

## Cognitive linguistics\*

Zoltán Kövecses

There are many different ways in which cognitive linguistics can be characterized for the purposes of a basic introduction to the field. I personally believe that the most salient idea that distinguishes cognitive linguistics from other kinds of linguistics is the attempt to describe and explain language use with reference to a number of cognitive processes. Some of the cognitive processes that cognitive linguists use in their accounts of language are common knowledge in cognitive psychology and cognitive science, while others are more hypothetical in nature (see Gibbs 2000). All of these cognitive processes serve human beings to make sense of their experience, including language. That being so, cognitive linguistics is a much more general enterprise than just the study of language. In my view, it is a scientific endeavor to account for the meaningfulness of human experience, be it linguistic, social, cultural, or whatever. For this reason, the term *cognitive linguistics*, I feel, is a misnomer, which limits the scope of cognitive linguistics to issues of language only.

In the present introduction, I will briefly describe and exemplify the most important cognitive processes that cognitive linguists have found useful in their accounts of a variety of linguistic phenomena. In this sense, this is only a partial introduction, which leaves out of consideration a large and increasing body of knowledge cognitive linguists have accumulated of a variety of nonlinguistic areas of experience (but see Kövecses 2006).

### Categorization of experience

Human meaning-making depends in part on how we categorize entities and events in the world; that is, on the nature of conceptual categories, or concepts, we have concerning these entities and events. The classical view

\* Parts of this paper appeared in Kövecses 2005.

of categories is based on the idea of essential features. In order to have a conceptual category, the members of the category must share certain essential features. On this view, categories are defined by essential features, or, in more modern terminology, by necessary and sufficient conditions (Fillmore 1975). Based on empirical work in cognitive psychology (see, eg Rosch 1978), a number of authors began to criticize the classical view of categorization. Fillmore (1975), Lakoff (1987), Taylor (1989), and others raised serious objections concerning the validity of such an approach to categories and offered a radically new alternative, which became known as “prototype categorization.” In a way, the theory of prototype categorization became the cornerstone of cognitive linguistics. In the new rival view, categories are defined not in terms of necessary and sufficient conditions, but with respect to prototypes and various family resemblance relations to these prototypes.

Philosopher of language John Austin extended the notion of categories to the senses of words (see Lakoff 1987). That is to say, Austin thought of the various senses of a word as a category of senses that is organized around a prototypical sense. He showed by way of analyzing the different senses of words that one of the senses is central, while others are noncentral, or peripheral. As we know well today, it is very common for words to have a central prototypical sense with the other senses deriving from that sense either through metonymy or metaphor.

The notion of prototype was extended to “linguistic categories” by cognitive linguists; that is, to the terms we use to describe language. Linguistic categories include noun, verb, modifier, phrase, clause, sentence, etc. The same question that can be raised in connection with everyday categories can be raised in connection with grammatical categories: Are they defined by a set of essential properties or by certain prototypes? Recent work in this area suggests that it makes sense to think of these categories as prototype-based as well (Lakoff 1987, Taylor 2003).

It seems reasonable to believe then that the notion of prototype-based organization in categories applies to three distinct levels or areas:

categories for everyday concepts;  
categories for senses of words;  
categories for linguistic concepts.

Work in cognitive linguistics and psychology has indeed shown that in all three of these areas the categories we possess have an internal struc-

ture that is organized around prototypes (see, eg Gibbs et al. 1995, Taylor 1989, 2003).

## **Framing knowledge**

Much of our knowledge about the world comes from the categories we have. Categories are mentally represented as frames, schemas, or models (see, eg Schank & Abelson 1977; Fillmore 1982; Langacker 1987; Lakoff 1987). The terminology is varied (see Andor 1985), but the idea behind it is roughly the same. We can use the following working definition of frames: A frame is a structured mental representation of a coherent organization of human experience. Perhaps the best known slogan for this idea is Charles Fillmore's paradigm-setting statement: "Meanings are relativized to scenes [ie frames]." Additional characteristics of frames include that in most cases they are not defined by necessary and sufficient features and that they often consist of several entities related to particular actions or events. An early attempt to look at meaning in language in this light is Fillmore's case grammar, which he later developed into his "frame semantics."

However, these ideas become important in the study of almost any facet of life — and not just language. We are trying to make sense of the world even when we are not consciously aware of this, and the world as we experience it is always the product of some prior categorization and framing by ourselves and others. As a matter of fact, it is now a well established fact in cognitive linguistics and psychology that different individuals can interpret the "same" reality in different ways. This is the idea that became known in cognitive linguistics as "alternative construal" (see, eg Langacker 1987).

## **Metonymic thought**

Cognitive linguists do not think of metonymy as a superfluous linguistic device whose only function is to avoid literalism and to make the expression of meaning more varied. Kövecses & Radden (1998) offer the definition of metonymy as follows:

- // Metonymy is a cognitive process in which a conceptual element, or entity (thing, event, property), the vehicle, provides mental access to another conceptual entity (thing, event, property), the target, within the same frame, or idealized cognitive model (ICM).

Thus, for example, given the RESTAURANT frame, or idealized model, the speaker of the sentence “The *ham sandwich* spilled beer all over himself” directs attention, or provides mental access, to the conceptual element PERSON EATING THE HAM SANDWICH (target) through the use of another conceptual element HAM SANDWICH (vehicle) that belongs to the same frame. (There has been an upsurge in the cognitive linguistic study of metonymy in recent years; for extensive collections of papers, see Panther & Radden 1999, Barcelona 2000, Dirven & Pörings 2003, Panther & Thornburg 2003. For research concentrated on metonymy, see, among others, Brdar & Brdar-Szabó 2003, Brdar-Szabó & Brdar 2003; Ruiz de Mendoza Ibanez 2000).

As we mentioned previously, our knowledge of the world comes in the form of structured frames, schemas, or ICMs. These can be construed as wholes with parts. Since frames are conceptualized as wholes that have parts, there are two general configurations of wholes and parts that give rise to metonymy-producing relationships: the “whole and its parts” configuration and the “part and part” configuration. A variety of specific metonymy-producing relationships can be observed within both configurations (for details, see Kövecses & Radden 1998 and Radden & Kövecses 1999).

