This is what happens in English and other languages when *star* is used to refer to a famous or exceptionally talented performer in the world of entertainment. The word stresses certain characteristics of famous actors and singers: they stand out in the world of entertainment as stars do in the sky and illuminate, in a way, the world of entertainment like stars light up the night. Thus, *star* is iconic in the Peircean sense in two respects: it has to be regarded as a diagram and a metaphor at the same time because there is a formal and a semantic relation between two lexical units and, consequently, the form expresses its own content with the help of “something else”, that is, another – formally identical – lexical unit. Linguistic metaphors are always diagrammatic as they require a relation to another lexical unit in order to signify whatever they mean. Diagrams, by contrast, are not necessarily metaphors. Nevertheless, most of them are relational and not only structural because, on the content level, they can be related to another lexical unit by one of Koch's seven cognitive relations (Koch 2001; for a detailed discussion of the considerable overlap between Peircean metaphors and diagrams see Marzo 2008).

2.3 Transparency in the lexicon

The assumption that polysemy is a motivational device and contributes to iconicity in the lexicon necessarily leads to the question of the position of polysemy on scales of

diagrammatic transparency, such as Dressler's scale (1985: 330–331). As should be clear from what has been said in the previous sections, a lexical unit is transparent to another lexical unit if there is a motivational (diagrammatic) relation to that unit. As has often been stated, transparency is not a matter of all or none, but rather a matter of degree (e.g. Fill 1980a, 1980b: 43–75; Sanchez 2008: 47). Since, according to Dressler's (1985: 330–331) scale of morphotactic transparency, the degree of transparency increases proportionally to the degree of formal correspondence between two elements, we might assume that cases of formal identity, that is, polysemy, exhibit the highest degree of transparency. This assumption is relativized by Dressler himself in the same article, in which he establishes another scale, the scale of diagrammatic transparency, which is based on the assumption that more formal correspondence means less transparency (Dressler 1985: 328). In this paper Dressler's scales cannot be discussed in detail (for a more detailed discussion of this apparent contradiction see Marzo 2008). For the time being the reader should just note one of these scales is based on examples for differences in transparency within one type of word-formation, namely suffixation (*decision* is less transparent with respect to *decide* than *existence* is with respect to *exist*) whereas the other is based on examples for differences in transparency across word-formation types (*song* is less transparent with respect to *sing* than *singer*).

As there is no reason to assume that transparency should rely on a certain principle when studied within one type of word-formation and on its exact opposite when studied across different types of word-formation, Koch and Marzo (2007: 272) have established a scale of transparency by merging both of Dressler's scales into one, which accounts for transparency differences both *within* single formal motivational devices and *across* different motivational devices. Though Koch and Marzo's scale constitutes a substantial progress in comparison to Dressler's scale, there still is a shortcoming: the scale is explicitly formal, although transparency is recognized to be both a formal and a semantic phenomenon. Dressler's scales are exclusively formal, too, though they are explicitly labeled as formal and semantic. The empirical study presented in this paper will show that scales of this kind are not sufficient to describe transparency accurately, as the degree of transparency of lexical units depends not only on their formal transparency, but also on the semantic-cognitive relation which connects them to a potential motivational partner.

3. Empirical study on lexical motivation

3.1 Goals of the questionnaire and hypotheses

The main goal of the study reported here was to define the role of polysemy in lexical motivation and its contribution to transparency in the lexicon. More precisely, two questions were addressed in this study.

First, what is the status of polysemy among the range of formal motivational devices when it is subjected to speaker judgements? According to Koch's approach, native

speakers could, at least in principle, motivate almost every lexical unit via polysemy because almost every word has more than one sense. Approaches that rely on the principle of compositionality, by contrast, would predict that polysemy is of secondary importance for lexical motivation and transparency (Fill 1980, but also Sanchez 2008 as well as most researchers of word-formation, e.g. Booij 2007 and Plag 2003). From a compositional perspective, subjects automatically decompose formally complex lexical units when trying to motivate them.³ The importance of polysemy as a motivational device might therefore be limited to formally simple lexical units that cannot be formally decomposed. Both views are integrated in hypothesis (i), which is tested in the empirical study.

- i. Intrinsic motivation is, in principle, possible for almost every lexical unit. Still, formally complex lexical units are more likely to be motivated extrinsically than intrinsically. Therefore, intrinsic motivation is most likely to be limited to formally simple lexical units.

The second question in this study addresses the issue whether the motivatability of a lexical unit depends on the type of conceptual relation it entertains with other lexical units. In Marzo (2008) I have shown that motivating formally simple lexical units is easier for native speakers if the relation of these units to their intrinsic motivational partners is one of metaphorical similarity rather than conceptual contiguity. As lexical motivation is always simultaneously a formal and a semantic phenomenon, there is no reason to assume that extrinsic motivation is not subject to the same semantic mechanism as intrinsic motivation. From what has been said so far we can postulate hypothesis (ii):

- ii. A lexical unit that is related to its potential intrinsic motivational partner by metaphorical similarity is, in general, motivated more easily than a lexical unit that is related to its potential intrinsic motivational partner by conceptual contiguity.

3.2 Stimulus material

In the study reported here hypotheses (i) and (ii) were tested by introducing an equal number of formally complex and formally simple polysemous stimuli and by dividing both of these stimulus groups into two subgroups, one consisting of lexical units that are related to their potential intrinsic motivational partner by contiguity, the other containing lexical units related to their potential motivational partner by metaphorical similarity (cf. Table 1, groups A/1 to B/2). In addition, there was a control group of potentially opaque stimuli (cf. Table 1, group C). This was necessary in order to check the subjects' reliability

3. It is important to distinguish between different compositional approaches. Some approaches say that polysemy is actually a constraint on transparency in the lexicon because it is a problem for the compositionality of word meanings (cf. Waugh 1992, 1994; Waugh & Newfield 1995). Other compositional approaches acknowledge that motivation applies at the level of lexical units (cf. e.g. Fill 1980) and, therefore, polysemy does not in principle impede motivatability, but might just be of lesser importance for motivatability than other motivational devices.

in reacting to the potentially motivated stimuli. If they had tried to motivate the opaque stimuli, too, this would have meant that they had not understood the task (cf. Section 3.3). As Table 1 shows, a total of 40 stimuli was chosen. This is not sufficient for statistically representative results, yet the group is large enough for an initial test of the hypotheses.

The lexical units for the present study were taken from the Tübingen polysemy database, a synchronic dictionary containing the most salient meanings of 400 Italian and 400 French words.⁴ For the present study, the second most salient meanings of the

Table 1. Survey of stimulus groups (40 stimuli)

	Group A: 16 formally simple lexical units		Group B: 16 formally complex lexical units		Group C: 8 lexical units
	1: 8 stimuli related to a potential intrinsic motivational partner by metaph. similarity	2: 8 stimuli related to a potential intrinsic motivational partner by contiguity	1: 8 stimuli related to a potential intrinsic motivational partner by metaph. similarity	2: 8 stimuli related to a potential intrinsic motivational partner by contiguity	8 potentially opaque lexical units
Examples	It. <i>cuore</i> 'center of something'	It. <i>terra</i> 'earth as material of the soil'	It. <i>provenire</i> 'to derive etymolo- gically'	It. <i>linguaggio</i> 'language'	It. <i>giugno</i> 'June'
Potential intrinsic motivational partners	It. <i>cuore</i> 'heart'	It. <i>terra</i> 'planet Earth'	It. <i>provenire</i> 'to come from (in space)'	It. <i>linguaggio</i> 'capacity of speech'	none
Potential extrinsic motivational partners	theoretically each word of the word family	theoretically each word of the word family	theoretically each word of the word family, but especially It. <i>venire</i>	theoretically each word of the word family, but especially It. <i>lingua</i>	none

4. Researchers interested in the data can be given access to the Tübingen polysemy database on demand. Please contact Daniela Marzo, Verena Rube or Birgit Umbreit for additional information. The polysemy data were collected with the aid of a *sentence generation and definition task* (cf. Marzo, Rube & Umbreit 2007). What subjects do in this task is explain the meanings that first come to their minds. In this way, it is possible to gain insight into meanings that are most easily accessed. If we assume Langacker's position and define the salience of meanings via their "ease of activation" (cf. Langacker 1993: 45, 159), we can say that the meanings in this database are the most salient ones. Thus, there is no proliferation of senses as is often the case in traditional dictionaries.

stimulus forms were selected. This choice was meant to increase their potential motivatability as, in general, less salient or less frequent stimuli allow easy access to the most salient and most frequent meanings, but not vice versa (cf. Perfetti & Lindsey 1974; Durkin & Manning 1989). Accordingly, in the case of polysemy, the intrinsic motivational partner of a lexical unit is expected to be its most salient meaning (cf. Table 1). As the definition of lexical motivation underlying this study describes motivation as not necessarily directed, we have to take a closer look at what extrinsic motivational partners we can expect for the groups A and B. Hypothesis (i) predicts that there may be extrinsic motivational partners for group A, but they should not be too important. In principle, these motivational partners could be any member of the word family of the stimulus. For group B, the potential extrinsic motivational partners can, of course, also be any member of the respective word family but, according to hypothesis (i) and the assumption that derived words are often (but not necessarily always) motivated by their derivational base, the most probable extrinsic motivational partners for group B can be determined (cf. Table 1).

3.3 Method

The technique used to elicit motivational partners is based on the “Tübingen method” to investigate lexical motivation.⁵ This method consists of two steps corresponding to two questionnaires. In questionnaire 1 subjects are asked to name a motivational partner for a given stimulus. The same stimuli and their major motivational partners established in step 1 make up the basis for questionnaire 2, in which subjects are supposed to explain the semantic relation between the stimuli and their motivational partners. In the present study only step 1 was carried out in order to test hypotheses (i) and (ii).

In step 1 the informants are confronted with the following Italian question: “Perché, secondo voi, la parola può essere utilizzata nel senso spiegato?” (‘Why, in your opinion, can the word be used in the given sense?’). It is important to note that the stimuli are presented as lexical units and therefore not only consist of word forms, but also contain a meaning definition and a disambiguating example sentence, as in example (1).

- | | |
|--------------------|---|
| (1) Stimulus form: | <i>eroe</i> ‘hero’ |
| Stimulus meaning: | <i>persona che compie atti di valore e coraggio</i>
‘person carrying out acts of merit and courage’ |
| Example: | <i>Garibaldi è stato leroe del Risorgimento italiano.</i>
‘Garibaldi was the hero of the Italian Risorgimento’ |

5. This method has been developed by Daniela Marzo, Verena Rube and Birgit Umbreit within the Tübingen Collaborative Research Center’s (SFB 441) project on lexical motivation in French, Italian and German headed by Prof. Dr. Peter Koch. The research project aimed to investigate the major motivational partners for a set of stimuli and the proportions of cognitive/semantic relations by which the stimuli are connected to their motivational partners.

After reading the stimulus the informants were asked to pick one of the following options:

1. The word is connected to another word of the same word family.
2. The given sense is connected to another sense of the same word.
3. There is no connection to another word or another sense.

Depending on the response they chose, they were asked to specify the word or the meaning they were thinking of.

The test was conducted over the internet. In order to check whether there was any influence of the subjects' socio-cultural background on their answers, they were asked to provide relevant information about themselves at the end of the questionnaire. As metalinguistic judgements on 40 stimuli may take longer than an hour if the participants take the task seriously, the 40 stimuli were distributed over two questionnaires in order to increase the probability that the subjects complete the whole questionnaire. About 60 people took part in the study, but only the answers of 25 informants per questionnaire were analyzed for the final results. The other informants' answers had to be excluded either because they failed to complete the questionnaire or because their answers were obvious nonsense answers, such as meaningless strings of letters.

3.4 Results

3.4.1 *Motivated versus opaque in general*

The first result of the study is that the majority of the presumably motivated stimuli (87, 5% of group A and 93, 75% of group B) were indeed motivated by the majority of subjects and that the presumably opaque stimuli (75%) were also considered opaque by the majority of the subjects. This means not only that the choice of the stimuli for the groups A and B and the group C was successful but also that the participants understood their task very well. Taking a closer look at the different groups and subgroups, in most cases we can even find reasons why not all stimuli behaved the expected way.

3.4.1.1 *Groups A and B*

Within groups A and B those stimuli that were motivated in one way or another by more than half of the participants are considered motivated. The motivated stimuli do not necessarily have a unitary motivational partner, but were assigned different motivational partners by the participants. Out of the 16 stimuli in group A, two stimuli (12.5%) were not motivated at all. These stimuli are It. *giorno* 'time of sunlight, the opposite of night' and It. *ceppo* 'tree stump'. Similarly, one stimulus (It. *irritare* 'to inflame (e.g. skin)') in group B was not motivated, while 93.75% were motivated. According to the Tübingen polysemy database, there were two possible intrinsic motivational partners for It. *giorno*: *giorno* 'point in time that fixes a date' and *giorno* 'period of 24 hours'. As both of the potential motivational partners are related to the stimulus by contiguity,

the fact that it was considered opaque by the majority of the subjects (72%) is not surprising but is compatible with what hypothesis (ii) predicts.

