# Cognitive semantics

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**Chapter 5: Cognitive Semantics**

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**Abstract**

The starting point of this chapter is the cognitive view that meaning is conceptualisation adapted to linguistic convention. In other words, in a cognitive approach to language, meaning is thus not a separate module of the grammar but is at the heart of all parts of the grammar: all linguistic (i.e. symbolic) units are considered as meaningful. In this chapter, we will elaborate this view by looking at how meaning is at work at several levels in the grammar, ranging from morphology, to lexical semantics, to syntactic constructions. Some of the notions that will be briefly discussed are frames and Idealised Cognitive Models, image schemas, schematicity, salience and prototypes, and metaphor and metonymy.

**1. Introduction**

This chapter discusses meaning as it is viewed in cognitive linguistics. The term "cognitive linguistics" will be used here as a cover term to refer to a number of related theories, such as Cognitive Grammar, (Radical) Construction Grammar, Conceptual Metaphor Theory, etc. that each have their own specifics, but essentially adhere to the same general cognitive-functional, usage-based perspective on language. One of the basic tenets of these cognitive theories is that language does not constitute a separate innate faculty of mind (cf. Langacker 1987:13). Undeniably, human beings have an innate (i.e., genetically determined) predisposition that allows them to learn language; however, the full articulation of the linguistic system depends on experiential factors (physiological as well as cultural) and cognitive abilities that are not unique to language. Nor is it necessarily so that grammatical structure, at a very abstract level, is innate and (thus) universal. The innate, universal nature of grammar (which is in fact an empirical question rather than the theoretical *a priori* which it often is taken to be, cf. also Levinson 2003a) is not an issue that is relevant to the current chapter, but grammar's interaction with experiential factors and cognitive abilities is at the heart of what "cognitive semantics" is.

In fact, the term "cognitive semantics" is somewhat misleading, as it may suggest that semantics is a separate module within the linguistic model, next to "cognitive syntax", "cognitive morphology", "cognitive pragmatics", etc. However, cognitive linguistics does not adopt a modular view on language: all structures in language, ranging from morphemes, to words to syntactic patterns, are considered as inherently meaningful and, moreover, as being of the same kind, i.e., symbolic form-meaning pairings, called **symbolic units** (Langacker's Cognitive Grammar) or **constructions** (Construction Grammar). More specifically, grammar is defined as a structured inventory of such form-meaning pairs. For lexical items and morphemes, assuming such a form-meaning pair is quite uncontroversial, as it goes back to de Saussure's basic insight on the arbitrariness of the link between the *significant* (signifier) and the *signifié* (signified). However, de Saussure, and later (main stream) linguistic theories (of which generative linguistics is the most salient representative)

held the view that, idiomatic constructions notwithstanding, the meaning of **compositional** structures, such as in polymorphemic words or syntactic structures, is not arbitrary since derivable from the meanings of the parts. In other words, speakers know how to figure out the meaning of compositional words such as *woodstove* or *windmill* on the basis of (i) the meaning of the parts (*wood* and *stove*, *wind* and *mill*) and (ii) the meaning(s) of the N-N compounds in English. Similarly, the meaning of a phrase like *a yellow car* can be computed on the basis of the meaning of parts (*a*, *yellow*, *car*) and the knowledge that in the structure ART-ADJ-N the article "determines" the NP and the adjective is a modifier to the noun, typically referring to some quality that the entity referred to by N possesses (in this case, the colour of the car). Unless there is some idiomaticity to the compositional structure, its meaning will not be stored. Most linguistics models thus adopt what Taylor (2012) has called a "dictionary and grammar" perspective on language: everything that is idiosyncratic and non-computable is stored in the dictionary and everything that is computable is regulated by the grammar that typically is regarded as devoid of meaning.

The cognitive definition of grammar as an **inventory** of form-meaning pairs actually goes against such a view, saying not only that grammatical patterns are inherently meaningful, but also that the existence of a more general pattern (a "rule") does not exclude storage of instances of these patterns with their (possibly particular) meaning. Langacker has called this the *rule/list fallacy*: it is not necessarily so that because something is regular or computable, it is not, or cannot, be stored. Quite the contrary, it turns out that full compositionality is rare and that speakers store much more than is often assumed, including such compositional structures, some of which may be partially filled with specific lexical items (e.g., Jackendoff's 2008 *constructional idioms*, such as *a N of a man* or *N by N*), whereas others are fully schematic (e.g., the ditransitive construction, such as *Maarten gave Nick a book*). While in other models, the latter would be considered as the products of a grammatical rule devoid of meaning, in cognitive linguistics they, too, would be considered as inherently meaningful. In short, any linguistic unit, be it a morpheme, a lexical item or a larger (grammatical) pattern, is a symbolic unit linking a particular form to a particular meaning (which Langacker calls the *semantic pole*). Clearly, there will be differences between the semantic structure of lexical items, which will be more content-specific, and that of more syntactic patterns (such as the ditransitive construction, the caused motion construction or the setting construction: see chapter X [Goldberg]) which will have a more schematic meaning.

This chapter will discuss how meaning at all levels is characterised in such a non-modular cognitive model. Clearly, what we present here is but a minimal sketch of the basic tenets of the model (see Geeraerts & Cuyckens 2007 for more elaborate discussions of some of the contexts presented here). The structure of the chapter is as follows. We will first present how cognitive semantics equates meaning with conceptualisation and thus incorporates an encyclopaedic view on meaning (section 2.1). Next, we will present more details on what

such semantic structure looks like, talking first about conceptual imagery (section 2.2) and subsequently about the structure of semantic categories (section 2.3). In section 2.4 we briefly discuss metaphor and metonymy, given their central place in cognitive semantics. Section 2.5 rounds off the presentation with a brief sketch of constructional semantics.