We can think of categories themselves as having a part-whole structure. One example of this is the CATEGORY-AND-PROPERTY ICM. In the case of categories, the most important part is the properties used to define the category. The category as a whole has properties as parts. In the sentence

Boys will be boys

the first “boys” indicates the category of boys as a whole, while the second indicates the typical qualities, or features, of boys, such as ‘being unruly’ (ie we have the metonymy CATEGORY FOR PROPERTY). That is to say, a quality, or property, of boys (‘being unruly’) is made reference to by the second use of “boys” that captures the category as a whole. Incidentally, this analysis shows that sentences like *Boys will be boys* do not represent empty tautologies, as would be the case in many other approaches to meaning.

The reverse can also occur in the case of the category-and-property frame. A property can stand for the entire category. Consider a sentence like

African-Americans were once called blacks.

Here we have the metonymy PROPERTY FOR THE CATEGORY. As a matter of fact, the metonymy applies twice in the sentence—both *African-American* and *blacks* are instances of it. Euphemisms (as well as disphe-misms) are often based on this specific type of metonymy. As the example shows, the conceptual structure of the euphemism is the same in both cases (ie PROPERTY FOR THE CATEGORY). What changes are the connotations that go together with the particular property that replaces the old one (*African-American* does not, as yet, have the negative connotations of *black*).

Another kind of metonymy involves a category and a member of the category. This works within the CATEGORY-AND-MEMBER ICM. The category itself is viewed as a whole, while the members are the parts. The relationship between the whole category and a member is often reversible, as can be seen in the examples to follow:

She's on the pill. (CATEGORY FOR A MEMBER)  
Do you have an aspirin? (A MEMBER FOR THE CATEGORY)

In the first sentence, the whole category of pills stands for a particular member of the category, namely, contraceptive pills, whereas in the second sentence a particular member of a category (ie aspirin) stands for the entire category of pain-relievers.

## Metaphoric thought

Beginning with Lakoff & Johnson's (1980) seminal book, *Metaphors We Live By*, cognitive linguistics opened up a new front in the study of language and the mind. This is perhaps the best known chapter in the history of cognitive linguistics (for an overview, see Kövecses 2002). In essence, the theory maintains that metaphor is a cognitive process in which one domain of experience (A) is understood in terms of another domain of experience (B). Metaphor consists of a source (B) and target domain (A) such that the source is a more physical and the target a more abstract kind of domain. Examples of source and target domains include the following: Source domains: WARMTH, BUILDING, WAR, JOURNEY; target domains: AFFECTION, THEORY, ARGUMENT, LIFE. Thus we get conceptual metaphors: AFFECTION IS WARMTH; THEORIES ARE BUILDINGS; ARGUMENT IS WAR, LIFE IS A JOURNEY. What this means is that the concepts of AFFECTION, THEORY, ARGUMENT, and LIFE are comprehended via the concepts of WARMTH, BUILDING, WAR, and JOURNEY, respectively.

Why do particular target concepts go together with particular source concepts? The traditional answer to this question is that there is some kind of similarity between the two concepts; that is, concept a is similar to concept b in some respect. While cognitive linguists accept this kind of motivation for certain metaphors, they also take into account another kind of motivation for many other metaphors. The choice of a particular source to go with a particular target can also be motivated by some embodied experience.

Consider as an example the metaphor *AFFECTION IS WARMTH*. We can suggest that we find this metaphor natural because the feeling of affection correlates with bodily warmth. We experience such embodied correlation very early on in life. To be hugged and to be close to our first caretaker produces this kind of warmth that gives us comfort and eventually the feeling of affection. This example shows that the correlation between the experience of affection and that of warmth need not be conscious. As a matter of fact, it is characteristic of such embodied experiences that they are not conscious most of the time. We experience such correlations in bodily experience preconceptually and prelinguistically.

As another example, consider heat. Heat and warmth are of course related, in that they are both descriptions of temperature, but as far as bodily motivation for metaphor is concerned, they are quite different. That is to say, they motivate very different conceptual metaphors. Imagine the following situation. You are working hard, let us say sawing or chopping wood, or you are doing some vigorous exercise, like running or aerobics. After a while you're beginning to work up heat, you will feel hot, and maybe begin to sweat. We can say that the vigorous bodily activity produces an increase in body heat. Typically, when you engage in vigorous bodily activity, your body will respond in this way. Similarly, when you are very angry, or when you have strong sexual feelings, or when you are under strong psychological pressure, your body may also produce an increase in body heat that manifests itself physiologically in a variety of ways. In all of these cases, the increase in the intensity of an activity or state goes together with an increase in body heat, and your body responds this way automatically. The correlation between the increase in the intensity of the activity or the state, on the one hand, and the production of body heat, on the other, is inevitable for the kinds of bodies that we have. We can't help undergoing the correlation between intensity (of these activities and states) and body heat. This correlation forms the basis of a linguistic and conceptual metaphor: *INTENSITY IS HEAT*. But the correlation is at the level of the body, and it is in this sense that metaphor is just as much in the body as it is in language or thought.

Since INTENSITY is an aspect of many concepts, the source domain of heat will apply to many concepts, such as ANGER, LOVE, LUST, WORK, ARGUMENT, etc. In general, we suggest that many conceptual metaphors (ie source and target pairings) are motivated by such bodily correlations in experience.

As was mentioned, in the traditional view of metaphor similarity is the main motivation for bringing together two concepts in a metaphorical relationship. One frequently mentioned example in the literature to justify the view that metaphors are based on similarity is: "Achilles was a lion." It is proposed that Achilles and lions share a property, namely, that of being brave. This similarity gives rise to the metaphor.

Let us look at some other examples where the basis of metaphor can be claimed to be some kind of similarity. Take a passage from the *San Francisco Chronicle* analyzed by Kövecses (2010):

// Last fall, in a radio interview with a San Diego radio station and later on CNN's "Larry King Live," [singer Harry] Belafonte likened Secretary of State Colin Powell to a plantation hand who moves into the master's house, in this case the White House, and only supports policies that will please his master, President Bush.

In the example, one of the things that Belafonte knows about Powell is that Powell is an African-American. Since slaves were also African-Americans, it is easy for Belafonte to set up the metaphor, or more exactly, metaphorical analogy. We can assume that this feature shared by Powell and the slaves helps trigger the particular analogy. In other words, a feature (being an African-American) that is shared by an element of the target (in this case, Powell) and an element of the source (the slaves) help the speaker arrive at an extensive set of analogical relationships between source and target.