The opacity of It. *ceppo* 'tree stump' can be explained in a similar way, though it is part of group A/1. Its potential motivational partner was *ceppo* 'stock, lineage, line' to which it was assumed to be related by metaphorical similarity. However, upon closer inspection, it becomes clear that the relation between the two meanings is not metaphorical similarity and that, therefore, unfortunately, this stimulus was erroneously assigned to group A/1. There is only an indirect relation between the two meanings, if at all. First, there might be some similarity between *ceppo* 'stock, lineage, line' and *ceppo* 'trunk', insofar as the line of a family leads to many family members as the trunk of a tree leads to many branches. Second, there is a contiguity relation between *ceppo* 'trunk' and *ceppo* 'tree stump'. However, there is no direct relation between *ceppo* 'stock, lineage, line' and *ceppo* 'tree stump'. The fact that there is an indirect relation and that one of the relations involved is a contiguity relation are plausible reasons for the opacity of the stimulus.

The opacity of It. *irritare* 'to inflame (e.g. skin)' has to be explained in a different manner. An intrinsic motivational partner for this stimulus that was part of group B/2 could have been *irritare* 'to make someone nervous or angry'. There certainly is a relation of metaphorical similarity between these two lexical units, but there might be a problem with the metaphor's direction. 'To make someone nervous or angry' is understood in terms of 'to inflame (e.g. skin)', but not vice versa. Anger resembles an inner inflammation, but an inflammation is not similar to anger. Thus, introducing *irritare* 'to inflame (e.g. skin)' among the stimuli was of no use at all. *Irritare* 'to make someone nervous or angry' would certainly have caused fewer problems for motivatability. However, as this lexical unit does not appear in the Tübingen polysemy data-base, it could not be chosen as a stimulus.

3.4.1.2 Group C

Among the hypothetically opaque stimuli of group C, 75% were actually judged to be opaque by the informants. Still, this means that most informants considered two potentially opaque stimuli to be motivated. These are It. *basilica* 'basilica (church type)' and It. *tempo* 'weather'. It. *basilica* 'basilica (church type)' has no major motivational partner, but was motivated by 56% of the subjects. The competing lexical units are It. *base* 'basis'⁶, It. *basileo* 'prince in Ancient Greece', It. *basilica* 'church granted special privileges by the Pope', *basilica* 'early Christian building', *basilica* 'public hall, court building in ancient Rome' and *basilica* 'palace of Byzantine kings'. Interestingly, none of these intrinsic motivational partners can be found in the Tübingen polysemy data-base and none of the extrinsic motivational partners is frequent enough to figure in Juilland and Traversa's (1970) frequency dictionary.

6. Note that It. *base* 'basis' is not the etymological basis of It. *basilica*. From a synchronic and motivational perspective such cases of folk etymology are perfect instances of motivation as long as the informants perceive a formal as well as a semantic relation between the two.

The picture is even more complex for It. *tempo* ‘weather’. The major motivational partner for this stimulus was *tempo* ‘time’. Of course, there is a potential motivational relation between the two lexical units, namely, a contiguity relation. The stimulus was nevertheless chosen for group C, because in a French pilot study Fr. *temps* that has the same central meanings as It. *tempo* had been considered opaque by the majority of the informants. In addition, *tempo* ‘weather’ is slightly more salient than *tempo* ‘time’. The salience index that can be deduced from the Tübingen polysemy database for *tempo* ‘weather’ is 15, whereas *tempo* ‘time’ receives a salience index of 13. Theoretically this should exclude a facilitating salience effect. Moreover, as the relation between the two lexical units is a contiguity relation (hypothesis (ii)), it seemed very unlikely that *tempo* ‘weather’ would be considered motivated. This might show that different types of contiguity seem to entail different degrees of motivatability (cf. Section 4). In Marzo (2009) I explore this issue in more detail.

3.4.2 *Motivated stimuli in detail*

For those stimuli of groups A and B that were considered motivated by the majority of the participants, both hypothesis (i) and (ii) were found to hold with some restrictions. Sections 3.4.2.1 and 3.4.2.2 will describe in more detail to what extent the hypotheses are confirmed.

3.4.2.1 *Hypothesis (i): Intrinsic versus extrinsic motivation*

Table 2 shows that 100% of those formally simple lexical units that were judged motivated by the participants were motivated intrinsically. This is indeed what hypothesis (i) predicts. Of course, this does not mean that nobody named extrinsic motivational partners for the stimuli in group A. For It. *padre* ‘father in the sense of founder’, for instance, the motivational partner *paterno* ‘paternal, from the father’s side’ was given. However, such answers are very rare.

The results for group B do not exactly correspond to what hypothesis (i) predicts because there is a higher number of stimuli that are motivated intrinsically (53%) than extrinsically (40%). Still, this does not completely contradict hypothesis (i) because it is based on the assumption that almost every lexical unit can be motivated intrinsically as a consequence of lexical polysemy. The interesting question is why the informants related more than half of the stimuli of group B to another formally identical unit and not to a formally less complex one. The frequency and salience of the potential extrinsic motivational partners cannot be a reason for the formally complex units being motivated intrinsically rather than extrinsically. Of course, there are some cases in which the potential extrinsic partners are less frequent or less salient than the stimulus, such as It. *studio* ‘study, workroom at home’ (with a form frequency of 199 in Juilland & Traversa 1973 and a salience index of 9) compared to the stimulus It. *studiare* ‘to study’ (form frequency of 63, no salience index available), but this does not hold for all cases. A look at how the stimuli behaved with respect to hypothesis (ii) might furnish another explanation (cf. Section 3.4.2.2).

Table 2. Results: formally simple versus formally complex lexical units

	Group A (formally simple lexical units)	Group B (formally complex lexical units)
motivated intrinsically by the majority of the subjects	100%	53.3%
motivated extrinsically by the majority of the subjects	0%	40%
same score for extrinsic and for intrinsic motivation	0%	6.7%

3.4.2.2 Hypothesis (ii): Contiguity versus metaphorical similarity

Table 3 shows the percentage of motivated stimuli among those stimuli of the subgroups A/1, A/2, B/1 and B/2 that were judged to be motivated by the majority of the participants.

As hypothesis (ii) predicts, the majority of the stimuli of the subgroups A/1 (100%) and B/1 (86%) were motivated intrinsically by the majority of the subjects. Still in line with hypothesis (ii), the majority of the stimuli of subgroup B/2 (57%) were motivated extrinsically. At first sight, subgroup A/2 seems to contradict hypothesis (ii), as 100% of the stimuli that were considered motivated were motivated intrinsically by the majority of the subjects. However, subgroup A/2 does not contradict hypothesis (ii), because in the data there are still differences between the groups A/1 and A/2, that is, between metaphorical similarity and contiguity: First, the percentage of the informants that motivated the stimuli of group A/1 intrinsically tends to be slightly higher for the individual stimuli than the percentage of informants that motivated the stimuli of group A/2. It. *cuore* 'heart (spatial centre)' was motivated by 92% of the informants and all of these informants motivated it intrinsically with respect to *cuore* 'heart (organ)'. Such high scores are quite common for group A/1 and not very frequent for group A/2. Second, the stimuli in group A/1 tend to have a major intrinsic motivational

Table 3. Results: Contiguity vs. metaphorical similarity (without problematic stimuli such as It. *ceppo*)

	A/1 (formally simple + metaphorical similarity)	A/2 (formally simple + contiguity)	B/1 (formally complex + metaphorical similarity)	B/2 (formally complex + contiguity)
motivated intrinsically	100%	100%	86%	29%
motivated extrinsically	0%	0%	14%	57%
same score for extrinsic and for intrinsic motivation	0%	0%	0%	14%

partner (cf. It. *cuore*), whereas those in group A/2 more often display a large variety of different intrinsic motivational partners. This is the case for It. *luce* 'opening, hole', which was motivated by 84% of the participants, all of whom motivated it intrinsically, but named different motivational partners such as *luce* 'redeemer, liberator, great hope (referring to a person)' (17%), *luce* 'physical phenomenon' (34%), *luce* 'illumination, light source' (17%) and *luce* 'light, brightness' (32%). A detailed presentation of all the data is given in Marzo 2009.

Subgroups B/1 and B/2 in Table 3 give a more detailed account of the motivatability of complex lexical units than the percentages displayed in Table 2. Coming back to the question of why the informants related more than half of the stimuli of group B to another formally identical unit and not to a formally less complex unit, we can now make the following observations: Table 3 shows what hypothesis (ii) predicts. Intrinsic motivatability by metaphor seems to be so natural that even formally complex lexical units are motivated intrinsically rather than extrinsically (86% vs. 14% of the participants), as hypothesis (i) would have predicted. In addition, hypothesis (ii) predicts that intrinsic motivation is less obvious if the relation between the stimulus and the intrinsic motivational partner is a relation of contiguity. And indeed, only 29% of the participants considered the stimuli of group B/2 to be motivated intrinsically, whereas 57% of the participants motivated the stimuli of group B/2 extrinsically. Thus, both hypothesis (i) and (ii) can be said to be supported by the data of group B. What is more, the hypotheses can even interact. In the metaphor condition (B/1), hypothesis (ii) is stronger than hypothesis (i). In the contiguity condition (B/2), hypothesis (ii) predicts intrinsic motivation to occur less frequently. This constraint on intrinsic motivation, in turn, enables extrinsic motivation to occur, or, to put it differently, allows hypothesis (i) to be stronger than hypothesis (ii). In sum, extrinsic and intrinsic motivation both depend on the semantic conditions of the stimulus unit.

4. Conclusions and outlook on further research

The results in Section 3.4 partially confirm hypothesis (i) and hypothesis (ii). The first important conclusion that can be drawn from these data is that the two hypotheses have to be seen as interacting principles: A lexical unit is more likely to be motivated intrinsically if it is related to its intrinsic motivational partner by metaphorical similarity than if it is related to it by contiguity. If the stimulus and the potential motivational partner are related by contiguity, formally complex lexical units tend to be motivated extrinsically, whereas formally simple lexical units can still be motivated intrinsically, but are generally considered motivated by fewer subjects than the corresponding metaphorical stimuli. This general principle is not to

be intended as an absolute rule, but as a systematic tendency that has to be supported by more data.

Further research should take a closer look at differences within the groups of metaphor-based and contiguity-based motivation. The relatively small number of stimuli on which this study is based does not allow for general conclusions, but especially within the contiguity group there seem to be differences in the motivatability of different types of contiguity. For example, part-whole relations of the type It. *giorno* 'time of sunlight, the opposite of night' and *giorno* 'period of 24 hours' (cf. the parallel German example *Tag* in Marzo 2008) seem to be more problematic for motivatability than other contiguity relations such as It. *tempo* 'weather' and *tempo* 'time'. A principled difference between this contiguity relation and others would also be in line with the fact that part-whole relations are often treated in the literature as different from other contiguity relations (cf. discussions of synecdoche, paronymy and meronymy in e.g. Lakoff & Johnson 1980 and Gibbs 1994).

The second important conclusion that can be drawn from the present study is that formal and semantic aspects of lexical motivation are indeed two inseparable dimensions of the same phenomenon. Of course, the noun It. *grandezza* 'importance, influence, power (of a person)' is formally transparent to the adjective It. *grande* to the same extent as the noun It. *linguaggio* 'language' is transparent to It. *lingua*, but as we have seen this does not mean that their motivational partners are automatically the derivational bases It. *grande* and It. *lingua*, respectively. As we have shown, the semantic relation of a lexical unit to its potential intrinsic motivational partners modulates transparency. For It. *grandezza* 'importance, influence, power (of a person)' this means that its major motivational partner is *grandezza* 'bigness (volume)', because these two lexical units are related metaphorically. Consequently, transparency scales that concentrate on either the formal or the semantic side of motivation are, at least from a cognitive point of view, irrelevant for the research on lexical motivation. Further research should be aware of this and attempt to integrate both formal and semantic aspects in transparency scales.

The third (preliminary) conclusion is that salience and frequency are not automatically relevant for lexical motivation. There are cases that confirm the general assumption that less salient and less frequent lexical units allow access to more frequent and more salient lexical units, but not vice versa. Still, as It. *tempo* shows, this is not an absolute rule. Further research should take a closer look at salience and frequency and try to define the conditions under which they do not facilitate motivatability. Marzo (2009) compares the present study with a parallel French study and provides an in-depth discussion of, and suggests some solutions to, the questions left open in the present paper.