## 2. Critical issues and topics

### 2.1. Meaning as conceptualisation

In cognitive linguistics, meaning is defined as conceptualisation: "Semantic structure is conceptualization tailored to the specifics of linguistic convention. Semantic analysis therefore requires the explicit characterization of conceptual structure." (Langacker 1987:99). At first sight, the cognitive view may not seem to be fundamentally different from other theories which consider meanings to be concepts or conceptual representations. However, as becomes clear from what follows, the cognitive view still differs in important ways, such as its encyclopaedic view on meaning as well as its view that meaning is non-truth conditional.

The conceptual structure that provides the conceptual content of linguistic expressions can range from fairly simple concepts or a perceptual experience to complex knowledge clusters, cf. Langacker's (1987, 1991a) *cognitive domains*, Lakoff's (1987) *Idealised Cognitive Models* or Fillmore's *frames* ("unified frameworks of knowledge, or coherent schematizations of experience" 1985:223). A oft-quoted example is that of the RESTAURANT frame which involves the experience of choosing a restaurant, waiting to be seated, a waiter serving you, choosing from a menu, ordering the food, picking up the bill, etc. Similarly, the meaning of words such as *weekend*, *workday* or *school night* can only be understood in reference to the typical (culture-specific) organisation of our time in weeks consisting of days during which we work (against payment) or go to school, and days when we do not, and the social practices that come with that distinction. Understanding concepts like *weekend accidents* or *school night* requires quite a bit of cultural knowledge, such as the fact that partying or going out is typically reserved for weekends, as it usually involves staying up late (not ideal if the next day starts early) and a lot of drinking, which thus leads to more (lethal) traffic accidents during the weekend. In a similar vein, our understanding of what a *confession* is, crucially relies on received ideas about certain moral standards that may hold in a particular society concerning 'sinful' or secretive behaviour that one should own up to if one wants to be morally correct. As may be clear from these examples, the knowledge structures against the background of which we understand the meaning of linguistics items include (shared) cultural beliefs and practices. In other words, cognitive linguistics embraces an *encyclopaedic* view on meaning in the sense that the concepts constituting expressions' meanings are often drawn from our general ('encyclopaedic') world knowledge – or at least, it rejects a strict dichotomy between linguistic and encyclopaedic knowledge. Such a dichotomy is, on the other hand, characteristic of 'dictionary' views of semantics, in which an

expression's linguistically relevant meaning is limited to the minimal literal sense, as recorded in dictionary definitions.

Cognitive linguistics takes an experiential view on conceptualisation and meaning, observing that many of our concepts are grounded in our experience, cultural and physical. Regarding the latter, cognitive linguistics holds the view that our everyday bodily experience plays an essential role in structuring our conceptual world. As Gibbs *et al.* (1994:233) put it, "Knowledge is seen by many cognitive semanticists […] as being grounded in patterns of bodily experience. These patterns, called *image schemas*, emerge throughout sensorimotor activity as we manipulate objects, orient ourselves spatially and temporally, and direct our perceptual focus for various purposes" (see also Lakoff 1987). Examples of such image schemas are notions like CONTAINMENT, TRAJECTORY (consisting of SOURCE-PATH-GOAL), SUPPORT, SCALE, or even more basic configurational spatial concepts like FRONT-BACK, UP-DOWN, etc. Conceptual domains that imply such image schemas are said to be *embodied* (hence, the embodiment of meaning). Clearly, not all conceptual domains are embodied, yet even non-experiential domains often receive such embodied structure via metaphorical mappings. Hence, a distinction is often made between *primary domains* that are more directly embodied human experience and *abstract* or *secondary domains* that are not, such as social or mental states or processes; the distinction is, however, not always easy to make. Note that also within primary domains, some domains, such as SPACE, are more anchored to direct (physical) experience than others, such as TIME. As a result, one often finds metaphorical mappings from SPACE to TIME rather than the other way around, even if very often both are closely intertwined in many of our spatio-temporal experiences.

### 2.2. Conceptual imagery

As indicated above, conceptual domains are crucial to the meaning of a linguistic item. However, while a conceptual domain provides what Langacker calls the *conceptual content* of an expression, it does not exhaustively define the meaning of that expression. Crucially, linguistic expressions contribute to how the conceptual content is construed; each linguistic expression or construction imposes its own construal. In Langacker's terms, each expression is said to embody "conventional imagery". We will consider three important dimensions of imagery here: (i) *vantage point* (and subjectification), (ii) *Figure/Ground* (or *profile/base*) *alignment* and (iii) *level of specificity*.

Consider the sentences *The lamp is above the table* and *The table is under the lamp*; they may refer to the same situation (i.e., their truth conditions would be the same), yet clearly, they each impose their own *perspective* or *vantage point* on the scene or, put differently, they *frame* the situation differently. Given the different conceptual construal, these two sentences are semantically non-equivalent. Many linguistic expressions incorporate such a vantage point: *He will do it tomorrow* implies a temporal viewpoint, *Come here!* implies a deictic

viewpoint, and *The ball is behind the tree* implies a spatial viewpoint relative to the speaker/conceptualiser (see Levinson 2003b for an interesting discussion of such spatial viewpoints). One of the basic claims of cognitive semantics is that much of language can be described as encoding different conceptualizations of experience.