But in many other cases the shared element is not such an obvious feature. Often, the target and the source are characterized by similar structural relations — without any shared features of the communicative situation that might trigger the recognition of the shared relations (such as in the case above) (see, eg Gentner 1983, Holyoak & Thagard 1996, Glucksberg & Keysar 1993). For example, we can find shared generic-level structure in such domains as HUMAN LIFETIME and the LIFE-CYCLE OF PLANTS. This structure would include, for instance, something like: "living organisms have a period of their existence when they are most active" (whatever this means either for people or for plants) and "living organisms decline after

this period.” This case is of course a highly conventional metaphor: THE HUMAN LIFETIME IS THE LIFE-CYCLE OF A PLANT. But the same kind of analogy accounts for any number of similar metaphors. Take, for instance, the metaphor used by Harry Belafonte. We would not need any explicit triggers to say of an especially servile secretary of state or minister that he or she is a slave, thus evoking the GOVERNMENT IS A PLANTATION metaphor in which the president or prime minister is the master and the secretaries of state or ministers are the slaves. This is because we have the ability to recognize shared generic-level structure such as “inferiors are servile to superiors in order to please them” in distinct domains.

In summary, we can think of embodiment and similarity as different kinds of constraint on the creation of metaphor. Embodiment seems to be a stronger kind of constraint, in that it works automatically and unconsciously.

The idea that metaphors can be motivated by correlations in bodily experience has given rise to a “neural theory of metaphor.” It is the brain that runs the body, and if metaphor is in the body it must also be in the brain. Embodied experience results in certain neural connections between areas of the brain (these areas corresponding to source and target). For example, it may be suggested that when the area of the brain corresponding to affection is activated, the area corresponding to warmth is also activated. The assumption in recent neuroscientific studies (see, for example, Gallese & Lakoff 2005) is that when we understand abstract concepts metaphorically, two groups of neurons in the brain are activated at the same time; when one group of neurons fires (the source), another group of neurons fires as well (the target). We can then assume that, for example, neurons corresponding to intensity and heat, respectively, are activated together in the brain when we think about the abstract concept of intensity in connection with certain events, activities, and states. Similarly, when we think about abstract amounts, such as prices, the neurons corresponding to amount and those corresponding to verticality (up-down) are co-activated in the brain. These co-activations of groups of neurons yield what are known as primary conceptual metaphors INTENSITY IS HEAT and MORE IS UP (LESS IS DOWN). (On “primary metaphors,” see Grady 1997.)

In which parts of the brain are the two domains located? According to this paradigm of research, the source domain is located in the sensory-motor system, whereas the target domain is found in higher cortical areas. This idea is the neuroscience version of the notion of the embodiment of metaphor, which states that source domains typically come from more concrete and physical sensory-motor experience, while target domains are less physical in nature.



## Image-schematic understanding

Much of our knowledge is not propositional but image-schematic. Johnson defines image schemas in the following way: An image schema is “a recurring, dynamic pattern of our perceptual interactions and motor programs that gives coherence to our experience” (Johnson 1987: xix). Image schemas function as the foundation of thought. To demonstrate what image schemas are, how they emerge, and how they perform their function in structuring thought, let us consider some examples.

First, let’s take the CONTAINER image schema (Lakoff 1987). The bodily experiences that motivate the existence of this schema are varied, but they can be reduced to two general types of experience. On the one hand, we have bodies that are containers (of body organs, fluids, etc). On the other hand, not only are our bodies containers, but we function as container-objects in other larger objects. Thus, these larger objects, like buildings, rooms, contain us. The CONTAINER image schema has the following structural elements: INTERIOR, BOUNDARY, and EXTERIOR. The basic logic of the schema can be given as follows: Everything is either inside the container or outside it. Moreover, if B is in A, and C is in B, then one can conclude that C is in A. Thus the CONTAINER schema imposes a certain logic on us. There are many metaphors that are based on the CONTAINER schema. For example, STATES ARE CONTAINERS, PERSONAL RELATIONSHIPS ARE CONTAINERS, and THE VISUAL FIELD IS A CONTAINER. This is why we can be *in* trouble, we are *in* love, and things come *into* view.

Second, let us look at the SOURCE-PATH-GOAL schema (Lakoff 1987). The bodily experience that motivates the schema is the most common (and unconscious) type of experience: Whenever we move, we move *from* a place *to* another place *along* a sequence of continuous locations. The structural elements include SOURCE, PATH, GOAL (DESTINATION), and DIRECTION. The basic logic is hardly noticeable: If you go from A to B, then you must pass through each intermediate point connecting A and B. Again, several metaphors are based on this image schema. Take the complex metaphor of LIFE IS A JOURNEY, which assumes the SOURCE-PATH-GOAL SCHEMA. A mapping (and a submetaphor) of this complex metaphor is PURPOSES ARE DESTINATIONS, in which we also have a SOURCE, a PATH, and a GOAL. As a matter of fact, it is this second primary metaphor that provides some of the motivation for the more complex one. Complex events are also commonly viewed as involving an initial state — SOURCE, intermediate stages — PATHS, and a final state — GOAL.

Third, consider now the image schema of force, as studied extensively by Talmy (1988, 2000). A large portion of our utterances about the world

can be accounted for by making reference to such notions as agonist, antagonist, force tendency of agonist, etc. Kövecses (2000) applies this conceptual machinery to the study of the folk theory of the mind; in particular to such components of the mind as emotion, morality, and rational thought. Based on the study of the language we use to talk about the mind, he suggests that all three components can be described in force dynamic terms. In other words, the workings of the mind can be seen as interactions of forces. The rational “self-agonist” undergoes change in emotion, the rational “self-agonist” withstands change in morality, and the rational “self-antagonist” causes change in thought. What is of any interest in such a description? After all, everyone knows that emotion is different from morality and that rational thought is different from both. But this is not the point. What is remarkable about the analysis in terms of force dynamics is that it shows that the basic cognitive “architecture” of emotion, morality, and rational thought is so much alike. They are all constituted force dynamically, and this shows that “superficially” very different domains, or faculties, of the folk theory of the mind have a deep underlying similarity on which the many obvious differences are based.

It is an interesting feature of thought that we can conceptualize domains and situations by means of not just one but several image schemas. For example, force dynamic image schemas can interact with perceptual image schemas: We can have a FORCE inside a CONTAINER. Forces inside containers are fairly common as metaphorical ways of conceptualizing the mind. It was shown by Kövecses (1990) that this was a major metaphor used by Sigmund Freud in his psychoanalytic theory.