References

- Blank, Andreas. 1997. *Prinzipien des lexikalischen Bedeutungswandels am Beispiel der romanischen Sprachen*. Tübingen: Niemeyer.
- Blank, Andreas. 2001. Pathways of lexicalization. In M. Haspelmath, E. König, W. Oesterreicher, and W. Raible, eds. *Language Typology and Language Universals: An International Handbook*, 1596–1608. Berlin and New York: Mouton de Gruyter.
- Blank, Andreas. 2003. Polysemy in the lexicon and in discourse. In B. Nerlich, Z. Todd, V. Herрман, and D. D. Clarke, eds. *Polysemy: Flexible Patterns of Meaning in Mind and Language*, 267–299. Berlin and New York: Mouton de Gruyter.
- Booij, Geert. 2007. *The Grammar of Words: An Introduction to Morphology*. Oxford: Oxford University Press.
- Croft, William, and Dean A. Cruse. 2004. *Cognitive Linguistics*. Cambridge: Cambridge University Press.
- Cruse, Dean A. 1986. *Lexical Semantics*. Cambridge: Cambridge University Press.
- Dressler, Wolfgang U. 1985. On the predictiveness of natural morphology. *Journal of Linguistics* 21: 321–337.
- Durkin, Kevin, and Jocelyn Manning. 1989. Polysemy and the subjective lexicon: Semantic relatedness and the salience of intraword senses. *Journal of Psycholinguistic Research* 18 (6): 577–612.
- Fill, Alwin. 1980a. Durchsichtige Wörter im Englischen: Betrachtungsweisen und Forschungsansätze. *Arbeiten aus Anglistik und Amerikanistik* 5(1): 13–35.
- Fill, Alwin. 1980b. *Wortdurchsichtigkeit im Englischen: Eine nicht-generative Studie morphosemantischer Strukturen. Mit einer kontrastiven Untersuchung der Rolle durchsichtiger Wörter im Englischen und Deutschen der Gegenwart*. Innsbruck: Institut für Sprachwissenschaft.
- Gibbs, Raymond W. 1994. *Poetics of Mind: Figurative Thought, Language and Understanding*. Cambridge: Cambridge University Press.
- Haiman, John. 1980. The iconicity of grammar: Isomorphism and motivation. *Language* 56: 515–540.
- Haiman, John. 1985. *Natural Syntax: Iconicity and Erosion*. Cambridge: Cambridge University Press.
- Hiraga, Masako K. 1994. Diagrams and metaphors: Iconic aspects in language. *Journal of Pragmatics* 22: 5–21.
- Iacobini, Claudio. 2000. Base and direction of derivation. In G. Booij, C. Lehmann, and J. Mugdan, eds. *Morphology/Morphologie: An International Handbook on Inflection and Derivation/Ein internationales Handbuch zur Flexion und Wortbildung*, 865–876. Berlin and New York: Mouton de Gruyter.
- Jakobson, Roman. 1971 [1965]. Quest for the essence of language. In S. Rudy, ed. *Selected Writings*. Vol. II, 345–359. The Hague and Paris: Mouton.
- Koch, Peter. 2001. Lexical typology from a cognitive and linguistic point of view. In M. Haspelmath, E. König, W. Oesterreicher, and W. Raible, eds. *Language Typology and Language Universals: An International Handbook*. Vol. II, 1142–1178. Berlin and New York: Mouton de Gruyter.
- Koch, Peter, and Daniela Marzo. 2007. A two-dimensional approach to the study of motivation in lexical typology and its first application to French high-frequency vocabulary. *Studies in Language* 31(2): 259–291.

- Lakoff, George, and Mark Johnson 1980. *Metaphors We Live By*. Chicago: Chicago University Press.
- Langacker, Ronald W. 1993. *Foundations of Cognitive Grammar*. Vol 2. Stanford: Stanford University Press.
- Lehmann, Christian. 2007. Motivation in language: Attempt at a systematization. In P. Gallmann, C. Lehmann, and R. Lühr, eds. *Sprachliche Motivation: Zur Interdependenz von Inhalt und Ausdruck*, 105–140. Tübingen: Narr.
- Marzo, Daniela. 2008. What is iconic about polysemy? A contribution to research on diagrammatic transparency. In L. De Cuypere and K. Willems, eds. *Naturalness and Iconicity in Linguistics* [Iconicity in Language and Literature 7], 167–187. Amsterdam and Philadelphia: Benjamins.
- Marzo, Daniela. 2009. *Polysemie als Verfahren lexikalischer Motivation: Theorie und Empirie am Beispiel des Französischen und Italienischen*. Tübingen: Doctoral dissertation.
- Marzo, Daniela, and Verena Rube. 2006. What do you think where words come from? Investigating lexical motivation empirically. In V. Solovyev, V. Goldberg, and V. Polyakov, eds. *The 8th International Conference on Cognitive Modelling in Linguistics: Proceedings*. Vol. I, 152–161, Moscow: Kazan State University.
- Marzo, Daniela, Verena Rube, and Birgit Umbreit. 2007. Saliency and frequency of meanings: A comparison of corpus and experimental data on polysemy. Submission #205, *CL2007 Pre-Conference Proceedings*: 42–53.
- Panther, Klaus-Uwe, and Günter Radden, eds. 1999. *Metonymy in Language and Thought*. Amsterdam and Philadelphia: Benjamins.
- Peirce, Charles Sanders. 1960 [1903]. *Collected Papers*. Vol. 2. Cambridge, MA: Harvard University Press.
- Perfetti, Charles A., and Robert Lindsey. 1974. Polysemy and memory. *Journal of Psycholinguistic Research* 3 (1): 75–89.
- Plag, Ingo. 2003. *Word-Formation in English*. Cambridge: Cambridge University Press.
- Radden, Günter, and Zoltán Kövecses. 1999. Towards a theory of metonymy. In K.-U. Panther and G. Radden, eds. *Metonymy in Language and Thought*, 17–59. Amsterdam and Philadelphia: Benjamins.
- Radden, Günter, and Klaus-Uwe Panther. 2004. Introduction: Reflections on motivation. In K.-U. Panther and G. Radden, eds. *Studies in Linguistic Motivation*, 1–46. Berlin and New York: Mouton de Gruyter.
- Rettig, Wolfgang. 1981. *Sprachliche Motivation. Zeichenrelationen von Lautform und Bedeutung am Beispiel französischer Lexikoneinheiten*. Frankfurt a.M. and Bern: Peter Lang.
- Umbreit, Birgit. 2010. Does love come from to love or to love from love? Why lexical motivation has to be regarded as bidirectional. In S. Michel and A. Onysko, eds. *Cognitive Approaches to Word-Formation*, 301–333. Berlin and New York: Mouton de Gruyter.
- Ungerer, Friedrich. 1999. Diagrammatic iconicity in word-formation. In M. Nänny and O. Fischer, eds. *Form Miming Meaning* [Iconicity in Language and Literature 1], 307–324. Amsterdam and Philadelphia: Benjamins.
- Waugh, Linda. 1992. Let's take the con out of iconicity: Constraints on iconicity in the lexicon. *American Journal of Semiotics* 9 (1): 7–48.
- Waugh, Linda. 1994. Degrees of iconicity in the lexicon. *Journal of Pragmatics* 22: 55–70.
- Waugh, Linda, and Madeleine Newfield. 1995. Iconicity in the lexicon and its relevance for a theory of morphology. In M. E. Landsberg, ed. *Syntactic Iconicity and Linguistic Freezes: The Human Dimension*, 189–222. Berlin and New York: Mouton de Gruyter.

Motivational networks

An empirically supported cognitive phenomenon

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The notion *motivational network* is proposed to describe the existence of various possibilities of motivation for a given form. As shown in questionnaire studies, this phenomenon is quite common for non-linguist native speakers. But the notion of motivational network is also justified from a cognitive perspective: in the mental lexicon, words in a word family are structured as multidirectional networks, resulting in the co-activation of all family members. Thus, the coexistence of various equally salient motivational partners should not be regarded as exceptional but rather as the default case in lexical motivation.

Keywords: lexical motivation, lexical processing, mental lexicon, multidirectionality, polysemy, salience, speaker judgement, word family, word-formation

1. Introduction

Most linguists working on motivation tend to regard motivation as a simple, unidirectional process. In the present article it is claimed that cognitive principles operating in the mental lexicon justify a network approach of lexical motivation.

The article is organized as follows: Section 2 describes the notion of (lexical) motivation on which the subsequent considerations are based. Section 3 introduces the term *motivational network* and defines it in view of similar notions. Section 4 provides more examples of motivational networks in German and Italian based on speaker judgements. Section 5 shows that motivational networks are not exceptional but much rather the rule as an organising principle governing the mental lexicon: it is the multidirectional integration of words into word families that is central for their cognitive processing, which in turn can lead to several equally salient motivations.

2. What is (lexical) motivation?

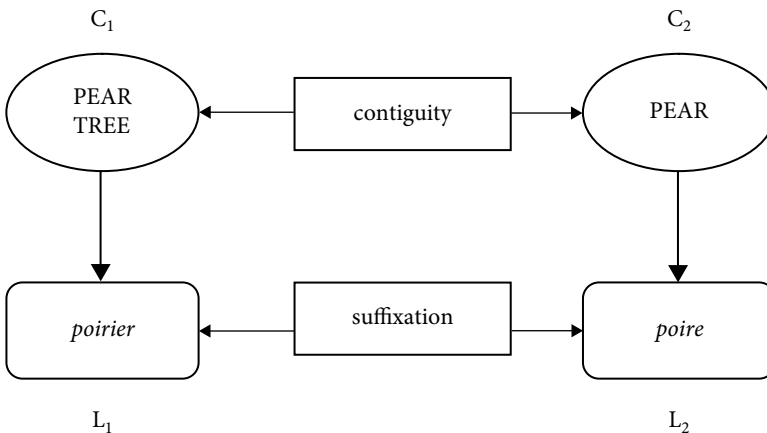
According to de Saussure (1985: 181), who is probably the best known theoretician on the subject of lexical motivation, Fr. *poirier* is considered a motivated word because it can be synchronically decomposed into two or more elements that contribute to its sense: *poire* ‘pear’, the most salient part of a pear tree, and *-ier*, the suffix suggesting ‘tree’.

In the present article, lexical motivation is understood as a synchronic relation holding between lexical units. Purely grammatical elements like *-ier* will not be considered here. A lexical unit is understood in the sense of Cruse (1986: 77) as “the union of a lexical form and a single sense”, as opposed to a lexeme, which is understood as a “family of lexical units” (p. 76). The following example from French thus represents the relation between two lexical units: the motivated unit *poirier* and its motivational base *poire*:¹

- (1) Fr. *poirier* ‘pear tree’ ← *poire* ‘pear’

Unlike de Saussure, who confines himself to exemplifying the formal aspects of motivation, motivation is here conceived as a twofold relation: a relation between the forms and a relation between the contents of two lexical units. These relations are illustrated in the motivational square shown in Figure 1:

In the square, the two lexical units *poirier* and *poire* are represented with their concept and their form. The upper horizontal axis indicates the conceptual relation: in



C stands for ‘concept’, L for ‘lexical item’, i.e. the form of a lexical unit.² C_1 is expressed by L_1 (and C_2 analogously by L_2), which is represented by the pointed arrow. The double-headed arrows indicate the motivational relations between either the concepts or the forms.

Figure 1. Motivational square (Koch 2001: 1156)

1. The single-headed arrow pointing left stands for ‘is motivated by’.
2. Koch’s (2001: 1156) term *lexical item* comprises lexemes, words or idioms. However, the figure perfectly applies to lexical units too.

this case, it is a contiguity relation, as *poirier* and *poire* are part of the same frame. On the lower horizontal level, the formal relation is given, viz. suffixation by *-ier* to the form *poire*, giving rise to the form *poirier*.³

This terminology is particularly useful, as it can easily handle polysemy, to which, as we will see below, the notion of lexical motivation also applies (see also e.g. Ullmann 1957: 89, 1962: 91f.; Radden & Panther 2004: 20f.; Marzo 2008 and this volume). This paper adopts Cruse's view that each sense of a polysemous lexeme in combination with the shared form represents a lexical unit. Cruse's notion of a lexeme as a "family of lexical units" already indicates that the lexical units belonging to one lexeme are not only formally, but also conceptually, related. As in the case of *poirier*, Ital. *lingua* in the sense of 'language' is motivated.

(2) Ital. *lingua* 'language' ← *lingua* 'tongue'

The concepts 'tongue' and 'language' are closely connected by contiguity due to the fact that the tongue is the principal articulatory organ. It is, of course, for this reason that many languages use the form of the concept 'tongue' in expressing the concept 'language' (see Radden 2004). This paper assumes that the meanings of polysemous lexemes such as *lingua* represent distinct lexical units sharing identical forms that can be described in the same way as the motivated relations underlying morphological processes. The only difference to morphologically derived units is that polysemy involves not two forms, but only one form. Polysemy is thus not represented as a motivational square but as a motivational triangle, as shown in Figure 2.

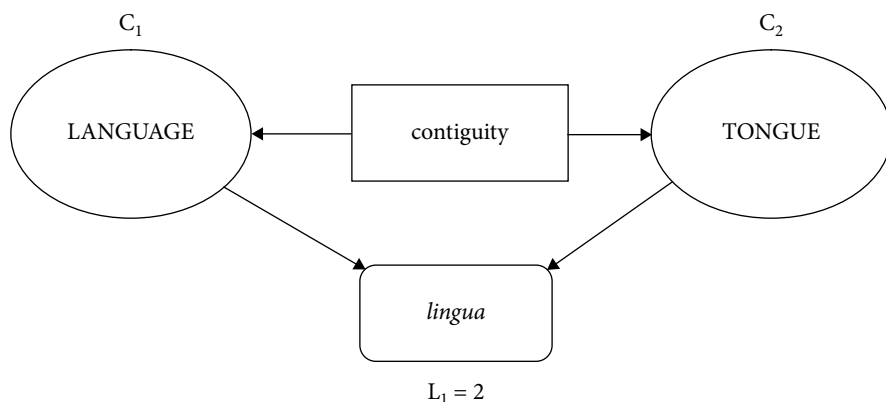


Figure 2. Motivational triangle (Koch & Marzo 2007: 265)

3. A similar conception of lexical motivation can be found in Rettig (1981). For Radden and Panther (2004) and Lehmann (2007), the combination of morphological and conceptual motivation is one of a variety of possible types of linguistic motivation. Sanchez' understanding of lexical motivation (2008 and this volume) is primarily conceived of as a relation between word forms.