Langacker points out that viewpoint often leads to a **subjective** construal, which means that the conceptualisation of a scene includes part of the conceptualisation process by the speaker/conceptualiser. Spatial expressions, once again, illustrate such subjectification quite nicely; take Langacker's examples *The balloon rose rapidly* (1991b:327, ex. 7b) or *Vanessa is sitting across the table* (1991b:328, ex. 9b). In both cases, the construal of the situation includes a mental scanning from the conceptualiser's point of view, in the vertical and horizontal dimensions respectively. It is possible to bring the conceptualiser onto the scene, e.g., *Vanessa is sitting across the table **from me***, but this is a more objective construal of the scene where, in Langacker's terms, the conceptualiser is put "on stage". In a subjective construal, the conceptualiser remains off stage, i.e., not in focus of observation.

Probably the most telling illustration of conceptual imagery is that of the **figure/ground** (or **profile/base**) **alignment** (not unrelated to that of perspective). This is an insight taken over from cognitive psychology, which refers to the basic principle of cognitive and perceptual experience by virtue of which humans perceive (or cognize) entities as standing out against others. This cognitive ability is often called **attention** and it is not exclusive to language. In visual perception, we can also see something as 'standing out' from the background (the very notions of *foreground* and *background* when talking about a picture or painting build on this capacity). Similarly, in auditory perception, we can single out a particular sound from a multitude of sounds, such as what your friend is saying to you in a noisy bar, or one particular voice that you can single out from a polyphonic choral piece. Typically, attention is a matter of degree, and some entities possess properties that make them stand out more readily than others; this is often referred to as (cognitive or perceptual) **salience**. Talmy (2000) points out that spatial expressions incorporate a difference of salience where the moving or located entity, the Figure, is seen as standing out from another, the Ground. For example, *The car drove by the houses* is undoubtedly the most common way of expressing the event, singling out the moving car as most salient, even if this can be overruled (i.e., construed differently), as in *The houses flashed by*. Similarly, in a static location, a (small) movable object will be singled out for attention much more often than its supporting background; hence, we typically say *The cup is on the table* and not *The table is supporting the cup*. Notice that the earlier cited examples about the table and the lamp also differ in typicality of salience: focussing on the lamp as does *The lamp is above the table* is much more typical than singling out the table (*The table is under the lamp*), even if such a more unusual construal of the scene may in some contexts be quite appropriate. These examples illustrate that the general cognitive ability of attention (or salience) manifests also itself in

language, as linguistic structures incorporate a focus of attention to certain elements of the conceptual structure that provides the conceptual content of the expression. In Langacker's terms, linguistic expressions impose a profile on a conceptual base, where profiling is defined as "a substructure that is elevated to a special level of prominence within the base" (Langacker 1991b:5). The profile/base relationship captures the relationship of a concept and the domain relative to which it is understood. One of the examples Langacker gives is that of *hypotenuse* whose meaning can only be understood against the background of a triangle. Or take again the example of *weekend* which profiles a subpart of a base itself designated by *week*.

In cognitive grammar, also grammatical oppositions like that between nouns and verbs receive a semantic definition involving profile and base; for example, the verb *kill* and the noun *killing* are both characterised with respect to the same base, but each imposes a different profile: the noun profiles a thing (a region in one domain) whereas, being a relational predicate, the verb profiles a temporal sequence of interconnections between entities. In fact, the grammatical difference relates to our cognitive capacity for conceptual reification, i.e., our ability to conceive of an array of temporal states as a single unified (abstract) entity. As Lakoff & Johnson (1980) have shown, such conceptual reification underlies much of our metaphorical thinking, as we treat non-discrete abstract entities as if they are discrete and tangible. Fore example, conceptualising events, which in the real world may not always have a clear beginning and end, as entities with clear boundaries allows us to qualify them, taking or thinking about different aspects just as we would examine different aspects of a concrete object.

The third example of conceptual imagery that we will discuss concerns the **level of specificity** at which we conceive an entity. If you see a dog on the lawn, you might refer to this entity (i.e., conceive of it) as *a German shepherd* (most specific), *a dog* (less specific), *an animal* (unspecific) or *something* (least specific). Notwithstanding this variation, speakers have a tendency to prefer one of these levels of conceptualisation as the default way to think and talk about the given situation (in this example, *dog*) which has been identified as the basic level of categorisation. The motivation for this preference lies in the fact that it is cognitively and communicatively economical, since one item conveys a whole bundle of information is conveyed that is sufficiently neutral yet not too specific.

## 2.3. Conceptual networks

As pointed out above, cognitive semantics entails an encyclopaedic view on meaning: knowing what a *school night* is not only requires much more than the juxtaposition of *school* and *night* but also relates to acceptable social behaviour; some linguistic models may consider that as not relevant to semantic characterisation, since related to world knowledge (often considered part of *pragmatics*). In cognitive linguistics, as already noted, a strict distinction between linguistic and encyclopaedic knowledge is rejected. Clearly, some

conceptual specifications are quite central to the characterisation of (linguistic) meaning whereas others may be more peripheral and have only minimal importance. What is crucial is that no strict demarcation can be made between what constitutes a relevant semantic (i.e., linguistic) feature and what does not. Such an encyclopaedic view also entails that no strict demarcation is made in cognitive linguistics between semantics and pragmatics, even if, also here, some things may be more semantic (i.e., stored with the linguistic item as part of its meaning) whereas others may be more pragmatic, i.e., determined by the immediate (linguistic or social) context in which an expression is used. For reasons of space, we can unfortunately not elaborate on this issue within the scope of this chapter (see chapter X [Saeed]).