### Figure-ground alignment in grammar

Figure-ground relations have been studied mostly by cognitive psychologists. What is called “figure-ground alignment” here is important if we want to account for how we talk about spatial relations in language. Language about spatial relations is pervasive in communication. We talk about how one entity is positioned with respect to another entity, how an entity moves in relation to another entity, and so on. For example, when we say that “The bus is coming,” we have a figure, the bus, that is presented by the sentence as moving in relation to the ground, the speaker. The cognitive linguist who studied this area of the interface between language and cognition extensively was Talmy (2000).

To begin, we should first note that figure-ground alignment is an asymmetrical relation. Let us assume that we have *bike* as figure and *house* as ground in the sentences below. Whereas one can naturally say

The bike is near the house,

it is much less natural to say

??The house is near the bike.

This is because the figure should come first in the sentence, followed by the ground. The reversal of figure-ground alignment in the second sentence makes the sentence sound odd.

The same applies to the following pair of sentences:

The fly is on the ceiling. (figure-ground)

\*The ceiling is above the fly. (ground-ceiling)

Why are the *bike* and the *fly* the figure and the *house* and the *ceiling* the ground? Talmy (2000 : 315–316) characterizes figure and ground in the following way:

<i>Figure</i>	<i>Ground</i>
smaller	larger
more mobile	more stationary
structurally simpler	structurally more complex
more salient	more backgrounded
more recently in awareness	earlier on scene/in memory
location less known	location more known

These characteristics do not all have to be present in particular cases and we often decide on what the figure and ground will be on the basis of just one or two situationally important features. In the examples above, it is clear that the bike and the flea are smaller and more mobile than the house and the ceiling, respectively. This makes them good figures in the given context. In other contexts, however, they may become grounds.

The two examples we have seen so far involve static relations between two entities (bike-near-house and flea-on-ceiling). However, as our characterization of spatial relations above suggests, spatial relations also involve motion events, in which one entity moves in relation to another. This is exemplified by the sentence:

She went into the house.

In this case, we have a motion event, where *she* is the figure and *house* is the ground. The figure (*she*) moves in relation to the ground (*house*).

In addition to its application to static and dynamic spatial relations, figure-ground alignment can be seen at work in grammatical structure as well. Complex sentences can be construed in terms of figure-ground alignment; the main clause corresponds to the figure, while the subordinate clause to the ground. Let us take the following sentences from Croft & Cruse (2004 : 57):

I read while she sewed.  
I read and she sewed.

The main clause *I read* is the figure and the subordinate clause *while she sewed* is the ground. The relation between the two events is construed asymmetrically in the first sentence, but symmetrically in the second. This means that the reading event is viewed as occurring against the background of the sewing event. However, given the second sentence, no such relation is construed between the two events, which are seen as occurring independently of each other. This latter construal results in a coordinated syntactic construction (the two clauses connected by *and*).

In other cases, the two events can only be construed as an asymmetrical figure-ground relation. Since dreaming is contingent on sleeping but sleeping is not contingent on dreaming (Talmy 2000 : 325), we can have

He dreamed while he slept.

but not

\*He slept while he dreamed.

Moreover, the two events cannot be conceived as being coextensive and coordinated, either. Thus the sentence

\*/?He dreamed and he slept

sounds odd. This is because the two events are inherently causally related (dreaming being contingent on sleeping), and thus a noncausal conceptualization (ie as symmetrical figure and ground) is not possible in a natural way.

## Scope of attention

The focus of attention is surrounded by the periphery of attention, or consciousness. This peripheral area of attention is called the scope of attention. The focus and scope of attention have consequences for the grammaticality of sentences. For example, we conceive of knuckles as being parts of the finger, fingers as parts of the hand, the hand as part of the arm, and the arm as part of the body. Thus it makes sense to say that the domain within which an entity becomes accessible to attention has an entity (Langacker 1987: 119):

A finger has three knuckles and a fingernail.

But it is not really acceptable to say that

??A body has twenty eight knuckles.

The reason is that the concept of KNUCKLE has as its immediate scope the FINGERS or the HANDS, but the BODY is not within this immediate scope. In other words, this kind of statement is only possible when the immediate scope—but not when the more distant scope—is involved.

## Scalar adjustment

The notion of scalar adjustment has to do with how closely we attend to the details of the scene. This aspect of construal was studied extensively by Talmy (eg 1983).

We can have a coarse-grained or a fine-grained view of the same situation, as can be seen in the sentences below (Talmy 1983):

She ran *across* the field.

She ran *through* the field.

The first sentence looks at the situation “from a distance,” so to speak. No details of the scene are suggested in any way. However, the second sentence indicates through the word *through* a more fine-grained view; it lets us imagine the field as having grass, weeds, bushes, etc through which the person runs.

The same idea can be exemplified with other sentences, taken from Croft & Cruse (2004: 52):

We drove *along* the road.  
 A squirrel ran *across* the road.  
 The construction workers dug *through* the road.

As far as the degree of detail in construal is concerned, the basic difference among the three sentences is that they represent different degrees of attention to detail. In the first sentence, the road is merely a line, a one-dimensional object; in the second, it is a two-dimensional one; and in the third, it is three-dimensional.

Scalar adjustment is not limited to visual experience only. We can construe other types of experience with lower or greater degree of detail. When we say that “John’s being silly,” the construal is more fine-grained than when we say that “John’s silly.” John’s silliness is temporary in the former case with clear temporal boundaries, while it is permanent in the latter and it is taken to be a personality trait in the latter.

### Dynamic and static attention

Our attention can scan a scene dynamically or statically. We can either move our attention across a scene or construe it as something static. This difference in construal has been applied to the state-process distinction by Talmy and to the predication-nonpredication distinction by Langacker.

Take the following sentence by Talmy (2000):

The road *winds through* the valley and then *climbs over* the high mountains.

What we find here (indicated by italics) is what Talmy calls “fictive motion,” that is, motion that does not really take place. When we use this sentence, we talk about observing a static scene. After all, the road does not move. However, we view this static scene dynamically, as if the road were moving.

Consider now Langacker’s (1987) examples:

The Boston Bridge collapsed.  
 The collapse of the Boston Bridge.

In the first sentence, the word collapse is used in a predicative function; we say what happened to the Boston Bridge. That is to say, we have a dynamic scene viewed dynamically. Langacker calls this “sequential scan-

ning." The scene is dynamic because we can observe something happen through time.

By contrast, the second phrase construes the situation differently. It suggests what Langacker calls "summary scanning." This is viewing the situation as a single static frame that somehow "summarizes" a whole series of events — not in terms of a process unfolding through time. The collapse of the bridge is an event, an essentially dynamic situation, but we choose to present it in a static way by making use of summary scanning.

