

learning about language

# AN INTRODUCTION TO COGNITIVE LINGUISTICS

FRIEDRICH UNGERER AND HANS-JÖRG SCHMID

SECOND EDITION

CONCEPTS CHANGE  
RELEVANCE LEXICAL  
CATEGORIZATION  
PROTOTYPE GESTALT  
PERCEPTION FIGURE  
CONCEPTUAL THEORY  
HIERARCHIES  
GROUND METAPHOR  
METONYMY ICONICITY

# An Introduction to Cognitive Linguistics

# Learning About Language

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**Second Edition**

Friedrich Ungerer  
Hans-Jörg Schmid



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# Contents

Publisher's acknowledgements	x
Preface to the second edition	vii
Typographical conventions	ix
Introduction	1
<b>1</b> Prototypes and categories	7
1.1 Colours, squares, birds and cups: early empirical research into lexical categories	7
1.2 The internal structure of categories: prototypes, attributes, family resemblances and gestalt	24
1.3 Context-dependence and cultural models	45
<b>2</b> Levels of categorization	64
2.1 Basic level categories of organisms and concrete objects	64
2.2 Superordinate and subordinate categories	76
2.3 Conceptual hierarchies	85
2.4 Categorization and composite word forms	92
2.5 Basic level categories and basic experiences: actions, events, properties, states and locations	101
<b>3</b> Conceptual metaphors and metonymies	114
3.1 Metaphors and metonymies: from figures of speech to conceptual systems	114
3.2 Metaphors, metonymies and the structure of emotion categories	132
3.3 Metaphors as a way of thinking: examples from science and politics	144
3.4 Thinking in metonymies: potential and limitations	154
<b>4</b> Figure and ground	163
4.1 Figure and ground, trajector and landmark: early research into prepositions	163
4.2 Figure, ground and two metaphors: a cognitive explanation of simple clause patterns	176
4.3 Other types of prominence and cognitive processing	191

<b>5</b>	Frames and constructions	207
5.1	Frames and scripts	207
5.2	Event-frames and the windowing of attention	218
5.3	Language-specific framing and its use in narrative texts	230
5.4	Construction Grammar	244
<b>6</b>	Blending and relevance	257
6.1	Metaphor, metonymy and conceptual blending	257
6.2	Conceptual blending in linguistic analysis and description	268
6.3	Conceptual blending in advertising texts, riddles and jokes	280
6.4	Relevance: a cognitive-pragmatic phenomenon	288
<b>7</b>	Other issues in cognitive linguistics	300
7.1	Iconicity	300
7.2	Lexical change and prototypicality	312
7.3	Cognitive aspects of grammaticalization	321
7.4	Effects on foreign language teaching	328
	Conclusion	343

# Preface to the second edition

This new edition of the book is more than the usual update of information and references. In response to recent developments in cognitive linguistics we have made some major changes and have introduced new topics extending the number of chapters from six to seven.

Our presentation of conceptual categorization has become more differentiated. With regard to individual categories, the notion of context-dependence has been strengthened. The presentation of cognitive models and cognitive hierarchies now emphasizes the importance of part-whole links as opposed to type-of relationships.

The third chapter now provides an innovative description of the role played by metaphors and metonymies based on the notion of 'mapping scope'. Generally metonymy has been given more prominence to accommodate recent research; the section on 'Metaphor as a way of thinking' has been complemented by an additional section 'Thinking in metonymies'c.

While Chapter 5 includes a section on 'Construction Grammar', a new Chapter 6 has been inserted providing a careful introduction of blending theory as an online processing strategy. The chapter includes many detailed analyses of lexical and grammatical phenomena, and also of ads, riddles and jokes. The last section of this chapter takes a look at 'Relevance Theory' exploring its potential to stimulate cognitive-linguistic approaches.

The final chapter of the book has almost doubled in size as two of the four sections, the sections on iconicity and on cognitive linguistics in foreign language learning, have been massively expanded and now contain a large amount of new material and original ideas.

The conclusion of the first edition has been reshaped into an 'Outlook' section which surveys some current attempts to put linguistic theorizing on a safer psychological and neurological footing.