An encyclopaedic view on semantics obviously has important repercussions for the definition of the meaning of, say, a lexical item as stored in the mental lexicon. Trying to account for the meaning of the lexical item *bird* (to take a typical example) will thus not lead to a bundle of distinctive semantic features that represent the necessary and sufficient conditions for any entity to be included under the term *bird*, given that it is difficult, if not impossible, to determine which features are essential to its linguistic meaning and which are accidental, i.e., resulting for our encyclopaedic knowledge of birds (e.g., the colour of their feathers, or the shape of their beaks, etc.). Instead, it turns out that some features may be more central to definition of the word *bird* (or to the definition of the category of entities that we call birds) than others, and that, logically then, some birds may be more typical exemplars than others. We will not elaborate here on the idea of prototype categories itself (see Geeraerts 1988, Taylor 2005 for some relevant discussion), but we will briefly discuss how this is relevant to the characterisation of semantic structure at all levels of linguistic organisation (see also chapter X [Hampton]).

One of the essential notions of cognitive semantics is that the semantic pole of a linguistic unit represents a (complex) semantic category; as any other conceptual category, this is considered to be a prototype-based category. More specifically, this means that some semantic substructure within that category is more salient than others and thus forms the semantic prototype, or the prototypical meaning of that linguistic structure. For example, the prototypical meaning of the adjective *warm* will be characterised against the domain of temperature (as in *warm water* or *a warm bed*); this will be the meaning that most people will spontaneously think of as the meaning of this adjective. Other meanings, such as those instantiated by *warm feelings*, *a warm colour* or *a warm voice* will be less typical; in this case, they are metaphorically related to the prototype. The semantic pole of the adjective *warm* is not exhaustively defined by the prototype alone, but by the complex network of all the semantic substructures (typically called senses, even if it may not always be clear what constitutes a sense and what not: see chapter X [Geeraerts]). Taken together these senses thus form what Lakoff (1987) has called a ***radial (polysemic) network*** which can be represented as

in Figure 1 below, where the filled dot represents the semantic prototype and the broken arrows, the semantic extensions.



*Figure 1 : Semantic prototype category (radial network)*

The major cognitive operation that underlies the building of such a network is analogy, where an extended meaning is judged sufficiently similar to the prototype to be incorporated into the network. The key to category membership is not a checklist of necessary and sufficient semantic features, but a judgement of similarity (similar to Wittgenstein's idea of family resemblance). As Geeraerts (1988:223) correctly observes, this is precisely why prototype structured categories are cognitively advantageous, as they combine "structural stability with flexible adaptability: the categorial system can only work efficiently if it can maintain its overall organisation for some time […]; however, it should be flexible enough to be easily adaptable to changing circumstances."

Langacker's cognitive grammar model also incorporates the idea of prototypical meanings that are cognitively more salient, yet it focuses more on the analogy that underlies category extension leading to ***schematic networks***. Let us illustrate that with a simple example, the verb *kill*. When asked to make a sentence with this verb, most speakers will produce a sentence illustrating what can be considered as the prototypical meaning of this verb, roughly defined as an event in which a human being (volitionally) acts upon another human being such that this latter being dies. However, the verb is also used to refer to an event where an animal is the victim. This could be regarded as an extended use of the verb, which is based on the similarity between human beings and animals. This analogy is captured by a more general semantic structure (something like "event in which a living being dies") that neutralises the differences between the two usages. In Langacker's terms, this superordinate structure is a schema and the result is a schematic network, which can be diagrammed as follows. In the Langackarian diagrammatic conventions, both the extension and the schematization are represented by the broken arrow, as both imply that certain attributes are cancelled out. Once one has such a (low-level) schema, the two usages can be regarded as more specific instantiations said to elaborate the schema; in other words, every schematisation automatically entails instantiation, represented in the diagram above by the solid downward arrows.
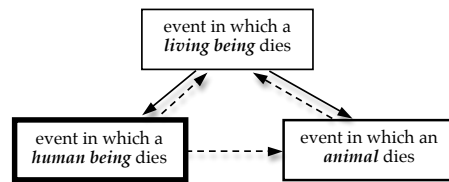
*Figure 2 : Extension, schematisation and instantiation in a schematic network*

The semantic category of *kill* is clearly more complex, as the existence of other kinds of "living" beings, such as plants or micro-organisms, can be halted as well. A more complete diagram of the (literal) domain of *kill* could thus be represented as follows (adapted from Lemmens 1998:51).
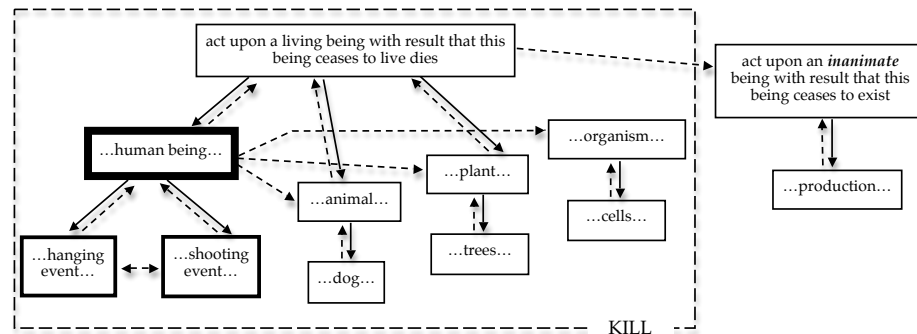