Typically, dynamic situations are construed by means of sequential scanning and are expressed by means of verb phrases in sentences. The verb phrases are used predicatively. However, we can construe essentially dynamic situations by means of summary scanning and we can express them by means of noun phrases that we do not use predicatively. This is what happens in the case of *the collapse of the Boston Bridge*. But of course we can predicate something of such noun phrases; for example, we can say: *The collapse of the Boston Bridge was quick*.

In general, the two kinds of scanning a situation (summary vs sequential scanning) are used by Langacker to distinguish *things* and *relations* — the highest level conceptual units. Things are expressed as nouns and adjectives, while relations are expressed as verbs, prepositions, and conjunctions.

## Mental spaces

The theory of mental spaces is a key idea in cognitive linguistic approaches to the understanding of how people make sense of utterances in the course of online communication. To get an idea of what mental spaces are, consider as an example the so-called "picture noun" context, as made explicit by the second sentence below (Fauconnier 1997):

The girl with blue eyes has green eyes.  
In the picture, the girl with blue eyes has green eyes.

There are two mental spaces here: the mental space of reality, as we represent it to ourselves and the mental space of the picture, as we perceive it. The mental space of reality is the base space and the mental space of the picture is a "model" space (or picture space). To understand the sentence, the mappings go from the base space to the picture space. If we represent the girl as *x*, the eyes as *y*, and the blue color of the eyes as *z*, the mappings are as follows:

Base	Picture
girl (x)	→ girl (x')
eyes (y)	→ eyes (y')

However, the blue color (z) of x's eyes does not correspond to the green color of x's eyes. In other words,

blue (z) ↯ green (z')

This says that the blue color of the girl's eyes in the base space does not correspond to the green color of the girl's eyes in the picture space. But it is precisely what the sentence states: that the girl who has blue eyes has green eyes in the picture. Thus we get a contradiction. How can we explain it by means of mental space theory?

We can account for the apparent contradiction if we assume that there are two mental spaces here: a base space and a picture space. In the base space, we have the girl with blue eyes, and in the picture space we have the girl with green eyes. The girl with blue eyes in the base space can be said to have green eyes in the picture space because we can refer to a counterpart of an element by means of the description of that element in another space (ie in the base space where the description is *the girl with blue eyes*) (Fauconnier 1997). This provides an elegant solution to a problem that would be difficult to handle for formal theories of language.

### Conceptual integration: the creativity of thought

To see what conceptual integration, or blending, involves, we can take an example from a well known metaphor ANGER IS A HOT FLUID IN A CONTAINER (see Kövecses 1986, 1990, Lakoff & Kövecses 1987, Lakoff 1987). This metaphor is constituted by the mappings "container → body," "hot fluid → anger," "degrees of heat → degrees of intensity," etc. However, there is more going on than just having straightforward mappings from source to target in one of the examples of this metaphor:

God, he was so mad I could see the smoke coming out of his ears.

The example was reanalyzed by Fauconnier & Turner (2002), who point out that in this case an element of the source is blended with an element of the target. There are no ears in the source and there is no smoke in the target, but in the blend both are present at the same time as *smoke*



*coming out of his ears*. A frame is created with smoke and ears in it that is novel with respect to both the source frame and the target frame.

What happens here is that an angry person's head with the ears becomes the container in the source, and the smoke (steam) in the source will be seen as coming out of the ears (and not through the orifices of the container). This is a true conceptual fusion of certain elements of both source and target in the blend. It is called a double-scope network. The blend goes beyond simply instantiating existing frame roles in the source with participants in the target frame, as is often the case with single-scope integration networks (Fauconnier & Turner 2002).

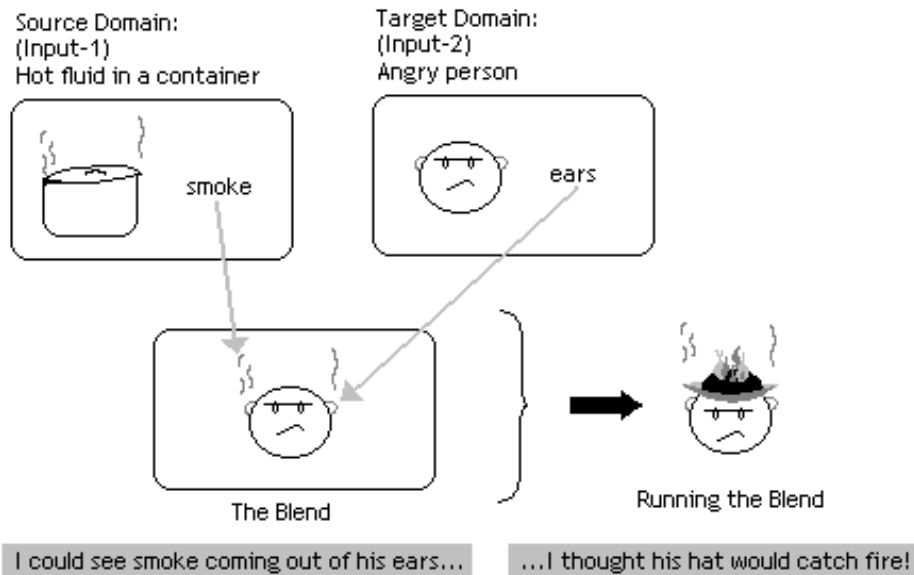
Given the new emergent structure, the blend can be developed further. One can say, for example:

God, was he ever mad. I could see the smoke coming out of his ears—  
I thought his hat would catch fire!

To understand this sentence, we need the "smoke coming out of one's ears" frame, plus knowledge based on how intensity is conceptualized in the network (see Kövecses 2010). A submapping of the ANGER IS HEAT metaphor is INTENSITY OF EMOTION IS DEGREE OF HEAT. One of the entailments of this metaphor is that a high degree of heat may cause fire (corresponding to "intense anger may cause a dangerous social situation"). But how does "hat" get into the blend? The fact that it does shows the almost infinite creativity of blends: we can develop them further and further, bringing about new conceptualizations that depend on old ones, as well as the application of systematic cognitive processes. In this particular case, the "hat" emerges as we run the previous blend with the "smoke coming out of one's ears." The head-container with the ears metonymically evokes the hat, which is typically worn on the head. Due to the entailment of the INTENSITY IS HEAT metaphor ("high degree of heat may cause fire"), the hat can be seen as catching fire. This would indicate an overall increase in the intensity in the person's anger. We can represent all this diagrammatically as below.