In Figure 2, both concepts are linked to the same form, viz. *lingua*, and are conceptually connected by contiguity.⁴

Now, in the traditional, especially the structuralist, view of lexical motivation, it is always the (morphologically and/or semantically) more complex partner of a motivational pair that is assumed to be motivated, and there is always one motivational “base partner” that motivates the more complex unit (see de Saussure 1926; Ullmann 1957, 1962; Iacobini 2000). Accordingly, as in the examples presented above, Fr. *poirier* is taken to be motivated solely by the less complex word *poire*, which itself is not motivated, i.e. opaque.

For Ital. *lingua* ‘language’, we cannot apply the traditional idea of greater complexity (see also Umbreit 2010: 305–307), but as we consider the tongue as a premise for the production of language, the latter sense of *lingua* is probably the motivating base, which in its turn is opaque.

However, as the next sections will show, it is not always easy to find unequivocal motivational partners, and motivational partners are not necessarily less complex than the given item.

3. Motivational networks

In examples (1) and (2), the motivational base for the lexical units in question is evident. In the case of Eng. *fisher*, however, the motivational base could be either the noun *fish* or the verb *fish*. Such cases of motivational ambiguity are often considered “undesirable” and are dealt with by using different linguistic criteria (e.g. Corbin 1976). However, the question which of the possible solutions is “better” cannot easily be answered as the motivational analysis of a linguistic unit may vary from person to person. Often, subjects do not agree as to which of the possible motivational partners is the most salient one.

Furthermore, motivational partners do not have to be less complex than the given item. For example, one could motivate the verb *fish* by relating it to the formally more complex unit *fisher* because fishing is what fishers normally do. Besides, as we have seen above, the notion of complexity has already proved to be problematic in the case of motivation by another meaning of the same form, as in example (2).

The following sections will provide evidence for these phenomena from a cognitive point of view. First, however, it is necessary to introduce the terminology used in this study and delimit it from related notions.

The preceding discussion has shown that there is not necessarily only one motivational base of a given unit and that the possible motivational partners are not always

4. A systematic cross-classification of all possible formal and conceptual relations leads to a two-dimensional grid that provides the basis for a uniform description of lexical motivation (see Koch 2001: 1160 and Koch & Marzo 2007: 268).

less complex. Therefore, I suggest subsuming all links to potential motivational partners under the term *motivational network*. A motivational network applies to the total of synchronic motivational partners of a lexical unit, whether they are more, less or equally complex or involve more meanings of the same form. According to this understanding of motivation, motivational ambiguities are fully legitimate and do not have to be resolved. Indeed, as we will see, the existence of more than one potential motivational partner is the norm rather than the exception.

This phenomenon is related to what is traditionally called “double motivation” (Kienpointner 1985: 3). This term is, however, restricted to structural ambiguities, as in the following two examples:

- (3) Eng. *reorganization* ← *organization*
 ← *reorganize*
 (Plag 2003: 40)
- (4) Germ. *Bergwanderschuhe* ← ‘Schuhe zum Bergwandern
 (boots for mountain hiking)’
 ← ‘Wanderschuhe für den Berg
 (hiking boots for the mountain)’
 (Wellmann 1991: 14)

In example (3), the motivational base could be either the noun *organization* or the verb *reorganize*. The ambiguity can be attributed to the fact that *reorganization* manifests both the prefix *re-* and the suffix *-ation* and that we don’t know which of the affixes comes first. As far as example (4) is concerned, the term *double motivation* is extended to tripartite compounds with a verbal element as the second constituent. The ambiguity in this example is due to fuzzy internal boundaries (“unscharfe Binnengrenzen” according to Wellmann 1991: 13), which allow for a segmentation of the complex noun either after its first or after its second element.

In these cases, the potentially motivating units are part of a motivational network, too. Yet, the network in my understanding is not restricted to structurally conditioned ambiguities but comprises all formally and conceptually related units a native speaker could think of when motivating a lexical unit. Therefore, the motivational network includes, but is not limited to, ambiguities that are due to structural characteristics.

Double motivation is sometimes related to *multiple motivation* (Wellmann 1991: 13). This term is often used in a broader sense than would be suitable for our purposes. Lehmann (2007: 131), for instance, defines multiple motivation as the combination of different kinds of motivation according to his own typology: yawning as a sign of boredom is both an icon (of genuine yawning) and a symptom (of tiredness) in the Peircean sense. Radden and Panther (2004: 33) contrast *multiple motivation* with *competing* or *conflicting motivations*. While they use the former term when “several factors [...] jointly motivate a linguistic unit”, the latter term applies to cases in which different possible motivational factors are in conflict with each other. In the motivational network approach adopted in this paper, the notion *multiple motivation* is understood in

a different sense: it refers to the different potential motivational partners ordinary speakers associate with a given lexical unit. These motivational partners simply coexist but may vary in their salience for individual speakers.

The next section presents the results of an empirical study on lexical motivation which provides evidence for the claim that multiple motivational links to complex as well as to simple words are the norm rather than the exception.

4. Evidence from speaker judgements

4.1 Why speaker judgements?

A research project at Tübingen University systematically studied synchronic lexical motivation in French, Italian and German on the basis of speaker judgements. Although a speaker-based approach to motivation has already been advocated by several linguists (e.g. Augst 1975; Rettig 1981), it might still seem questionable to some readers. I will therefore briefly outline the reasons for conducting a study using native non-linguists as subjects.

A first reason for the use of non-linguists is that all native language users possess a certain linguistic consciousness, which Augst (1975: 176f.) calls “synchronic etymological competence”. This means that speakers are able to establish synchronic relations between words both morphologically and conceptually as well as to give reasons for these relations based on their implicit or even explicit knowledge of word-families and their structure. Their ideas about motivated or opaque words in their language directly reflect their average linguistic knowledge.⁵ These capacities can even be more fruitful for investigating motivation than the introspection used by professional linguists, who might consider more words as motivated than non-linguists or who might motivate them differently from non-linguists due to their linguistic expertise.

A second reason for using non-linguists is that, as we have already seen, a given lexical unit may have more than one motivational partner. If the linguist had to establish potential motivational links himself, he might not be sure which one is the most salient one. If he asked a certain number of people, however, he might obtain several different answers, but in general most people would name one motivational base significantly more frequently than the others. Thus, a certain group consensus makes it possible to determine fairly objectively the most salient unit out of all potential motivational links (see also Marzo & Rube 2006: 154).⁶

The following subsection provides examples of motivational networks from two different questionnaire studies.

5. See also Langacker (1987: 376), who acknowledges that “speakers do have relevant intuitions”.

6. This procedure has also the advantage of counterbalancing the varying linguistic and reflective abilities of the informants.

4.2 Multiple motivational links

Within the research project on motivation mentioned above, questionnaires were presented to native informants of German, Italian and French. For the majority of stimuli that were examined more than one motivational link was found. Two examples will demonstrate this.

The first questionnaire study for German (“Moti alpha”) was carried out with sixty native German speakers who were asked to analyze fifteen stimuli consisting of lexical units. The question they had to answer was “Woher kommt das angegebene Wort?” [“Where does the given word come from?”], choosing one of the following four answers and then giving and defining the unit they were thinking of:

1. von einem anderen Wort derselben Wortfamilie
2. von zwei anderen Wörtern
3. von einer anderen Bedeutung desselben Worts
4. von keinem anderen Wort oder keiner anderen Bedeutung
 1. from another word in the same word family
 2. from two other words
 3. from another meaning of the same word
 4. from no other word or meaning

Answer (1) refers to all kinds of formally and conceptually related words; answer (2) refers to compounds; answer (3) accounts for polysemy; and answer (4) for stimuli considered opaque. Note that in general all kinds of motivation, whether simpler or more complex than the stimulus, were accepted, provided that a formal and a conceptual relation in accordance with the definition of motivation outlined in Section 2 could be found. Table 1 presents the results obtained for the German stimulus word *unterfordern*, a complex verb meaning ‘to not challenge somebody enough’.

For this verb, several different kinds of answers were given. The majority of the informants, 54.24%, decomposed the word into two elements, *unter* and *fordern*, i.e. they opted for answer type (2). Another 23.73% chose answer type (1) and gave the related form *fordern*. Further, various motivational partners with a minor percentage contributed to answer type (1), i.e. *Unterforderung*, *fördern*, *überfordern* or (2), namely *unten* + *Forderung*. No one found a relation to another meaning of the stimulus (answer type (3)), and for 15.25%, the stimulus was opaque (answer type (4)). Following our conviction that speakers are competent in motivating words, we accept all of these motivations, as in each case both a formal and a conceptual relationship can be established. However, in spite of the numerous motivational links, one possible motivation, the decomposition into *unter* and *fordern* with more than 50%, was given significantly more frequently than the others and can consequently be said to be the most salient motivation for *unterfordern*.

Table 1. Multiple motivations for Germ. *unterfordern* ‘to not challenge sb. enough’

Answer type	Motivational partners	Percentage of answers
(1)	<i>fordern</i> ‘to challenge’	23.73%
(1)	<i>Unterforderung</i> ‘act of not challenging enough’	1.69%
(1)	<i>fördern</i> ‘to support, to help’	1.69%
(1)	<i>überfordern</i> ‘to challenge sb. too much’	1.69%
(2)	<i>unter + fordern</i> ‘under’ + ‘to challenge’	54.24%
(2)	<i>unten + Forderung</i> ‘below’ + ‘challenge’	1.69%
(4)	opaque	15.25%

In a later study on Italian (“Moti gamma”), thirty-four native Italian participants were asked to judge twenty-five stimuli. The method used for eliciting motivations varied slightly from the first study. As the question “Where does the given word come from?” could also be understood in a diachronic sense it was changed into “Perché, secondo voi, la parola può essere utilizzata nel senso spiegato?” [‘Why, in your opinion, can the given word be used in the given meaning?’]. The possibilities of answering the questions were the same as in experiment Alpha, but this time formulated to correspond to the modified question. Besides, “Moti gamma” contained the additional answer type (4), which allowed for an identification of loan words:

1. La parola è connessa ad un'altra parola della stessa famiglia di parole.
2. La parola è composta da altre parole.
3. Il significato è connesso ad un altro significato della stessa parola.
4. La parola è connessa ad una parola di un'altra lingua.
5. Non c'è nessun legame con nessun'altra parola e nessun altro significato.
 1. The word is related to another word in the same word family.
 2. The word is composed of other words.
 3. The meaning is related to another meaning of the same word.
 4. The word is related to a word from another language.
 5. There isn't any relation to another word or to another meaning.

Let us now consider the stimulus in Table 2, the Italian adjective *buono*, presented to the informants in the sense ‘tasty, delicious’:

Table 2. Multiple motivations for Ital. *buono* 'tasty, delicious'

Answer type	Motivational partners	Percentage of answers
(1)	<i>bontà</i> 'benevolence'	5.41%
(1)	<i>bontà</i> 'something being good'	2.70%
(3)	<i>buono</i> 'generally positive'	32.43%
(3)	<i>buono</i> 'comfortable'	10.81%
(3)	<i>buono</i> 'magnanimous'	8.12%
(3)	<i>buono</i> 'well-behaved'	5.41%
(4)	lat. <i>bonus</i> 'generally positive'	2.70%
(5)	opaque	29.73%
	unclear	2.70%

For Ital. *buono* in the sense of 'tasty, delicious' a variety of motivational links was found too, the most frequent one being to another meaning of the same word, viz. *buono* 'generally positive' with 32.43%. Less frequently given meanings of *buono* were 'comfortable', 'magnanimous', and 'well-behaved'. In addition, a related word, *bontà*, was given in two different meanings. One speaker chose answer type (4) thinking of the Latin etymon (which cannot be considered in a synchronic study), one answer was not understandable and therefore categorized as unclear, and 29.73% of the speakers considered the stimulus opaque. Although opacity is the second most frequent answer type, the slightly prevailing motivational partner is *buono* 'generally positive'. What is striking here is that *buono* is part of a whole motivational network although it is not morphologically complex. Thus, the occurrence of a variety of motivational links is not restricted to morphologically complex words. Admittedly, though, the meaning in which *buono* was presented to the informants, viz. 'tasty, delicious', is a rather specific meaning which is probably derived from the more general meaning 'generally positive' and could perhaps be considered semantically complex. *Buono* in the meanings 'comfortable', 'magnanimous', and 'well-behaved', however, has to be considered equally complex as 'tasty, delicious' because they too are probably derived from *buono* 'generally positive' and are more specific than the latter sense. Moreover, for Ital. *buono* as well as for Germ. *unterfordern*, morphologically more complex words were given, too, namely the suffixed *bontà* in two different meanings for *buono* and the equally suffixed *Unterforderung* for the German verb. This shows once again that motivated words are not necessarily more complex than their motivating partners, but that lexical motivation

seems to run in all possible directions: from a morphologically or semantically more complex word to a morphologically or semantically less complex word, from a less complex word to a more complex word, or between equally complex words. Still, Tables 1 and 2 show that the supposed base unit reaches the highest consensus as a motivational partner. Thus, there seems to be a general preference for less complex motivating units. In any case, contrary to the traditional approach to motivation (see Section 2), it seems more appropriate to conceive lexical motivation as bidirectional or rather multidirectional than as unidirectional.⁷ Further evidence for this claim from a cognitive point of view will be presented in Section 5.