*Figure 3 : A (simplified) schematic network for* kill (adapted from Lemmens 1998:51)

Note that the prototype is not a particular contextual usage of the verb but is itself a schematisation over individual usage events whose specifics may be quite different (in the diagram represented by a hanging event and a shooting event). Arguably, all of the uses inside the dashed box (which represents the domain proper of *kill*), whereas metaphorical uses such as *kill the production of the car* or *kill the proposal* cross the domain boundary. Nevertheless, they are motivated by the same mechanism of analogy (or perceived similarity) between the existence of animate and non-animate entities; the schema capturing that similarity would thus be something like "end the existence of an entity". The latter schema does not exhaust the meaning of *kill* (i.e., it cannot be regarded as the definition); it is the entire network that forms the semantic pole of an expression. As Rice (1996:141) points out, Langacker's model can be regarded as a vertical model, since "outward growth from the

prototype tends to co-occur with upward growth"; a radial category would then be more of a horizontal, center-periphery model.

The description above has been greatly simplified for expository purposes, and clearly in reality things are more complicated. In what follows we will briefly present some important nuances and critical comments.

The first comment is that the definition of what is to be included in the prototype of a category is often not so straightforward. This is typically illustrated by natural kind categories (like BIRD or FURNITURE), but let us illustrate this with a another example, that of the three cardinal posture verbs in Dutch, *zitten* ('sit'), *liggen* ('lie') and *staan* ('stand'), that not only have grammaticalised to basic locative verbs used to express the location of any entity in space (e.g., a bed 'standing' in the room, cities 'lying' near the sea, or water 'sitting' in the bottle), but also have extensive metaphorical and idiomatic uses (see Lemmens 2002, 2006a; Lemmens & Perez 2010, 2012 for more detailed analyses). The prototypes of these semantic categories are fairly straightforward, *viz.* the representation of the three basic human postures of sitting, standing and lying. Yet, as Newman (2002) correctly observes, these prototypes are in fact more accurately defined as "experiential clusters" of attributes, some of which will motivate particular semantic extensions. For example, one of the attributes of *staan* is that of a human being resting on its feet which, at least for Dutch, becomes the key element for the highly productive extension to locative use: *staan* will be used to express the location of **any** entity (regardless of its actual vertical dimension) that is resting on its base; logically then, cars, beds, computers, plates, or shoes will all be said to be standing when they are (functionally) positioned on their base. In fact, this extension is motivated by a more abstract image schema of a 'standing' entity that captures the similarity between a human being on its feet and an inanimate entity resting on its base. Or take the case of *zitten* 'sit'. One of the features associated with the prototype (but which may possibly not be so salient at first sight) is the idea that there is close contact and semi-containment in the chair that one is sitting in. This notion has been shown to be the motivating factor to one of the most productive uses of Dutch *zitten* referring to CLOSE CONTAINMENT. Hence, water will be said to 'sit' in the bottle, bacteria will 'sit' in the blood, or sugar will 'sit' in my coffee. Significantly, many metaphorical extensions build off these associations that may at first sight not have been central to the prototype. This justifies, once more, an encyclopaedic view on (lexical) meaning.

The second more critical comment is that in both radial and schematic networks, meanings are represented as stable, interrelated entities (dots or boxes); Langacker terms these "established senses", that is, senses that are sufficiently frequent to have become entrenched in the linguistic system (i.e., they are stored as such). These are not unlike what Croft & Cruse (2004:126) call "microsenses". They illustrate this with the different microsenses of *knife*: a type of cutlery, a type of weapon, a type of (medical) instrument, a

type of DIY tool, etc. However, this is an idealisation of a reality that most likely is much more fluid. First of all, it is not yet clear to what extent these meanings are indeed clearly identifiable structures stored in the mind of speakers, even if there is evidence from categorisation tasks (see Rice 1996) that some of them seem to be cognitively real. (The cognitive reality of such networks has been an issue that has preoccupied cognitive linguists since long, as nicely illustrated by the title of one of the first publications (Sandra & Rice 1995) addressing this issue "Network analyses of prepositional meaning: Mirroring whose mind – the linguist's or the language user's?".) Similarly, Croft & Cruse nicely illustrate how these microsenses are a linguistic reality to speakers; they point out, for example, that if one does not have a knife at the dinner table but one has a penknife in one's pocket, one would still say that one does not have a knife "of the proper sort" to cut the meat with. Secondly, the context in which an item is used will invariably adduce some further specifications without these necessarily giving rise to new individualised senses. Croft & Cruse (ibid.) aptly call this "contextual modulation", a concept already introduced in Cruse (1986) who describes it as "each context emphasizing certain semantic traits, and obscuring and suppressing others" (Cruse 1986: 52). To take one of Cruse's own examples, the phrases *The car needs washing* and *The car needs servicing* highlight different parts of the car, yet it is not the case that *car* is referring to something different in these two sentences. While such contextual modulation is probably not stored (note that in this case, they can be explained by metonymy: see 2.4 below), they might over time lead to different senses provided they stand out sufficiently or occur sufficiently frequently so that they become entrenched as individual instantiations (Taylor 2005 says contextual modulation contains "the seeds of polysemy"). In fact, one could argue, as Langacker does, that the contexts profile another aspect of the (complex) conceptual domain related to cars; in more technical terms, the different context are said to profile a different *active zone* (Langacker 1991b:Ch.7, 2000:62*ff*).