We are indebted to Maura Bresnan-Enders, Kirsten Buchholz, Eva Drewelow, Sandra Handl, Susanne Handl, Nick Jacob-Flynn and Anne-Kristin

Siebenborn for their invaluable assistance in checking and proofreading manuscripts and generating the index. As the text of the first edition still makes up a substantial part of this book we want to renew our thanks to Ingrid Fandrych, Wolfgang Falkner, Nick Jacob-Flynn, Geoffrey Leech, Len Lipka, Andreas Mahler, Arthur Mettinger and Kieran O'Rourke for their contributions to the success of the first edition.

F. Ungerer and H.-J. Schmid

Rostock and Munich, Summer 2006

# Typographical conventions

## **Cognitive categories, concepts, cognitive and cultural models**

small capitals

e.g. BIRD, VEHICLE, LOVE, ON THE BEACH

## **Attributes**

single quotes

e.g. 'juicy', 'has legs'

## **Members of categories**

arrows and small capitals

e.g. >ROBIN<, >PARROT<

## **Image schemas**

single quotes

e.g. 'in-out', 'part-whole'

## **Metaphors/metonymies**

+ signs and small capitals

e.g. +ANGER IS HEAT+, +PRODUCER FOR PRODUCT+

## **Basic correlations**

single quotes and arrows

e.g. 'cause<>effect',

'action<>motion'

## **Frames**

small capitals in brackets

e.g. [COMMERCIAL EVENT]

# Publishers' acknowledgements

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# Introduction

If someone says to you ‘Our car has broken down’, your reaction may simply be to feel sorry. For the linguist, though, even such a simple utterance calls for quite an elaborate explanation. As far as the meaning and the grammar of the sentence are concerned, a traditional description would try to paraphrase the meanings of the words used; it would analyze the clause pattern (here a simple combination of subject and verb or predicate), and would probably go on to discuss the use of the present perfect tense.

Another approach involves asking language users to describe what is going on in their minds when they produce and understand words and sentences. As experiments have shown, people will not only state that a car has a box-like shape, that it has wheels, doors, and windows, that it is driven by an engine and equipped with a steering wheel, an accelerator and brakes, and that it has seats for the driver and the passengers – more likely than not, they will also mention that a car is comfortable and fast, that it offers mobility, independence and perhaps social status. Some people may connect the notion of *car* with their first love affair, or with injury if they were once involved in an accident.

By adding these attributes, people include associations and impressions which are part of their experience. While the last two items (‘first love affair’, ‘injury’) point to a very personal, subjective experience, attributes like ‘comfort’, ‘speed’, ‘mobility’ and ‘independence’ seem to be part of our communal experience of cars. Taken together, the attributes collected from laypersons seem to reflect the way we perceive the world around us and interact with it. The wide and varied experience that we have of cars is also helpful when it comes to identifying and naming car-like objects that we encounter for the first time. For example, we do not hesitate to use the word *car* for vehicles with only three wheels or strange-looking safari jeeps, because

we can compare them with the idea of a typical car we have stored in our minds. In other words, a description that takes account of our experience of the world – or more technically, an **experiential view** of words and other linguistic structures – seems to provide a rich and fairly natural description of their meanings, and this is one of the goals of the cognitive-linguistic approach presented in this book.

Experiential aspects of meaning do not only emerge in experiments and personal interviews. Our shared experience of the world is also stored in our everyday language and can thus be gleaned from the way we express our ideas. In order to open this mine, however, we have to go beyond the ‘logic’ of clause patterns and examine figurative language, especially metaphors. Looking again at our initial example *Our car has broken down*, it is evident that a car does not really break down just like a chair collapses so that its parts come apart. Nevertheless the conceptual background of this expression is clear enough. Since most of us do not know an awful lot about cars and how they work, we use our knowledge of chairs or other equally familiar objects collapsing to understand what happens when the car’s engine suddenly stops working.