Although this example may sound like a highly creative blend, Fauconnier & Turner (2002) emphasize that blending just as commonly involves conventionalized cases and can go into the heart of grammar (to use a theory-dependent metaphor).

As another example of conceptual integration, let us now take what is known as the "caused motion" construction, analyzed in detail by Goldberg (1995) in a cognitive linguistic framework. A general characterization



of the caused motion construction can be given along the following lines. Semantically, the construction can be described in the following way: An agent does something, and as a result an object moves. As a prototypical example of this situation, we can take the sentence

Jack threw the ball over the fence.

In the sentence, Jack is the agent that throws the ball (does something), and the action causes (produces a result) the ball to move over the fence (the object moves).

The form of the sentence can be given as NP-V-NP-PP, where *Jack* is the first NP, *throw* is the V, *the ball* is the second NP, and *over the fence* is the PP (prepositional phrase).

It is clear that in the prototypical case the verb must be a transitive verb, such as *throw*, *kick*, *toss*, *push*, *fling*, *flip*, and many others. This is the characterization of the prototype of the construction. But there are many other cases, including:

She sneezed the napkin off the table.  
I walked him to the door.  
I'll talk you through the procedure.  
They teased him out of his senses.

I read him to sleep.  
 They let Bill into the room.  
 We ordered them out of the house.

The major difference between these examples and the prototype of the construction is that the latter verbs are either not transitive (*sneeze, talk*) or they are not verbs that describe actions as a result of which objects are moved (*sneeze, talk, walk, tease, read, let, order*).

Thus, we have the following problem: Which verbs can be used in this construction, and which ones cannot? Fauconnier (1997) proposes that it is best to analyze the construction as a blend. On this view, the blend emerges from two input spaces:

1. The basic construction that is found in many languages:

NP	V	NP	PP
a	d	b	c
John	threw	ball	to me

2. A "causal sequence"  
 [[a' ACTS] CAUSES [b' MOVE to c']]

There is a straightforward set of cross-space mappings between the two input spaces that can be given as follows:

Mappings between input1 and input2:

a	→	a'
b	→	b'
c	→	c'

In the basic, that is, prototypical, construction, the verb has all three elements in one: ACTS, CAUSES, MOVE. For example, throwing involves a particular kind of action (ACTS), the moving of an object (MOVES), and the causal link between the throwing action and the moving of the object (CAUSES). For this reason, d (eg throw) in the first input space may map to any one of these elements in the second input, which is represented as a set of mappings below:

d	→	ACTS
d	→	MOVES
d	→	CAUSES

Thus we get three different blends: *d* with ACT, *d* with MOVES, or *d* with CAUSE. Fauconnier (1997: 172–175) illustrates these blends with the following examples:

- d* → ACTS: The sergeant waved the tanks into the compound.
- d* → MOVE: Junior sped the car around the Christmas tree.
- d* → CAUSES: The sergeant let the tanks into the compound.

The three different blends inherit the syntactic structure of input1. This means that we have the same syntactic pattern in all three cases: NP V NP PP. However, their conceptual structure derives from input2, in which *a'* does something that causes *b'* to move to *c'*. As we saw, in the prototypical case the doing, the cause, and the moving are all present in one verb (such as *throw*), but in many nonprototypical cases (such as *wave*, *speed*, *let*) the complex *d* verb maps to and forms a blend with only a single element.

Although there is no syntactic innovation in this particular blended construction (the blend inherits the syntactic structure of input1), there can be semantic innovation. Verbs that can be mapped to either ACT, MOVE, or CAUSE can appear in the construction. Fauconnier (1997: 176) mentions some innovative examples in the construction:

- The psychic will think your husband into another galaxy.
- They prayed the boys home.

The verbs *think* and *pray* map to the ACT element, but leave the CAUSE and MOTION elements unspecified. Which particular verbs can be used in the construction in novel ways is an open question. A factor that may play a role is the issue of which actions are situationally interpretable as causing the motion in question. For example, in the case of *pray* (describing missing boys in a news item) the action of praying is situationally interpretable as an immediate cause of the motion.

## Cognitive grammar

The cognitive processes that we seen above can be found in what we call grammar. Grammar is a complex cognitive system that organizes and imbues with meaning the way we communicate with each other. It will be claimed that what are called “constructions” are a major part of this. Furthermore, it will be suggested that the theory of constructions in grammar goes against the still dominant view of grammar—generative grammar.

Much of the work to be described below goes back to the foundational work of Langacker (1987, 1991a, 1991b) and Lakoff (1987). A large number of scholars have taken inspiration from the body of work they have produced and have applied it to a variety of issues in the grammatical description of human languages.

### A sketch of cognitive grammar

Let us now turn to the theory of cognitive grammar and see what it actually consists of and how it operates. The description of cognitive grammar that follows is taken from Kövecses (2006). The definitive work on cognitive grammar is Langacker's two-volume book (1987, 1991a). In this section, I try to provide a sketchy outline of cognitive grammar as a coherent system of explanation of the phenomenon of language structure, making use of Langacker's work and that of others.

Let us begin with the notion of the "linguistic sign." Since the beginnings of modern linguistics (see Saussure 1916), linguistic signs have been defined as pairings of form and meaning. By form is meant the phonological shape/form (sound shape/sequence) of a word, and meaning is the conceptual content that is associated with that particular sound shape or sequence of sounds. An example that is perhaps most commonly given to demonstrate this kind of pairing of form and meaning is the word *tree* (an example introduced by Saussure himself).

The word *tree* has a sound shape /tri:/ and a conceptual content that we designate as tree. The latter can be equated with the concept corresponding to tree. The major claim about the relationship between sound shape and meaning in most of modern linguistics is that it is an arbitrary relationship. Its arbitrariness is demonstrated by the fact that in different languages different sound shapes correspond to essentially same meaning. In English the sound shape is /tri:/, in Hungarian it is /fa/, in German it is /baum/, and so on. In other words, sound shapes do not resemble the meanings associated with them; the relationship between the two is entirely arbitrary.

However, cognitive grammarians think about this issue in a significantly different way. For one thing, cognitive linguists suggest that linguistic signs include not just words but other units of language as well. They suggest that the category of linguistic signs includes much more than just words; specifically, there are two types of extension from words that make the category much more inclusive (Taylor 2003). It is this broader conception of linguistic signs that cognitive linguists call "symbolic units" (Langacker 1987).