For all the other stimuli of the two studies, which cannot be presented within the limits of the present article, with the exception of only two cases, more than one motivational link was found. Thus, we can say that, contrary to what is widely believed, motivational networks seem to be the norm rather than the exception (see also Augst 2002: 682).

Furthermore, the results of the speaker judgements presented here support the view that multiple motivational links are not only due to inherent structural ambiguities which result in “double motivation”, but also arise from individual intuitions about given lexical units, independently from their specific structure. Nevertheless, both of these factors that lead to a motivational network can be attributed to an organizational principle governing the lieu where motivation takes place: the mental lexicon. This will be shown in the next section.

5. The cognitive structure of word families

5.1 Word families and their status in the mental lexicon

That multiplicity should not be regarded as an unwelcome side-effect of lexical motivation can be corroborated by cognitive evidence. In my view, it is the notion of word family that is central to the justification of motivational networks.

On the basis of Schreuder and Baayen (1997: 121), a synchronic word family can be defined as a network of both conceptually and morphologically related words that are “derived from a given stem by means of either compounding [...] or derivation [...]”.⁸ Note that this definition of word families includes compounds, but not

7. This is also in line with many cognitive approaches, e.g. Langacker (1987: 379) and Twardzisz (1997: 60). For a more detailed account of bidirectionality in lexical motivation see Umbreit (2010).

8. Schreuder and Baayen (1997) do not conceive of word families as networks nor do they emphasize the idea of both a morphological and a conceptual connection between the family members. The latter point, however, is especially important for synchronic approaches to lexical motivation (see Section 2).

inflectional relations. Members of the word family *fish* are, therefore, e.g. the verb *to fish*, formed by conversion, *fishy*, *fisher* and *fishery* formed by derivation, compounds such as *fish-farm* and *fish-knife* as well as the compounds *fisherman* and *pearl fishery*, whose immediate bases are not *fish*, but *fisher* and *fishery*, respectively. The stem word *fish* is still transparent even in secondary derivatives and compounds.

Now, why are word families so important for multiple lexical motivation? First, according to the definition of lexical motivation given above (see Section 2), both a morphological and a conceptual relation are required linking the motivational partners. Thus, the latter normally belong to the same word family. Moreover, it is a well-known fact that the mental lexicon has to be well-organized in order to enable and facilitate cognitive capabilities such as the processing, storage and retrieval of the enormous data quantities it deals with (see e.g. Aitchison 1993: 5; Bybee 1995: 452). One of these facilitatory principles that are at work in the mental lexicon is the organization of lexical entries according to word families.⁹

Traditionally, as Figure 3 demonstrates, word families are hierarchically conceived in that a base word or stem is the family's centre, where all the different branches of derivations and/or compounds converge.

The status of derivatives and compounds, i.e. complex words, in the mental lexicon has been controversially debated for a long time: The so-called "full listing models" (e.g. Butterworth 1983) have argued for a complete storage of complex words whereas the "partial listing models" (e.g. Taft & Forster 1975) have suggested morphological decomposition, i.e. a lexical organization based on morphemes. Recent

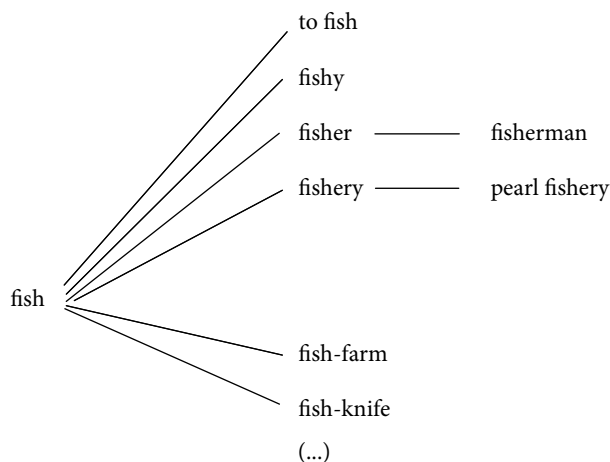


Figure 3. The word family of Eng. *fish* according to traditional conceptions

9. Other structuring principles are e.g. the organization into semantic, encyclopaedic or word fields (Kielhöfer 1994: 213f.). They rely on conceptual, extra-linguistic or taxonomic relations, which, unlike a word family as defined above, do not require a formal connection.

approaches mostly propose a compromise between the two positions, e.g. the “parallel processing” (Aitchison 1993: 131) of whole words and of their respective morphemes in derivation.¹⁰ According to these models, both the full words and their constituents have to have a lexical entry and these entries comprise phonological and semantic information. Obviously, decomposed lexical entries belonging to one word family are connected to each other via the shared stem. But even if words are not necessarily decomposed into their constituents when speakers hear or articulate them, “their morphological structure emerges from the connections they make with other words in the lexicon. Parallel sets of phonological and semantic connections, if they are repeated across multiple sets of words, constitute morphological relations [...]” (Bybee 1995: 428f.).¹¹

Now, if interconnections between lexical entries sharing a particular base morpheme are assumed,¹² this also explains why speakers are able to recognize the constituents of words and relate them to other family members. In other words, it becomes clear why speakers dispose of the “synchronic etymological competence” claimed by Augst (see Section 4.1 above): “[...] accessing one of the words of the family ‘activates’ the other members’ representations in the internal lexicon, at least for regular related forms.” (Segui & Zubizarreta 1985: 766). While this ability often works on the subconscious level, speakers make explicit use of it when asked to motivate words.

Moreover, the idea of interconnections has direct implications for the directionality of word-family organization in the mental lexicon. If we follow the nowadays widely accepted “network models” (see e.g. McQueen & Cutler 1998: 409ff.) originally proposed by Bybee (e.g. 1995: 428f., 1998: 422f.), it is clear that strict hierarchies cannot hold anymore. Coming back to the word family of Eng. *fish*, a member such as *fishy* is not only related to the supposed base word *fish*, but via the morphological and conceptual connections also to the other family members, e.g. *to fish*, *fish-farm* and so on. Consequently, the model presented in Figure 3 has to be changed into a network-like structure, as shown in Figure 4.

The example *fish* in Figure 4 shows that every member of a word family holds connections to every other member belonging to the same family.¹³ As the double-headed

10. Laudanna and Burani (1985) suggest parallel whole-word and parsing access mechanisms for inflection, too, whereas other researchers argue that regular inflected forms are generally decomposed (see McQueen & Cutler 1998: 418ff.).

11. See McQueen and Cutler (1998: 413f.) for an overview of studies which deal especially with compounds and show that their representations, too, are linked to the representations of their constituents within a network.

12. Interconnections can also be found between complex words formed by the same affixes (see Clark 1993: 5; Bybee 1998: 423).

13. Of course, Figure 4 represents a rather simplified model, as e.g. polysemy, viz. the relation between connected senses of one word form, is omitted. Moreover, the compounds *fish-farm* and *fisherman* also hold connections to the word families of *farm* and *man*, respectively, which could not be included here either.

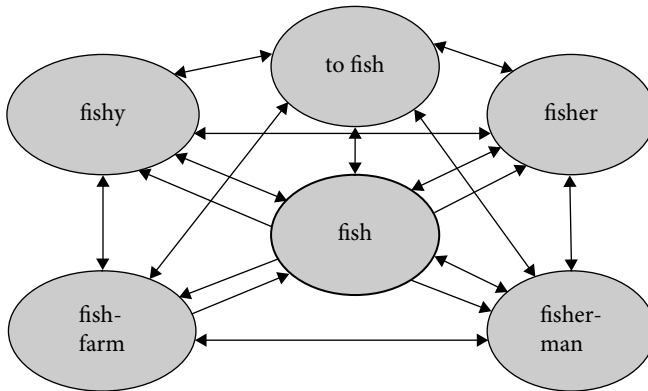


Figure 4. The word family of Eng. *fish* according to network models

arrows in Figure 4 indicate, these connections are not conceived as unidirectional any more, for it would not make sense to consider *fishy* as related to *fish* but not vice versa, i.e. *fish* as not related to *fishy*.¹⁴ This is in line with the results of the questionnaire studies discussed in the preceding Section. Consequently, we can speak of bidirectional and even multidirectional relations here. In addition, interconnections do not necessarily involve the base word. It is absolutely legitimate to relate *fisher* directly e.g. to the verb *fish*, the adjective *fishy*, and the compound *fish-farm*. However, it seems advisable to keep to the notion of base word or stem because, morphologically and conceptually, one family member can typically be conceived as basic. Moreover, as Tables 1 and 2 have shown, it is often exactly the supposed base word that is the preferred motivational partner in speaker judgements.

5.2 Evidence for the influence of word families on lexical processing

Various psycholinguistic experiments and findings support the claim of multidirectional relations between word family members. Firstly, cross-modal lexical decision tasks by Marslen-Wilson et al. (1994) resulted in significant effects for different prime-target constellations of simple and derived words that were morphologically and conceptually related, i.e. words that belonged to the same word family. Suffixed and prefixed words prime their stems and vice versa; prefixed words prime suffixed words and vice versa; and prefixed words prime each other, but suffixed words do not. While the obtained priming effects speak in favor of strong underlying connections between primes and targets, the last result is attributed by the authors, who suggest a decompositional model, to a so-called “inhibitory link” between suffixes attaching to the same stem (Marslen-Wilson et al. 1994: 18f.).

14. See also McQueen and Cutler (1998: 409): “The word nodes of all the morphological relatives of a given stem have bi-directional facilitatory connections to the stem node.”

Secondly, word-family size has been revealed as an important factor for the processing of simple words: “A monomorphemic noun with a large family size elicits higher subjective frequency ratings and shorter response latencies in visual lexical decision than a monomorphemic noun with a small family size” (Schreuder & Baayen 1997: 118). Thus, the number of derivatives and compounds belonging to a stem influenced both subjects’ recognition of a simple form as a well-formed word of Dutch and the frequency rate they assigned to simple items.

These results show once more the centrality of word-family organization in the mental lexicon. Independently of the morphological structure of the target presented in lexical decision tasks with or without priming, it is always a whole word family that is subconsciously activated. Moreover, the size of the respective word family influences the judgements on the frequency of its members.

Second language acquisition is another indirect indicator of the cognitive importance of word families: The language learner is able to infer unknown vocabulary with the help of word-family knowledge (Denninghaus 1976; Lübke 1984). Here, too, inferences can be made in several directions. For example, if a learner of French sees or hears for the first time the noun *le jeune* ‘young person’, he can easily guess its meaning with either the help of the base word, the adjective *jeune* ‘young’, or by the more complex noun *jeunesse* ‘youth’ – provided that he already knows one of these word family members. Many linguists working in the field of L2 acquisition (e.g. Kielhöfer 1994; Hausmann 2002; Stein 2002) have proposed making more use of the notion of word families in the classroom in order to increase the understanding of lexical items and to reduce the memorization effort of new vocabulary (Stein 2002: 133).

5.3 Synthesis

All the above-mentioned findings concerning the cognitive structure of word families can be directly transferred to the notion of lexical motivation: If complex, simple and equally complex words that are part of the same word family nearly always activate each other on a subconscious level as found in the experiments by Marslen-Wilson et al. (1994), there is no reason to doubt that these multidirectional connections also hold on a conscious level, for instance when it comes to speaker judgements on lexical motivation. The experiments run by Schreuder and Baayen (1997) have demonstrated that, when processing a simple word, we co-activate the whole word family due to the interconnections between the family members. Thus, we are obviously able to make use of this activation in conscious judgements, too, which would explain why informants often differ in the motivational partners they provide on the one hand and why these partners are not necessarily motivational bases on the other. The latter claim is also supported by the above-mentioned multidirectional strategies that can be used in second language acquisition. However, the exact nature of the relation between

subconscious and conscious cognitive processes still has to be clarified by further work on this subject.¹⁵

These reflections also hold for the traditional cases of double motivation resulting from structural ambiguities (see Section 3). In contrast to the speakers' individual differences about which related unit is the most salient motivational partner, example (3), Eng. *reorganization*, is ambiguous due to its inherent properties. So, two or more motivating units, e.g. Eng. *organization* and *reorganize*, are equally closely related to the given item within the respective word family network and consequently seem to be equally evident in conscious meta-linguistic judgements. As far as fuzzy internal boundaries (example (4), Germ. *Bergwanderschuhe*) are concerned, one could suggest that these types of complex words are highly infrequent and hence are not parsed as whole-word representations in the mental lexicon, but in a decompositional way (see Frauenfelder & Schreuder 1991). This suggestion is supported by the findings of Coolen et al. (1991), who studied the semantic processing of novel noun-noun compounds in Dutch. The semantic ambiguity occurring to different degrees in novel compounds is comparable to the structural semantic ambiguity found in example (4) although the latter has not necessarily been newly created. Coolen et al. (1991: 341) found that lexicalized compounds are recognized faster than novel ones in lexical decision tasks and explain this fact by a combined access model: lexicalized compounds are accessed as whole-word representations, whereas novel ones are accessed via their constituents. Moreover, the authors conclude that "the multiple ambiguity inherent in novel compounds" (Coolen et al. 1991: 341) is normally resolved fast and efficiently "by considering a small stock of frequent semantic relations to relate the nouns in the compounds" (Coolen et al. 1991: 350).¹⁶ Thus, the meaning of structurally ambiguous compounds is not stored and has to be newly established each time the speaker is confronted with the word by combining the meanings of the constituents. Left without context, he opts for the one which comes first to his mind, i.e. for the one that is most salient for him, but which is not necessarily identical to the most salient ones for other speakers. The result is a whole set of possible semantic interpretations which constitute once again a motivational network.