A final critical comment is the question of which type of analysis is now to be followed: categorisation by schema or by prototype? Note that the two are not mutually exclusive, as schematic networks incorporate the idea of a prototype (Langacker calls these "experientially based conceptual archetypes"), but they do imply a different perspective. Notice also that schematic networks may present a solution to the conflict between the "lumpers" (a term suggested by Croft (2001) to refer to those who argue for general schematic meanings and relaying the other differences to the context) and the "splitters" (arguing for different individual senses and thus rampant polysemy). Tuggy (1993, 2007) convincingly points out that a schematic network resolves the debate between polysemy and vagueness: "The prototypical case of ambiguity is where two semantic structures […] are both well-entrenched (and therefore salient) while there is no well-entrenched and elaboratively close schema […] Prototypical vagueness, on the other hand, involves meanings which are not well-entrenched but which have a relatively well-entrenched, elaboratively close schema

subsuming them" (Tuggy 1993:280-1). Significantly, this difference in salience can be entrenched or contextually determined, and it may change over time.

In the case of clear polysemy (or homonymy), a unifying over-arching schema may not be found for lexical semantic categories, as already observed in an early study by Lindner (1980) on the prepositions *in* and *out*. Dutch posture verbs provide yet again a nice illustration of this difficulty. One of the highly productive uses of Dutch *staan* 'stand' is the reference to printed text. It is possible to see some motivation for this, where one could argue that letters are perceived as standing on a line; italics can thus be defined as *schuinstaand* litt. 'stand slantingly'. Alternatively, the conceptualisation may be one where letters are perceived as Figures standing out in relief vis-à-vis the background (the paper or any other carrier), and thus the vertical scanning giving rise to *staan* is from the paper upward. While both are plausible, the question remains to what extent these motivations are cognitively real and, thus, to what extent there still is a schema uniting this meaning of *staan* with prototypical (or locational) *staan*. It seems quite likely that speakers may simply regard these as unrelated senses (absence of unifying schema). This does not deny that this usage is not well-entrenched, nor that it has become in itself a productive source for further extensions, since any printed matter can be said to 'be standing', ranging from pictures in a book, to icons on my desktop, files on my computer or on the internet, or songs on a record or a CD (conceived as printed on the carrier).

**2.4. Metaphor and metonymy**

In cognitive (lexical) semantics, metaphor and metonymy play a major role as structuring principles in the semantic category. Importantly, these are not seen as purely linguistic relations, but as conceptual principles. Lakoff and Johnson's (1980) book *Metaphors We Live By*, which laid the basis for Conceptual Metaphor Theory (and later Blending Theory, cf. Fauconnier 1994, Coulson & Oakley 2001), is probably the publication popularized the idea of the cognitive nature of (particularly) metaphor which is said to structure the way we talk, think and act, an idea that, however, an important precedent in an article by the philosopher Max Black from 1954.

In cognitive linguistics, the difference between metaphor and metonymy is typically defined in two ways. First, the underlying mechanisms are different: metaphor builds on (perceived) ***similarity*** where one entity is said to be ***understood*** in terms of another (e.g. ARGUMENT IS WAR, LOVE IS A JOURNEY, CHANGE IS MOTION, ANGER IS HEAT IN A CONTAINER, etc.). Metonymy, in contrast is defined in terms of ***reference***, where one entity is used to ***refer*** to another, usually because it is (conceptually) contiguous to it. Physical contiguity motivates the metonymy underlying the use of *door* in *walk through the door* (the aperture in the wall) versus *paint the door* (the board covering that aperture), or that between the container and contained (e.g., *drink a glass of beer*). Conceptual contiguity could

be argued to be the motivation for the metonymy POSSESSOR-POSSESSED as the two need not be physically contiguous.

The second difference between metaphor and metonymy that is often invoked (which follows logically from the preceding) is that metaphor concerns a mapping across different domains, whereas metonymy implies a shift within one and the same domain. For example, the meanings of *kill* in the uses *kill a human being* and *kill life on the planet* can be seen as metonymically related, involving a shift of an instance (a living being) to the larger process (life) yet the relation is not metaphorical since they are both still characterised vis-à-vis the domain of killing proper. A usage such as *kill the peace process* is, however, metaphorical, as it is not longer the domain of taking away life that is at issue. Notice that the same metonymical shift of profile as in the source domain is possible here as well, e.g., *Under economic pressure, Ford decided to kill the **production** of the car* (process) vs. *Under economic pressure, Ford decided to kill the **car*** (product).

A metonymy can thus be defined as a shift of profile within the domain: "the ability of the speaker to select a different contextually salient concept profile in a domain or domain matrix than the one usually symbolized by the word" (Croft & Cruse 2004:48). Such shifts are often motivated because one is focussing on a particular aspect in a given context; for example, if I say *I see there are some new faces in class today*, I am using *faces* metonymically as it is the part of a person that allows me to recognize them (or not, in this case). Similarly, *a helping hand* focuses on the part of the body that we stereotypically use when helping others. In an earlier study on the verb *abort* (Lemmens 1998:211*ff*), I pointed out that ideological reasons may also motivate metonymical shifts: pro-lifers will typically focus on the end-point and thus say *abort a baby/child* whereas pro-choicers often downplay this aspect and use *fetus* or *zygote* or omit the argument altogether (e.g., *A woman has the right to abort, if she so chooses*). More neutral parties often choose a more neutral formulation such as *abort a pregnancy*.