On the one hand, linguistic signs are extended “horizontally,” including a diverse range of linguistic units, such as bound morphemes (like *-ed*, *-s*, *-ing*), fixed expressions like *how do you do?*, *how are you?*, *good morning!*, and idioms of all kinds like *add fuel to the fire*, *digging your own grave*, and *spill the beans* (Taylor 2003).

The significant issue that this more inclusive view of the linguistic sign raises is whether the relationship between form and meaning is indeed arbitrary. It can be claimed that, for example, in the case of bounded morphemes when we add them to particular word stems that have a meaning (eg *walk + ed*), we actually add more meaning to the word. For instance, if we add *-ed* to *walk*, then the word form *walked* will have more meaning than *walk* by itself; it will include the meaning that the action of walking took place before the time of speaking. If we add the third person verbal *-s* to *walk*, the new form *walks* will have more meaning than *walk* by itself; it will indicate the third person simple present tense. Since when we speak, we add these various morphemes to word stems, it can be suggested that the arbitrariness of the linguistic sign is a rather narrow view of the actual situation. It is true that the sound shapes of word stems in isolation have nothing to do with their meanings, but it is also true that when we actually use language for communication, we constantly add morphemes of various kinds to the word stems — a process resulting in adding meaning to the meaning of the words in isolation. It follows from this that we can observe an iconic relationship between word forms and meanings in a huge number of cases: As we add more form to words, we create more meaning. This is what is called iconicity.

In sum, the thesis of the arbitrariness of the linguistics sign in earlier approaches to language is a very partial truth. In the majority of cases of actual language use, the relationship between the word form and the meaning is highly motivated — not arbitrary.

The category of linguistic sign is also seen as being extended “vertically” in cognitive linguistics (Taylor 2003). This means that words are viewed as instances of word classes such as N(oun), V(erb), Adj(ective), and so on, and the combinations of words are seen as instances of more general syntactic categories and phrases, such as DET(erminer) + N = NP (noun phrase), ADJ N = NP, and NP + V + NP + NP = the ditransitive construction, and so on. Such categories as N, V, NP, and NP + V + NP + NP are regarded as being devoid of any meaning in most modern approaches to grammar. They are taken to be meaningless abstract symbols defined by structural properties. But, according to cognitive linguists, like Langacker, Lakoff, Goldberg, Taylor, and others, even such categories as noun, verb, and the ditransitive construction have meaning. On the cognitive linguis-

tic view, nouns are “things” and verbs are “processes.” But it could be asked: Does the ditransitive construction made up of symbols like NP VP NP NP have any meaning of its own? Consider some typical examples of the ditransitive construction, where the transfer of an entity is physical:

She threw me the ball.  
She tossed me a drink.

It is precisely this meaning that these sentences share. Less prototypical cases have a similar meaning:

I taught him Russian.  
I baked her a cake.  
I faxed her a letter.

All of the sentences have the structure NP + V + NP + NP, which has the general meaning: ‘the transfer of an entity to another participant.’ This suggests the conclusion that linguistic units such as noun, verb, the ditransitive construction, and so forth are not meaningless abstract symbols, as most modern approaches have it. On the contrary, these abstract categories appear to have meaning—no matter how schematic this meaning is.

Another conclusion that we can draw from this is that there is much less arbitrariness in linguistic units than previously thought. There seems to be iconicity in the ditransitive construction as well. For example, when we compare the meaning of *I taught Harry Greek* with the prepositional phrase version of the sentence, *I taught Greek to Harry*, we find that the more “compact” ditransitive construction reflects a construal of the situation in which the agent entity has exerted more influence on the patient entity than in the case of the construal described by the prepositional phrase construction. By contrast, the construction with the prepositional phrase indicates less influence on the patient; thus, in this sense, this construction bears meaning as well.

As a final observation based on the examples above, we may note that cognitive linguists consider the particular linguistic expressions as instances of more general “constructional schemas.” That is to say, there is a constructional schema, such as N, V, NP, that underlies the expressions we use; the expressions are said to be “sanctioned” by the schemas. This means that we can use the particular expressions because we have the underlying constructional schemas that sanction them. The expressions we use are instantiations of higher-level schemas. This view of how language works leads to what is known as “construction grammar”—designating a

more specific version of grammar within the broader category of cognitive grammar.

In a construction grammar, each linguistic expression is an instance of a higher-level constructional schema that sanctions the use of the expression. Cognitive grammar is essentially a construction grammar in this sense, where constructions are form-and-meaning pairs.

## Conclusions

In this brief introduction to cognitive linguistics, two general issues were examined. First, what cognitive processes play a role in making sense of the world around us? Second, how do these cognitive processes contribute to our understanding of issues in language?

To begin, we have found that we make use of a relatively small number of cognitive processes in making sense of our experience. We categorize the world, organize our knowledge into frames, we make use of within-frame mappings (metonymy) and cross-frame mappings (metaphor), build image schemas from bodily experience and apply these to what we experience, divide our experience into figures and grounds, set up mental spaces and further mappings between them in the on-line process of understanding, and have the ability to skillfully and creatively integrate conceptual materials from the mental spaces that we set up. We do not do most of this in a conscious way; our cognitive system operates unconsciously most of the time. It is these and some additional cognitive processes not discussed in this paper that participate in our unconscious meaning-making activity.

With the help of these cognitive processes we can account for many (or perhaps most) of the phenomena of meaning in language in a coherent fashion. The theory that emerges from the application of these cognitive processes to our understanding of meaning in language will be very different from other theories of language. Most importantly, the theory will be a theory of meaning, and not one of form. On this view, even highly abstract and schematic forms (such as N, V, NP V NP, or NP V NP PP) are seen as having meaning; as a matter of fact, the only justification of the existence of such abstract and schematic forms is their role in the expression and understanding of meaning as being part of "symbolic units," which consist of combinations of meaning and form (Langacker 1987). On the cognitive linguistic view, the scientific study of language cannot be the study of the manipulation of such abstract and schematic forms (ie syntax); the only legitimate and scientific goal in the study of language is the study of *meaning* in language (including the meaning of abstract symbolic units) and how the cognitive processes discussed above play a role in this.