Even with the caveat in mind that this last explanation, too, needs to be corroborated by further studies, it should be obvious now that motivational networks are a perfectly unproblematic phenomenon, as they are justified by the cognitive structure of lexical units organized in morphologically and conceptually related word families.

15. Additionally, factors which could not be included in the present article, as frequency effects, affix productivity and semantic transparency, act on the speed and strength of activation and should be considered in further studies on the subject.

16. According to Coolen et al. (1991), the varying appropriateness of the semantic relations results in different degrees of interpretability of the novel compounds.

6. Conclusion

The present article has dealt with phenomena that have so far been treated as exceptional: lexical units that can be synchronically motivated by two or more other lexical units and that have traditionally been called *double motivation*. For these cases, a more appropriate term, *motivational network*, has been introduced, which has the advantage of not implying the existence of only one motivational base and of not requiring a less complex motivating unit. Such examples frequently occur in questionnaire studies conducted with native non-linguist speakers. What is more, they even seem to be the norm, as only a very small number of cases receive a uniform motivational partner. Contrary to the strictly unidirectional approaches of lexical motivation, which consider multiplicity of motivational links as problematic, it has been shown that motivational networks are justified from a cognitive point of view. A review of research results concerning word-family organization in the mental lexicon provides evidence for the fact that when processing a given lexical unit, the whole word family is co-activated, as the latter seems to be organized as a multidirectional morphological-conceptual network between all related units. It can be supposed that speakers make this subconscious activation explicit when they are exposed to motivation tasks like the ones presented in this paper. The fact that the motivational links that were found varied among subjects is then explainable by different individual saliencies of the word family members or of the possible conceptual relations holding between them. Similar strategies can be used in second language acquisition either to make unknown vocabulary accessible or to facilitate its memorization.

Thus, it can be concluded that the existence of motivational networks is not an abnormal and not even an exceptional phenomenon but directly reflects the organizational principles of the mental lexicon.

References

- Aitchison, Jean. 1994. *Words in the Mind. An Introduction to the Mental Lexicon*. Oxford (UK) and Cambridge (USA): Blackwell.
- Augst, Gerhard. 1975. *Untersuchungen zum Morpheminventar der deutschen Gegenwartssprache*. Tübingen: Narr.
- Augst, Gerhard. 2002. Typen von Wortfamilien. In D. A. Cruse et al., eds. *Lexikologie/Lexicology: Ein internationales Handbuch zur Natur und Struktur von Wortschätzen/An International Handbook on the Nature and Structure of Words and Vocabularies*, Vol. 1, 681–688. Berlin and New York: Mouton de Gruyter.
- Butterworth, Brian. 1983. Lexical representation. In B. Butterworth, ed. *Language Production*. Vol. 2: *Development, Writing and Other Language Processes*, 257–294. London: Academic Press.
- Bybee, Joan. 1995. Regular morphology and the lexicon. *Language and Cognitive Processes* 10: 425–455.

- Bybee, Joan. 1998. The emergent lexicon. *Chicago Linguistics Society* 34. Part 2: *Papers from the Panels*: 421–435. Chicago: CLS.
- Clark, Eve V. 1993. *The Lexicon in Acquisition*. Cambridge: Cambridge University Press.
- Coolen, Riet, Henk J. van Jaarsveld, and Robert Schreuder. 1991. The interpretation of isolated novel nominal compounds. *Memory & Cognition* 19: 341–352.
- Corbin, Danielle. 1976. Peut-on faire l'hypothèse d'une dérivation en morphologie? In J.-C. Chevalier, et al., eds. *Grammaire transformationnelle: syntaxe et lexique*, 47–91. Lille: Publications de l'Université de Lille III.
- Cruse, Alan D. 1986. *Lexical Semantics*. Cambridge: Cambridge University Press.
- Denninghaus, Friedrich. 1976. Der kontrollierte Erwerb eines potentiellen Wortschatzes im Fremdsprachenunterricht. *Praxis des neusprachlichen Unterrichts* 23: 3–14.
- Frauenfelder, Uli H., and Robert Schreuder. 1991. Constraining psycholinguistic models of morphological processing and representation: The role of productivity. In G. Booij and J. van Marle, eds. *Yearbook of Morphology*, 165–183. Dordrecht: Kluwer.
- Hausmann, Franz Josef. 2002. Nur nützliche Wörter lernen: Durchsichtigkeit des Wortschatzes und Optimierung der Wortschatzarbeit. *Französisch heute* 33: 256–269.
- Iacobini, Claudio. 2000. Base and direction of derivation. In G. Booij et al., eds. *Morphology/Morphologie: An International Handbook on Inflection and Derivation/Ein internationales Handbuch zur Flexion und Wortbildung*, Vol. 1, 865–876. Berlin and New York: Mouton de Gruyter.
- Kielhöfer, Bernd. 1994. Wörter lernen, behalten und erinnern. *Neusprachliche Mitteilungen aus Wissenschaft und Praxis* 47: 211–220.
- Kienpointner, Anna Maria. 1985. *Wortstrukturen mit Verbalstamm als Bestimmungsglied in der deutschen Sprache*. Innsbruck: Institut für Germanistik.
- Koch, Peter. 2001. Lexical typology from a cognitive and linguistic point of view. In M. Haspelmath et al., eds. *Language Typology and Language Universals/Sprachtypologie und sprachliche Universalien/La typologie des langues et les universaux linguistiques: An International Handbook/Ein internationales Handbuch/Manuel international*, Vol. 2, 1142–1178. Berlin and New York: Mouton de Gruyter.
- Koch, Peter, and Daniela Marzo. 2007. A two-dimensional approach to the study of motivation in lexical typology and its first application to French high-frequency vocabulary. *Studies in Language* 31: 259–291.
- Langacker, Ronald W. 1987. *Foundations of Cognitive Grammar*. Vol 1: *Theoretical Prerequisites*. Stanford: Stanford University Press.
- Laudanna, Alessandro, and Cristina Burani. 1985. Address mechanisms to decomposed lexical entries. *Linguistics* 23: 775–792.
- Lehmann, Christian. 2007. Motivation in language: Attempt at a systematization. In P. Gallmann, C. Lehmann, and R. Lühr, eds. *Sprachliche Motivation: Zur Interdependenz von Inhalt und Ausdruck*, 105–140. Tübingen: Narr.
- Lübke, Diethard. 1976. Der potentielle Wortschatz im Französischen. *Praxis des neusprachlichen Unterrichts* 31: 372–379.
- Marslen-Wilson, William D., Lorraine K. Tyler, Rachelle Waksler, and Lianne Older. 1994. Morphology and meaning in the English mental lexicon. *Psychological Review* 101: 3–33.
- Marzo, Daniela. 2008. What is iconic about polysemy? A contribution to research on diagrammatic transparency. In L. de Cuypere and K. Willems, eds. *Naturalness and Iconicity in Linguistics [Iconicity in Language and Literature 7]*, 167–187. Amsterdam and Philadelphia: Benjamins.

- Marzo, Daniela, and Verena Rube. 2006. What do you think where words come from? Investigating lexical motivation empirically. In V. Solovyev, V. Goldberg and V. Polyakov, eds. *The VIIIth International "Conference Cognitive Modelling in Linguistics": Proceedings*. Vol. I, 152–161. Kazan: Kazan State University.
- McQueen, James M., and Anne Cutler. 1998. Morphology in word recognition. In A. Spencer and A. M. Zwicky, eds. *The Handbook of Morphology*, 406–427. Oxford: Blackwell.
- Plag, Ingo. 2003. *Word-Formation in English*. Cambridge: Cambridge University Press.
- Radden, Günter. 2004. The metonymic folk model of language. In B. Lewandowska-Tomaszczyk and A. Kwiatkowska, eds. *Imagery in Language: Festschrift in Honour of Professor Ronald W. Langacker*, 543–565. Frankfurt/Main: Lang.
- Radden, Günter, and Klaus-Uwe Panther, eds. 2004. *Studies in Linguistic Motivation*. Berlin and New York: Mouton de Gruyter.
- Rettig, Wolfgang. 1981. *Sprachliche Motivation: Zeichenrelationen von Lautform und Bedeutung am Beispiel französischer Lexikoneinheiten*. Frankfurt a. M. and Bern: Lang.
- Sanchez, Christina. 2008. *Consociation and Dissociation: An Empirical Study of Word-Family Integration in English and German*. Tübingen: Narr.
- Saussure, Ferdinand de. 1985. *Cours de linguistique générale: Publié par Charles Bally et Albert Sechehaye avec la collaboration de Albert Riedlinger. Édition critique préparée par Tullio di Mauro*. Paris: Payot.
- Schreuder, Robert, and Harald R. Baayen. 1997. How complex simplex words can be. *Journal of Memory and Language* 37: 118–139.
- Segui, Juan, and Maria-Luisa Zubizarreta. 1985. Mental representation of morphologically complex words and lexical access. *Linguistics* 23: 759–774.
- Stein, Gabriele. 2002. *Developing your English Vocabulary: A Systematic New Approach*. Tübingen: Stauffenburg.
- Taft, Marcus, and Kenneth I. Forster. 1975. Lexical storage and retrieval of prefixed words. *Journal of Verbal Learning and Verbal Behavior* 14: 638–647.
- Twardzisz, Piotr. 1997. *Zero Derivation in English: A Cognitive Grammar Approach*. Lublin: Wydawnictwo UMCS.
- Ullmann, Stephen. ²1957. *The Principles of Semantics*. Oxford: Blackwell.
- Ullmann, Stephen. 1962. *Semantics: An Introduction to the Science of Meaning*. Oxford: Blackwell.
- Umbreit, Birgit. 2010. Does *love* come from *to love* or *to love* from *love*? Why lexical motivation has to be regarded as bidirectional. In A. Onysko and S. Michel, eds. *Cognitive Perspectives on Word Formation*, 301–333. Berlin and New York: Mouton de Gruyter.
- Wellmann, Hans. 1991. Morphologie der Substantivkomposita. In L. Ortner and E. Müller-Bolhagen, eds. *Deutsche Wortbildung: Typen und Tendenzen der Gegenwartssprache*. Vierter Hauptteil: *Substantivkomposita*, 3–111. Berlin and New York: Mouton de Gruyter.

The “meaning-full” vocabulary of English and German

An empirical study on lexical motivatability

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It is widely believed that only a small part of the English vocabulary is analyzable into constituents that are both formally and semantically related to the meaning of the complex word. De Saussure (1916) already described English as a *langue lexicologique*, a phenomenon that Leisi (1955) attributes to the large proportion of Romance words that have become part of the originally Germanic English language. Leisi concludes that, in contrast to German, many words of contemporary English are not integrated into any word family.

This paper presents the results of a research project in which the motivatability of the 2,500 most frequent English and German words is investigated. The approach adopted here distinguishes the four categories of ‘fully motivatable’, ‘partially motivatable’, ‘unmotivatable but transparent’ and ‘fully unmotivatable’ words. The two most important findings of the study are: (i) the German vocabulary is in fact more motivatable than the English vocabulary – if only marginally so, and (ii) the non-native origin of a word has no negative effect on its motivatability.

Key words: full motivatability etymology, partial motivatability, transparency

1. Delimiting the notion of motivation in the lexicon

Motivation is not the same as predictability (Langacker this volume). Lakoff (1987: 438; 448) offers the following definition of linguistic motivation: “The relationship between A and B is *motivated* just in case there is an independently existing link, L, such that A-L-B ‘fit together’. L *makes sense* of the relationship between A and B.” It is very often the case that the meaning of the whole is not predictable – but motivated by the meanings of the parts – which is why a cognitive theory of motivation is required (Lakoff 1987: 148). Langacker (2008: 88) maintains that “while virtually everything is

motivated, very little is subject to absolute **predictability**". It is questionable whether there are any words at all whose meaning can be predicted from the meaning of their components; however, their components can enter a sensible paraphrase of a word's meaning. In this study such words will be described as *fully motivated*. Here we do not follow Lakoff (1987: 147), who assumes that cases that are fully motivated are always predictable. We assume that, for example, the meaning of the compound *bedroom* is not predictable but fully motivated because its meaning can be paraphrased as 'a room containing one or more beds', even though its elements may permit other possible, but non-lexicalized interpretations, such as 'a room in the shape of a bed' or 'the room contained within a bed'. Furthermore – in analogy with German *Schlafzimmer* – **sleeping room* would be equally motivated to designate the concept.