While the difference between metaphor and metonymy will mostly be clear enough, the latter example actually shows that this may not be so. Even if pregnancy and fetus/baby can be argued to be metonymically related, *abort a pregnancy* could equally be regarded as a metaphor since it is an instantiation of *abort a process* (a metaphorical usage), just like *abort a mission* or *abort a takeoff*. The criterion of domain boundary crossing that is often used in cognitive linguistics may not be so helpful either, given the difficulty of defining what a domain is (see, for instance, Clausner & Croft 1999 on this issue); it seems that the decision of boundary crossing is often *post hoc*, i.e. after one has already decided that a usage is metaphorical. But even then, such a decision may not always be easy to make. Let us again consider the example of the Dutch cardinal posture verbs which are frequently used as basic locative verbs to express the location of any entity in space. If a bottle is said to be standing on the table (motivation: BASE), should such a locative use then be considered as

metaphorical or not? Clearly, it is no longer characterized to the postural domain, yet this use of *staan* for inanimate objects is so entrenched and can be applied to such a wide set of objects (computers, phones, printers, cars, trains, plates, dishes, containers, ashtrays, pies, etc.) that many speakers would treat this use as non-metaphorical, but as a (literal) instantiation of the schema "object resting on its base" of which a human in standing position is a privileged subschema.

The story becomes even more complicated when metonymy is brought in. As said above, in cognitive linguistics it is common to regard metonymy as an extension mechanism operating *within* a domain. Consider the following examples with Dutch *zitten* 'sit':

(1) a. Zij zit in de zetel. ('She sits in the armchair')
    b. Zij zit in de auto. ('She sits in the car')
    c. Zij zit in de kelder. ('She sits in the cellar')

The first usage is clearly one where the person is in a prototypical sitting posture and the context specifies the support that partially surrounds her (hence the use of *in* rather than *op* "on"). The second example implies a metonymical shift away from this support (the seat) to the larger enclosing space (the car), and so does the last example. The difference between the latter two, however, is that the b-sentence still implies a sitting posture, whereas the c-example most likely does not (even if not excluded): the sentence can, for example, be used felicitously even when she is walking around in the cellar. Under that interpretation, the usage is no longer committed to a particular posture and should thus be labelled metaphorical (mediated by metonymy). The use of *zitten* as in the last example, expressing the idea of enclosure/containment rather than a sitting posture, is extremely common in Dutch, and not restricted to human beings as any object enclosed in a (narrow) container can be coded with *zitten* such that speakers may consider this to be a non-metaphorical usage. It thus seems that such locational uses straddle the border between (prototypical) postural uses and more metaphorical ones, relating to abstract location, such as, for example, a mistake that 'sits' in your reasoning or someone sitting in a depression.

Despite these issues, it is safe to assume that metaphor and metonymy are cognitive principles that play a role in semantic structure. That a strict demarcation between literal and metaphorical may not always be easy to make follows logically from the prototype-structure of categories where boundaries may not always be very strict.

## 2.5. Constructional semantics

So far, the discussion has focused on lexical meaning; it will be recalled that in cognitive linguistics also grammatical structures are considered as inherently meaningful. Given the more general nature of these constructions, their semantic structure will be considered to be more general or, in the more technical terms introduced above, to be more ***schematic***. The cognitive principle driving the schematization is the same, *viz.* that of analogy. Let us illustrate that with one of Jackendoff's pet examples of constructional idioms, the [*V one's X*

PRT] construction, as instantiated by expressions such as *work one's head off, sing one's heart out* or *cry one's eyes out*. Jackendoff correctly points out that these expressions are idiomatic, as the NP and particle are typically selected from a quite constrained class (see, however, Cappelle (2005:46*ff*; 453*ff*) for an interesting discussion). In addition, the object NP is not licensed by the verb as one cannot say *\*he sang his heart* or *\*he worked his head*; in other words, it is the entire construction with the particle that allows for the integration of an object NP, thereby overruling the verb's typical intransitive nature. (In Construction Grammar, this phenomenon is called **coercion,** cf. Michaelis 2004, 2006, Goldberg 2006.) Also the semantics of these expressions is to some extent idiomatic (i.e., more than just the sum of the meaning of the parts), as they invariably mean that the action expressed by the verb (working, laughing, crying, etc.) is done to a high degree or even to some excess. In other words, the construction incorporates a particular evaluative (affective) judgment that can be paraphrased as "do X intensively or excessively".

Just like lexical categories, these expressions can be seen as building a schematic network where analogy and schematisation are the structuring principles. Two of the obvious schematisations concern the possessive pronoun and the body part where usages such as *He worked his ass off* and *They worked their heads off* are both regarded as instantiations of the more schematic structure <NP$_i$> *work* <POSS$_i$> <BODY PART> *off*. Parts of this schema are open, like the subject NP, other parts are filled (e.g., *work, off*) or semi-open. The latter means that they are (i) syntactically constrained, such as is the case for the possessive pronoun, which should in principle be co-referential with the subject NP (e.g., it would be quite odd to say ?*The teacher worked the students' heads off*) or (ii) semantically constrained, such as the BODY PART being restricted to certain body parts, as illustrated by the oddness of ?*work one's eyes off*. The occurrence of a phrase like *bust one's head off* leads to a (low-level) schematisation of the verb, where *bust* and *work* are seen as semantically quite close. Expressions such as *laugh one's ass off, lie one's ass off, sweat one's ass off, dance one's ass off*, etc. push the schematisation even further to <NP$_i$> <V> <POSS$_i$> <BODY PART> *off*. Figure 4 gives a simplified view of the resulting schematic network. Further levels of schematisation allow the integration of other particles (e.g., *cry one's eyes* **out**).
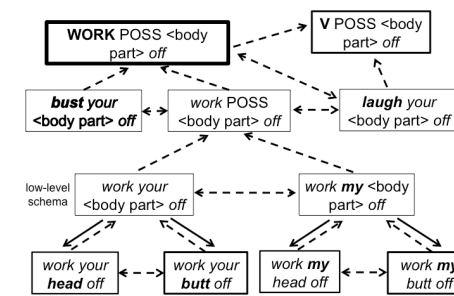
*Figure 4 : A (simplified) schematic network for* work one's X off