## REFERENCES

- Andor, József. 1985. On the psychological relevance of frames. *Quaderni di Semantica* 6(2): 212–221.
- Barcelona, Antonio (ed.). 2000. *Metaphor and Metonymy at the Crossroads*. Berlin: Mouton de Gruyter.
- Brdar, Mario and Rita Brdar-Szabó. 2003. Metonymic coding of linguistic action in English, Croatian and Hungarian. In: Panther & Thornburg 2003: 241–246.
- Brdar-Szabó, Rita and Mario Brdar. 2003. The manner for activity metonymy across domains and languages. *Jezikoslovlje* 4(1): 43–69.
- Croft, William and Alan Cruse. 2004. *Cognitive Linguistics*. Cambridge: Cambridge University Press.
- Dirven, René and Ralph Pörings (eds.). 2003. *Metaphor and Metonymy in Comparison and Contrast*. Berlin: Mouton de Gruyter.
- Fauconnier, Gilles. 1997. *Mappings in Language and Thought*. Cambridge and New York: Cambridge University Press.
- Fauconnier, Gilles and Mark Turner. 2002. *The Way We Think*. New York: Basic Books.
- Fillmore, Charles. 1975. An alternative to checklist theories of meaning. In: C. Cogen, H. Thompson, G. Thurgood, K. Whistler, and J. Wright (eds.), *Proceedings of the First Annual Meeting of the Berkeley Linguistic Society*. Berkeley, CA. 123–131.
- Fillmore, Charles. 1982. Frame semantics. In: *Linguistics in the Morning Calm*. The Linguistic Society of Korea. Hanshin. 111–137.
- Gallese, Vittorio and George Lakoff. 2005. The brain's concepts: The role of the sensory-motor system in conceptual structure. *Cognitive Neuropsychology* 22(3–4): 455–479.
- Gentner, Dedre. 1983. Structure-mapping: A theoretical framework for analogy. *Cognitive Science* 7: 155–170.
- Gibbs, Raymond W. 2000. Making good psychology out of blending theory. *Cognitive Linguistics* 11(3–4): 347–358.
- Gibbs, Raymond W., Dinara Beitel, Michael Harrington, and Paul Sanders. 1995. Taking a stand on the meanings of *stand*: bodily experience as motivation for polysemy. *Journal of Semantics* 11: 231–251.
- Glucksberg, Sam and Boaz Keysar. 1993. How metaphors work. In: Andrew Ortony (ed.), *Metaphor and Thought*. 2nd ed. Cambridge: Cambridge University Press. 401–424.
- Goldberg, Adele. 1995. *Constructions*. Chicago: The University of Chicago Press.
- Grady, Joseph E. 1997. Theories are building revisited. *Cognitive Linguistics* 8: 267–290.
- Holyoak, Keith and Paul Thagard. 1996. *Mental Leaps: Analogy in Creative Thought*. Cambridge, MA: The MIT Press.
- Johnson, Mark. 1987. *The Body in the Mind*. Chicago: The University of Chicago Press.
- Kövecses, Zoltán. 1986. *Metaphors of Anger, Pride, and Love*. Amsterdam: John Benjamins.
- Kövecses, Zoltán. 1990. *Emotion Concepts*. Berlin & New York: Springer Verlag.
- Kövecses, Zoltán. 2000. *Metaphor and Emotion*. Cambridge & New York: Cambridge University Press.
- Kövecses, Zoltán. 2002. *Metaphor. A Practical Introduction*. Oxford & New York: Oxford University Press.
- Kövecses, Zoltán. 2005. A broad view of cognitive linguistics. *Acta Linguistica Hungarica* 52(2–3): 135–172.

- Kövecses, Zoltán. 2006. *Language, Mind, and Culture. A Practical Introduction*. Oxford & New York: Oxford University Press.
- Kövecses, Zoltán. 2010. *Metaphor. A Practical Introduction*. 2nd ed. Oxford University Press.
- Kövecses, Zoltán and Günter Radden. 1998. Metonymy: Developing a cognitive linguistic view. *Cognitive Linguistics* 9: 37–77.
- Lakoff, George. 1987. *Women, Fire, and Dangerous Things: What Categories Reveal about the Mind*. Chicago: The University of Chicago Press.
- Lakoff, George and Mark Johnson. 1980. *Metaphors We Live By*. Chicago: The University of Chicago Press.
- Lakoff, George and Zoltán Kövecses. 1987. The cognitive model of anger inherent in American English. In: Dorothy Holland and Naomi Quinn (eds.), *Cultural Models in Language and Thought*. Cambridge & New York: Cambridge University Press. 195–221.
- Langacker, Ronald. 1987. *Foundations of Cognitive Grammar. Theoretical Prerequisites. Vol. 1*. Stanford: Stanford University Press.
- Langacker, Ronald. 1991a. *Foundations of Cognitive Grammar. Vol. 2. Descriptive Applications*. Stanford: Stanford University Press.
- Langacker, Ronald. 1991b. *Concept, Image, and Symbol*. Berlin: Mouton de Gruyter.
- Panther, Uwe-Klaus and Linda Thornburg (eds.). 2003. *Metonymy and Pragmatic Inferencing*. Amsterdam: John Benjamins.
- Panther, Uwe-Klaus and Günter Radden (eds.). 1999. *Metonymy in Language and Thought*. Amsterdam: John Benjamins.
- Radden, Günter and Zoltán Kövecses. 1999. Towards a theory of metonymy. In: Panther & Radden 1999: 17–59.
- Rosch, Eleanor H. 1978. Principles of categorization. In: Eleanor H. Rosch and Barbara B. Lloyd (eds.), *Cognition and Categorization*. Hillsdale, NJ: Lawrence Erlbaum. 27–48.
- Ruiz de Mendoza Ibanez, Francesco. 2000. The role of mappings and domains in understanding metonymy. In: Barcelona 2000: 109–132.
- Saussure, Ferdinand de. 1916. *Cours de linguistique générale*. Charles Bally and Albert Sechehaye (eds.). Lausanne & Paris: Payot.
- Schank, Robert and Robert Abelson. 1977. *Scripts, Plans, Goals, and Understanding*. Hillsdale, NJ: Lawrence Erlbaum.
- Talmy, Leonard. 1983. How language structures space. In: Herbert L. Pick, Jr. and Linda P. Acredolo (eds.), *Spatial orientation: Theory, research, and application*. New York: Plenum Press. 225–282.
- Talmy, Leonard. 1988. Force Dynamics in Language and Cognition. *Cognitive Science* 12: 49–100.
- Talmy, Leonard. 2000. *Toward a Cognitive Semantics*. Cambridge, MA: The MIT Press.
- Taylor, John. 1989. *Linguistic Categorization*. Oxford: Clarendon Press.
- Taylor, John. 2003. *Cognitive Grammar*. Oxford: Oxford University Press.

Zoltán Kövecses  
 kovecses.zoltan@btk.elte.hu  
 Eötvös Loránd University  
 Budapest