This raises another important question, namely: when can a word be classified as motivated and not merely as transparent? This is a fairly subjective decision, which may be approached differently by different analysts. Yet the human factor cannot be avoided: motivation is necessarily motivation for someone (Gauger 1970: 105), i.e. for a human beholder. In the research project described below, the guiding principle was Augst's (1998: IX-X) "synchronic etymological competence", which is defined as the "normal" language users' ability to analyse complex words until they arrive at core words which cannot be analysed any further. This means that a motivational analysis cannot rely on a person's knowledge of linguistics or foreign languages. We attempted to simulate the decisions of laypeople using our own native German and advanced English introspection with regard to plausible paraphrases of complex words that involve the meaning of formally similar or identical constituents. To give an example, a plausible paraphrase of the meaning of *football* might be: "a football is called *football* because it is a ball that players usually kick with their foot". The example *football* will presumably be analysed identically by most people, but other examples are less clear. For instance, can *responsibility* be motivated by *respond* (because someone who is responsible has to respond for his/her actions)? While motivation should be based on an objectively recognisable relation between words, the question remains how to determine it.

In order to do justice to the fact that language users, including linguists, can only provide tentative subjective motivational relations, the study presented here underlines their potential character by adopting Rettig's (1981: 75–76) term *motivatability* instead of *motivation*. Words such as *responsibility* show that it is necessary to recognize an intermediate category between full motivatability of items such as *football* and the complete arbitrariness of words such as *leaf*. Following and adapting Gauger's (1971: 137) terminology, this intermediate category between 'fully motivatable' and 'unmotivatable' words is referred to as *partial motivatability*. Such a threefold distinction is frequently found in the literature under varying names (cf. Fleischer & Barz 1995: 18). In this intermediate category, we find words such as *income*, which can obviously be connected to the constituents *in* and *come* on both formal, i.e. morphological, and semantic, i.e. meaning-related, grounds. Still, though these constituents do contribute to

the complex word's meaning, the lack of the monetary aspect as the defining semantic feature prevents a classification of this particular word as fully motivatable.

This motivational scale has to be further refined by a certain number of subcategories based on the obstacles that can be encountered when analyzing actual language material. For instance, transparent words such as *understand* < *under*, *stand* form a subcategory of unmotivatable words that will be referred to as *unmotivatable but transparent*.

Far more important are the subcategories encountered within the partially motivated group. Thus, the segmentation of a word into constituents may reveal a formal obstacle, either in their phonological shape, as in *preference* < *prefer* + *-ence*, or in their graphic shape, as in *guidance* < *guide* + *-ance*, or in both their phonological and graphic shape, e.g. in *angry* < *anger* + *-y*. (If only the spoken or written form of a word is affected, it is still regarded as fully motivatable provided that all other variables indicate full status.)

The relation between a word and its possible constituent(s) is sometimes slightly obscured by semantics. Thus, constituents may only be metaphorically related to the complex word, e.g. in the analysis of *discover* into *dis-* and *cover*. Alternatively, a central semantic constituent may not be expressed at all, such as ‘money’ in *income*, or the paraphrase based on the constituents may not be satisfactory for some other, idiosyncratic reason.

Other items are only motivatable with a remainder: thus *human* is reminiscent of *man* from a synchronic point of view, but this analysis leaves us with an unidentifiable beginning. Similarly, an adjectival suffix *-al* can be distinguished in *royal*, but the remainder cannot be synchronically related to an existing free base of the same language.

Another question that needs to be resolved is how to treat words that are related to a word of another part of speech with which they are formally identical. For example, the verb *to list* can be paraphrased by making use of the corresponding noun in ‘to make a list of something’. If one were to claim that words which are related by zero-derivation are actually instances of the same lexeme (as is done in Leisi & Mair 1999: 86–87), this could not be counted as a motivating relationship. However, in the study described here (just like implicitly in Clark & Clark 1979), part of speech was considered a criterion for postulating separate lexemes, so that motivation by zero-derived items was accepted unless this would have resulted in awkward paraphrases such as ‘a bottle is a device for bottling’. Consequently, the noun *bottle* is not motivatable by the verb, but the opposite would be the case.

A similar type of problem is encountered when determining the status of items which can be related to a shorter, formally related synonym or abbreviation, e.g. *amongst* < *among*. In such cases, the formal and the slight stylistic difference are regarded as sufficient to postulate different lexemes, so that these complex items are regarded as partially motivatable.

Last but not least, a word may be among the most frequent vocabulary items, whereas its constituents are stylistically marked and belong to a less central vocabulary

range. For example, the noun *computer* can theoretically be motivated by the verb *to compute* and the suffix *-er*, but it is not very likely that a person unaware of the noun would know the verb. Nonetheless, such cases were counted as partially motivatable for the sake of systematic clarity in Sanchez (2008a).

While decisions regarding formal similarities and dissimilarities are fairly easy to make on the grounds of the number of shared phonemes and letters, all decisions involving a semantic component will always be subjective to a certain degree. However, it makes no sense to test motivation without considering the semantic component as well; for this reason, the database for the study present here was revised several times and is made available to other researchers on request.

2. Researching the motivatability of the English and German vocabulary

In his posthumous book *Cours de linguistique générale* (1916/1974: 133–134), de Saussure notes that

There is no language in which nothing is motivated, and our definition makes it impossible to conceive of a language in which everything is motivated. Between the two extremes – a minimum of organization and a minimum of arbitrariness – we find all possible varieties. Diverse languages always include elements of both types – radically arbitrary and relatively motivated – but in proportions that vary greatly, and this is an important characteristic that may help in classifying them. In a certain sense – one which must not be pushed too far but which brings out a particular form that the opposition may take – we might say that languages in which there is least motivation are more *lexicological*, and those in which it is greatest are more *grammatical*. [...] We would see, for example, that motivation plays a much larger role in German than in English.

In a similar vein, Ernst Leisi (1955: 63) claims that English and French are considerably “dissociated” languages, while German and Italian are considerably “consociated”. By this he understands the degree to which the vocabulary of a language is integrated into etymological (phonetically and semantically related) families (Leisi 1955: 58). Thus, the German words *mündlich* ‘oral’ and *Mund* ‘mouth’ are related with respect to both form and meaning, whereas the English equivalents *oral* and *mouth* are semantically, but not formally, related. Therefore, German *mündlich* is said to be consociated while English *oral* is said to be dissociated or “antisocial”. If word-family integration is taken as the basis for consociation, it can consequently be defined as consisting of two components, namely a synthetic and/or an analytical component, the second of which corresponds to the afore-mentioned notion of motivatability.

The goal of the present study is to empirically validate de Saussure’s and Leisi’s claims about the motivational differences between English and German. We should

expect to find more unmotivatable words in English than in German in samples of comparable size and makeup.

The present study is based on the 2,500 most frequent lemmas of English and German as attested in the British National Corpus and the DWDS Core Corpus, i.e. both simplex and complex words, including compounds and affixations. It was assumed that the most frequent lemmas represent the relevant vocabulary for both native speakers and learners of the two languages (cf. Sanchez 2008b). Unfortunately, the corpora are not fully comparable; for instance, the texts in the DWDS Core Corpus cover the whole of the twentieth century and the version used contained no spoken language, whereas the vast majority of texts in the BNC were produced between 1975 and 1993 and also include 10 million spoken words (Aston & Burnard 1998). However, both corpora were designed to be representative of their particular language, with the DWDS Core Corpus emulating the BNC with respect to the proportion of different text types (<http://www.dwds.de/ueber>, visited October 2009), so that they are similar enough to be used in a contrastive lexical study.

For all words, the motivatability was encoded in an Excel spreadsheet following the criteria outlined above. To simplify matters, only a binary analysis was carried out on the highest level, so that the adjective *educational* was analysed into *education* and *-al* only, with no further subdivision of the derivative *education* on a lower level. As a rule, each motivatable word was assigned two constituents in one column and a code combining the different types of obstacles, if there were any, in another column. This approach has the advantage of allowing the combination of different kinds of obstacles, e.g. when *your* is classified as partially motivatable by *you*, with an unresolved remainder and different pronunciations. This is of great importance because the majority of words involve several such problems. In addition, this model makes it possible to include or exclude certain variables in the calculation of the results so that a large range of alternatives can be obtained.

Non-linguists cannot be expected to know rare affixes or the etymology of words. For this reason, only affixes from English learners' dictionaries or affixes that could be easily derived from the data were admitted as motivating constituents, and analyses did not have to coincide with the diachronic facts. The analyses followed the principle of always aiming to find the maximal amount of motivatability in both languages.

Several variables such as frequency (in terms of rank) and etymological origin were also encoded. The mixed etymological character of the English vocabulary is notorious (cf. Scheler 1977: 9; Görlach 1986). According to Leisi (1955: 58–60), the massive influx of Latinisms (under which he subsumes French words) into the English language has reinforced the dissociation of its vocabulary. For instance, in the example given above, *mouth* is of Germanic and *oral* of Romance origin. The Germanic and Romance provenance of the words was encoded on the basis of digital reference works such as the *Shorter Oxford English Dictionary* (2002) for English and the *Duden Deutsches Universalwörterbuch* (2005) for German. Words with mixed roots such as *around* and *gentleman* were classified as Germanic-and-Romance, and very few items entered

the three categories “unknown”, “eponymic” or “exotic words”. As the etymology of many German compounds and derivatives is not recorded in reference works (not even in etymological dictionaries such as Paul 2002 or Kluge 2002), an original-language approach was adopted, which considers the origins of the words’ constituents.

On the basis of these observations, the following two hypotheses concerning the motivatability of the English and German vocabulary were tested:

1. German vocabulary is more motivatable than English vocabulary.
2. Words of Germanic origin are more motivatable than words of Romance origin.

3. Results

Table 1 illustrates that only 13.48% of the English and 17.68% of the German words are fully decomposable into motivating constituents (e.g. *chairman* < *chair*, *man*). However, an additional proportion of 46.12% of the English and 48.84% of the German words under consideration are partially motivatable (e.g. *religious* < *religion*, *-ous*) so that some kind of motivating relation can be recognized in as many as 59.60% of the English and 66.52% of the German words. Thus, the proportion of motivatable words comes fairly close to two thirds, i.e. 66.66%, in both languages. Even though Hypothesis 1 is thus confirmed, one must nonetheless be cautious about considering English and German as diametrically opposed language types on the basis of a difference of merely 6.92%.

Another fact that should be kept in mind is that we are dealing with the highest-frequency vocabulary slices here. Figure 1 shows that the graphs for fully (MO) and partially motivatable (MP) words in English rise with decreasing rank or frequency. Initially, the curve of partially motivatable words is clearly the steeper of the two, but then both graphs rise almost parallel to each other. The most frequent items are predominantly unmotivatable, but then the proportion of unmotivatable (UN) words experiences a relatively sharp drop in the first 500 items and keeps sinking, while the proportion of unmotivatable but transparent (UT) words remains fairly constant once it has reached a certain level. The 1,130 most frequent lemmas are thus predominantly unmotivatable, but the consideration of words from rank 1 to 1,131 and below leads to the result that the English vocabulary is predominantly motivatable.

Table 1. Motivatability of the 2,500 most frequent English and German lemmas (in percentages)

			English	German
Fully motivatable (MO)	<i>football</i>	< <i>foot</i> , <i>ball</i>	13.48	17.68
Partially motivatable (PM)	<i>income</i>	< <i>in</i> , <i>come</i>	46.12	48.84
Unmotivatable but transparent (UT)	<i>understand</i>	< <i>under</i> , <i>stand</i>	4.40	5.32
Unmotivatable (UN)	<i>leaf</i>	–	36.00	28.16

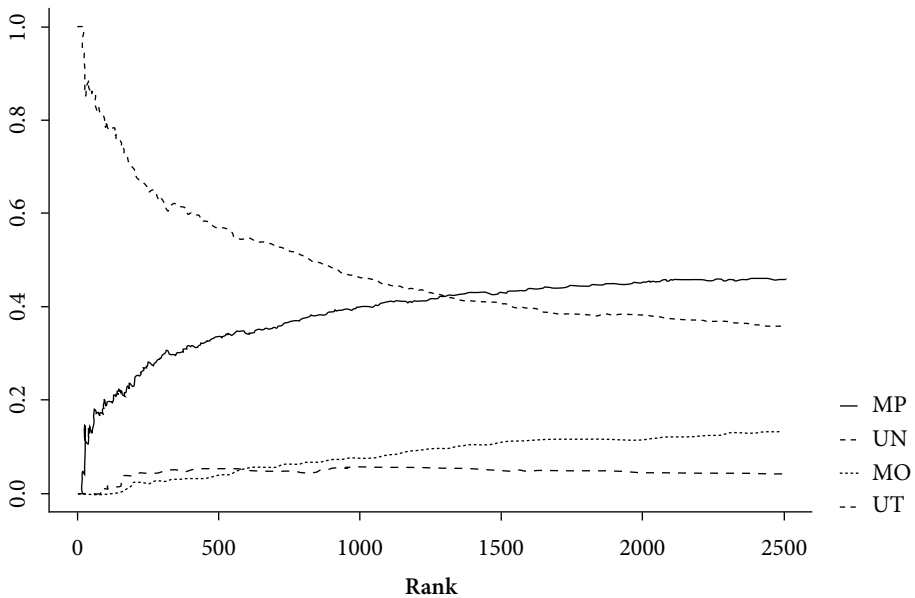


Figure 1. Motivatability and rank (frequency) of the English items

This result can be linked with the vertical structure of prototypes: basic level terms, e.g. *chair* as opposed to *kitchen chair*, are generally very frequent, short and structurally simple, i.e. they tend to be monomorphemic rather than polymorphemic, whereas subordinate terms are less frequent, complex and often compounds in which the basic level term is modified (Taylor 1995: 49). Superordinate terms, such as *furniture*, are rare or simply do not even exist in a particular language (Taylor 1995: 49).