The resulting schematic network captures the common meaning ("do V intensively or excessively") yet also allows for specific semantic elements being incorporated through the lexical items that occur into the different instantiations. Clearly, there are semantic constraints. For example, given the close association between singing and (possibly effortful) breathing, *singing one's lungs out* is quite interpretable as doing intensive singing; similarly, given the conventional link between singing and the expression of emotions, *singing one's heart out* is fairly transparent give the metonymy of heart as seat for the emotions. However, to say *sing one's arms out/off* is quite difficult (if not impossible) to interpret, given the absence of any transparent link between arms and singing. Surely, repeated use might lead to semantic bleaching which is what has happened to *V one's {head/ass off}* where the choice of verb does no longer seem to be constrained by the body part. This takes us back to salience within the category: some instantiations turn out to be more salient (more prototypical instances) than others.

The above discussion has focused on a particular constructional idiom, or rather a family of related idioms, that can be captured under the general schema *V one's X PRT*; one might argue that this could still be regarded as a supra-lexical unit rather than as a grammatical structure. While indeed the *V one's X PRT* construction remains somewhat more specific in some respects, it should be clear that a similar analysis can be suggested for more general grammatical patterns, such as the Ditransitive construction, e.g., *John gave Mary a book*, the Caused-Motion construction (e.g., *She put the book on the table*) or the Intransitive motion construction (e.g., *He went into the room*). Also these are considered as symbolic form-meaning pairs where a particular form is paired with a particular (highly schematic) meaning. For example, the Ditransitive construction couples a particular syntactic pattern (NP V NP NP) to a meaning with can be roughly paraphrased as X CAUSES Y TO RECEIVE Z; as such it is considered semantically different from the *to*-dative construction (NP V NP *to* NP, e.g. *John gave the book to Mary*) whose meaning can be paraphrased as X MOVES Y TO Z. (See Stefanowitsch  & Gries 2003 for corpus-based evidence (via collostructional analysis) on

this difference and the repercussion on the different type of verbs that occur in these constructions.)

Notice that also here the meaning of the construction may change the meaning of the verb that occurs in it (a case of coercion). For example, the verb *break* is a lexical causative referring to a change of state where motion is backgrounded (if considered part of the verb's meaning at all), yet it saliently refers to a motion event in *She broke the eggs into the bowl* (Caused motion) or in *The sun broke through the clouds* (see Lemmens 2006b for some discussion of these uses of *break* and other lexical causatives). The meaning of the construction also guides the interpretation of novel verbs; if one were to say *He lemmensed into the room*, it will be clear, thanks to the meaning of the Intransitive Motion construction) that the verb refers to a particular manner of motion even if it may not be clear what that manner is (nor would we care to specify that here).

In its ambition to prove that such grammatical schemas are also meaningful, the cognitive linguistic literature (especially in Construction Grammar) may have overemphasised the quest for, or the existence of, highly schematic constructions that unify all the members of the category. However, as with lexical semantic categories, it need not be the case that such high-level schemas exist; in fact, some recent studies (see, among others, Perek 2012, Lemmens & Perek 2009) show that it may be more accurate to pitch the constructional generalisations at a lower level. For example, Perek 2012 points out that there may not be such a thing as one single conative construction that unites all the instances (e.g., *Bill kicked at the ball*, *She gulped at the whisky*, *He pulled at the wagon*), but rather a number of low-level schemas that generalise over semantically related verbs and also have their own semantic properties.

### 3. Conclusions

If one were pushed to summarize cognitive semantics in a number of keywords, some proper candidates would be *conceptualisation* (which entails *encyclopaedic*), *construal* (the cognitive capacity to conceptualise experience in alternate ways), *image schemas* (schematic patterns of bodily experience) and *prototype-structured categorisation*. These principles are not restricted to lexical items, but underlie linguistic structures at all levels, ranging from morphemes, lexical items, semi-open idioms, to semantically highly schematic grammatical patterns.

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## 5. Further reading

Croft, William & Alan Cruse 2004. *Cognitive Linguistics*. Cambridge: Cambridge University Press.

Introductory textbook that offers a clear introduction to some of the basic tenets of cognitive linguistics.

Geeraerts, Dirk. 2010. *Theories of Lexical Semantics.* Oxford: Oxford University Press.

Comprehensive overview of the major traditions of word meaning research in linguistics, charting the evolution of the discipline from the mid nineteenth century to the present day.

Geeraerts, Dirk & Hubert Cuyckens. 2007. *The Oxford Handbook of Cognitive Linguistics*.

Oxford: Oxford University Press.

Probably the most complete presentation of cognitive linguistics with contributions detailing many of the issues presented in this chapter (embodiment, construal, schematic networks, entrenchment, Idealised Cognitive Models, image schemata, metaphor, metonymy, etc.).