The same phenomenon can be observed in German, so that the contrastive results are not affected by this general tendency of the motivatability to rise with decreasing rank. For this reason, the average motivatability of all words in the two languages should actually be even higher than the results outlined above, because the expected higher motivatability of the vast number of lower-frequency words will counterbalance and even outweigh the comparatively low results for the small sample of the 2,500 most frequent items.

Still, the majority of the motivatable items in the sample under consideration is only partially motivatable. Therefore, it makes sense to consider the kinds of obstacles that recur most frequently in the sample.

The percentages listed in Table 2 are based on the total number of items, i.e. 2,500 for each language, because the variables may be combined within particular words. Thus, *lawyer* < *law*, *-er* contains both a formal obstacle (because the combination of the constituents does not result in the full graphic shape) and a semantic obstacle (because the paraphrase ‘a person who uses the law’ is still a bit vague) and thus counts

Table 2. Subcategories of partial motivatability (in percentages)

			English	German
Formal differences	<i>distribution</i>	< <i>distribute</i> , <i>-ion</i>	15.92	16.60
Motivatable by zero-derivation	<i>list</i> (v)	< <i>list</i> (n)	15.80	5.08
Incomplete analysability	<i>mountain</i>	< <i>mount</i>	14.12	12.96
Semantic differences	<i>income</i>	< <i>in</i> , <i>come</i>	13.64	23.56
(Stylistically) Marked constituents	<i>computer</i>	< <i>compute</i> , <i>-er</i>	2.12	4.12
Motivatable by abbreviation or shorter synonym	<i>amongst</i>	< <i>among</i>	0.52	0.84

towards both categories in Table 2. The figures suggest that stylistically marked constituents and motivation by abbreviation or shorter synonyms play only a marginal role in both languages. The same can be said of zero-derivation in German but not in English, where it represents the second most important type of obstacle to motivation with 15.80%. That the figures for this variable are more than three times as high in English as in German (where it only reaches 5.08%) may be taken as indicative of different vocabulary structures, German having a far more refined inflectional system than English (Leisi & Mair 1999: 140–145), which has an important effect on the organization of the lexicon and the assignment of part of speech (cf. Vogel 1996: 269, who speaks of *merkmallose Wortartübergänge* (featureless part-of-speech transitions) between English verbs and nouns). Apart from this idiosyncrasy, the most important factors resulting in partial motivatability are shared by both languages. Nonetheless, while formal differences, incomplete analyzability and semantic differences are fairly evenly distributed in English with 15.92%, 14.12% and 13.64%, respectively, semantic obstacles definitely take the lead in the German sample with a proportion of 23.56%. One possible explanation for this lies in the special character of German prefixations. Even though prefixations only constitute about one-seventh of the German items analyzed, roughly every third word classified as partially motivatable with a semantic obstacle contains a prefix, and conversely, about every second prefixed word contains some kind of semantic obstacle.

Apart from these immediately evident differences, others are more subtle and only become apparent if one takes a look at the subcategories. For instance, within the formal obstacles to motivatability, combined spelling and pronunciation differences (cf. *angry* < *anger* + *-y*) constitute the largest subcategory in both English (72.86%) and German (56.39%). While this is followed by isolated spelling differences (11.56%; cf. *guidance* < *guide* + *-ance*) and isolated pronunciation differences (9.55%; cf. *preference* < *prefer* + *-ence*) in English, vowel mutation (20.96%; cf. *jährlich* < *Jahr*, *-lich*) and vowel gradation (19.76%; cf. *springen* < *Sprung*) are responsible for practically all of the remainder of the formal differences in German. Within the category of incomplete analysability, another, less marked, tendency can be observed: 43.48% of the English

(in contrast to 34.09% of the German) words are motivatable by affixes only, e.g. *royal* < *-al*. These items often have a Romance origin and no discernible base. By contrast, transparent remainders can be found in almost 12% more German than English incompletely analysable words (52.13% and 40.58%), e.g. in *research*, which is definitely related to *search* but not clearly to *re-* ‘again’ or ‘back’.

Table 3 allows the comparison of the results obtained in Sanchez (2008a) with those of Fill (1980). Fill’s figures for what he calls the *Wortdurchsichtigkeit* (‘word transparency’) of the English and German vocabulary vary greatly, depending on the material (novels, fiction) and the parts of speech focused on in the respective analyses: thus, his results fluctuate between 15% and 68% for English and between 41% and 83% for German. In all cases, though, German clearly ranks before English.

If a dictionary average is calculated as the figure that may come closest to the design of the research project presented here, the ensuing motivational rate of 73% for Fill’s German items (= average of 83% + 62%) comes very close to the 66.52% (= 17.68% fully motivatable + 48.84% partially motivatable words; cf. Table 1) found in Sanchez (2008a). By contrast, Fill’s 49% result for English (= average of 68% + 30%) lies very clearly below the roughly 60% outcome of the study presented here (= 13.48% fully motivatable + 46.12% partially motivatable words). This is surprising, as one would expect the motivatability of high-frequency vocabulary to be lower than that of random dictionary entries. A possible explanation lies in the definition of what is accepted as a motivated word. For instance, Fill’s approach does not accept motivatability by an affix only, and *-ly*-adverbs are considered arbitrary as well. This demonstrates how important it is that researchers make clear what they understand by motivation so as to make their studies potentially comparable with other studies. However, even if this is taken into account, English and German behave more similarly in the present study than in previous research on motivatability.

With respect to the association between motivatability and etymology, the English and German items show reverse tendencies. Thus, only 49.47% of the English words culled from the BNC are of Germanic origin as opposed to 68.25% of the German words found in the DWDS, whereas 63.32% of the English words are of Romance origin as opposed to only 48.90% of the German words (see Table 4).

Table 3. Word transparency (*Wortdurchsichtigkeit*) in Fill (1980) (in percentages)

	English	German
Novels (n, adj, adv)	24	46
Non-fiction (n, adj, adv)	44	62
Dictionary (n, adj, adv)	68	83
Novels (v)	15	41
Non-fiction (v)	21	58
Dictionary (v)	30	62

Table 4. Contrastive etymological origin of motivatable words (in percentages)

	English	German
Germanic origin	49.47	68.25
Romance origin	63.32	48.90

A look at the category-internal distinctions reinforces this tendency for the Romance words to be more motivatable in English and for the Germanic words to be more motivatable in German: both full (9.98%) and partial motivatability (53.34%) of Romance items are higher in the BNC words than the respective values for the Germanic items (9.60% and 39.87%), and both types of motivatability are higher in the Germanic (18.60% and 49.65%) than in the Romance items (4.67% and 44.23%) from the German sample. Thus, Hypothesis 2 can be neither confirmed nor rejected in its general form. Depending on the language under consideration, it is either true or false: true for German, but false for English. The conclusion that can be drawn here is that the Romance words in German have retained a more alien character than in English. Considering all this evidence, a tentative explanation at least for Leisi's hypothesis can be seen in his native German background: as Romance words are less motivatable in German than the Germanic words, he may have subconsciously applied the German situation to the English vocabulary.

4. Conclusion

English and German reach fairly similar results on the highest levels of analysis of lexical motivatability, but each language has its own distinctive profile with respect to the kind of obstacles encountered in lexical decomposition.

Hypothesis 1, which stated that the German vocabulary is more motivatable than the English vocabulary, has been confirmed: high-frequency German words are indeed more motivatable than their corresponding English words, but only by a small margin (66.52% as against 59.60%). It may, therefore, be concluded that the high-frequency vocabularies of the two languages are in fact more similar with respect to motivatability than previously thought. Moreover, the fact that the high-frequency vocabulary is predominantly motivatable underlines the cognitive linguistic tenet that motivation is the norm and arbitrariness the last resort (cf. e.g. Lakoff 1987: 346).

Hypothesis 2, which stated that Germanic words are more motivatable than Romance words, has only been confirmed for one of the two languages: in German, words of Germanic origin are indeed more motivatable than words of Romance origin (68.25% vs. 48.90%). In English, by contrast, the opposite is the case (49.47% vs. 63.32%). This shows that the non-native origin of a word has no negative effect on its motivatability, at least not for high-frequency words of English

In conclusion, it can be said that not only the German but also the English high-frequency vocabulary is far more “meaning-full” than would have been expected previously, and that the Romance origin of an English word does not affect its motivatability. The correlation of motivatability and frequency ranking suggests that this also applies to lower-frequency words and thus to the vocabulary of English and German in general.

References

- Aston, Guy and Lou Burnard. 1998. *The BNC Handbook: Exploring the British National Corpus with SARA*. Edinburgh: Edinburgh UP.
- Augst, Gerhard. 1998. *Wortfamilienwörterbuch der deutschen Gegenwartssprache*. Tübingen: Niemeyer.
- Clark, Eve V., and Herbert H. Clark. 1979. When nouns surface as verbs. *Language* 55: 767–811.
- Duden Deutsches Universalwörterbuch*. 2003. 5th, rev. ed. on CD-ROM. Mannheim: Bibliographisches Institut and F. A. Brockhaus.
- DWDS Core Corpus: Core Corpus of the *Digitales Wörterbuch der deutschen Sprache des 20. Jahrhunderts*.
- Fill, Alwin. 1980. *Wortdurchsichtigkeit im Englischen: Eine nicht-generative Studie morphosemantischer Strukturen: Mit einer kontrastiven Untersuchung der Rolle durchsichtiger Wörter im Englischen und Deutschen der Gegenwart*. Innsbruck: Innsbrucker Beiträge zur Sprachwissenschaft.
- Fleischer, Wolfgang, and Irmhild Barz. 1995. *Wortbildung der deutschen Gegenwartssprache*. 2nd ed. Tübingen: Niemeyer.
- Gauger, Hans-Martin. 1970. *Wort und Sprache: Sprachwissenschaftliche Grundfragen*. Tübingen: Niemeyer.
- Gauger, Hans-Martin. 1971. *Durchsichtige Wörter: Zur Theorie der Wortbildung*. Heidelberg: Winter.
- Görlach, Manfred. 1986. Middle English – a creole? In D. Kastovsky and A. Szwedek, eds. *Linguistics across Historical and Geographical Boundaries*, Vol. 1: 329–344. Berlin and New York: de Gruyter.
- Kluge, Friedrich. 2002. *Etymologisches Wörterbuch der deutschen Sprache*. 24th, rev. ed. on CD-ROM. Berlin: de Gruyter.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago and London: The University of Chicago Press.
- Langacker, Ronald. 2008. *Cognitive Grammar: A Basic Introduction*. Oxford: OUP.
- Leisi, Ernst. 1955. *Das heutige Englisch: Wesenszüge und Probleme*. Heidelberg: Winter.
- Leisi, Ernst, and Christian Mair. 1999. *Das heutige Englisch: Wesenszüge und Probleme*. 8th, rev. ed. Heidelberg: Winter.
- Marzo, Daniela, and Verena Rube. 2005. What do you think where words come from? Investigating lexical motivation empirically. In V. Solovyev, V. Goldberg, and V. Polyakov, eds., *The VIII-th International Conference “Cognitive Modeling in Linguistics”*. Proceedings. Vol. 1, 152–161. Kazan: Kazan State University.

- Paul, Hermann. 2002. *Deutsches Wörterbuch: Bedeutungsgeschichte und Aufbau unseres Wortschatzes*. 10th, rev. ed. Tübingen: Niemeyer.
- Rettig, Wolfgang. 1981. *Sprachliche Motivation: Zeichenrelation von Lautform und Bedeutung am Beispiel französischer Lexikoneinheiten*. Frankfurt/Main: Lang.
- Sanchez, Christina. 2008a. *Consociation and Dissociation: An Empirical Study of Word-Family Integration in English and German*. Tübingen: Narr.
- Sanchez, Christina. 2008b. Improving learn-ability: What a lexicological study can tell us about the usefulness of lexical decomposition strategies in language teaching. In *Cognitive Approaches to Second/Foreign Language Processing: Theory and Pedagogy*, 724–743. Essen: LAUD.
- de Saussure, Ferdinand. 1916/1974. *Course in General Linguistics*. Trans. Wade Baskin. London: Fontana/Collins.
- Scheler, Manfred. 1977. *Der englische Wortschatz*. Berlin: Schmidt.
- Taylor, John R. 1995. *Linguistic Categorization: Prototypes in Linguistic Theory*. 2nd ed. Oxford: Clarendon.
- The Shorter Oxford English Dictionary on CD-ROM*. 2002. 5th ed. Version 2.0. Oxford: OUP.
- Vogel, Petra Maria. 1996. *Wortarten und Wortartenwechsel*. Berlin and New York: Mouton de Gruyter.

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