This transfer of our experience of well-known objects and events is even more important where abstract categories like emotions are involved. Imagine that someone describes the car owner’s reaction to the breakdown of his car with the words *Dad exploded*. In order to get a full grasp of this utterance and the notion of *anger* expressed, we will call up our knowledge of actual explosions of gas stoves, fireworks and even bombs. This means that we will make use of our experience of the concrete world around us. Considering the wealth of observations, impressions and associations underlying metaphors, it is not surprising that they have joined tests and interviews as the second major basis of the experiential view of language.

Another important aspect of linguistic utterances concerns the selection and arrangement of the information that is expressed. For example, consider the sentence *The car crashed into the tree* which might be a description of the circumstances that led to the car’s breakdown. Visualizing the accident situation sketched in this example, you will probably agree that the sentence seems to describe the situation in a fairly natural way. In comparison, other ways of relating the accident such as *The tree was hit by the car* seem somehow strange and unnatural. The reason is that the moving car is the most interesting and prominent aspect of the whole situation, and therefore we tend to begin the sentence with the noun phrase *the car*. What this explanation claims is that the selection of the clause subject is determined by the different degrees of prominence carried by the elements

involved in a situation. This prominence is not just reflected in the selection of the subject as opposed to the object and the adverbials of a clause, but there are also many other applications of what may be called the **prominence view** of linguistic structures.

The prominence view provides one explanation of how the information in a clause is selected and arranged. An alternative approach is based on the assumption that what we actually express reflects which parts of an event attract our attention, and it can therefore be called the **attentional view**. Returning once more to the road accident, the sentence *The car crashed into the tree* selects only a small section of the event that we probably conjure up in our minds: how the car started to swerve, how it skidded across the road and rumbled onto the verge. Although all this happened before the car hit the tree, it is not mentioned because our attention is focused on the crucial point where the path of the car ended, i.e. when the vehicle collided with the tree, resulting in a severely damaged car and most likely causing injuries to its passengers. Analyzing the sentence in terms of attention allocation, the attentional view explains why one stage of the event is expressed in the sentence and why other stages are not.

The experiential, the prominence and the attentional view are three interlocking ways of approaching language via its relation to the world around us, which between them describe the core areas of cognitive linguistics. An additional aspect that has increasingly captured the attention of cognitive linguists is concerned with the **mental processing of cognitive input**, and in particular with the online processing of our conceptualizations. To add another example from the field of vehicles, consider the slogan of an advertising campaign for a well-known brand of cars: *Unleash a Jaguar*. Exploiting the origin of the brand name, this ad brings together ideas from the two conceptual domains of cars and wild animals; it amalgamates them into a powerful message suggesting an image of a car that is impatiently waiting for the customer, to be set free and allowed to act out its power, speed and ferocity. This happens although the relationships between the wild animal domain and the car domain are not really clarified, let alone permanently fixed. Technically speaking, the expression *Unleash a Jaguar* instructs the readers to simultaneously construct two 'mental spaces': a 'car' space containing associations like powerful engine, high maximum speed, attractive design, etc.; and a 'wild animal' space including associations normally attributed to jaguars, such as their ferocity, speed of running, liteness and elegance. To understand the message of the slogan, readers have to go through a process of **conceptually blending** the two mental spaces, a process resulting in a blended notion of 'car-as-a-wild-animal'. With regard to its meaning, this

conceptual blend is somewhat vague and open-ended, and it is this quality that is exploited in ads and many other text-types.

If these examples and their analysis have provided you with a first impression of cognitive linguistics, you should perhaps now proceed to the individual chapters of the book to find out more about the issues raised. The remaining part of the introduction is primarily addressed to readers who are already more familiar with cognitive linguistics and want to get a concise overview of the topics dealt with in the book and their research background.

The first of the seven chapters will pursue the experiential view by looking at early psychological studies of cognitive categories (most of them conducted by Eleanor Rosch), which led to the prototype model of categorization. This will take us to a discussion of attributes, family resemblances and *gestalts*. Contrary to what one might assume, prototypes and cognitive categories are not static, but shift with the context in which a word is used and depend on the cognitive and cultural models stored in our mind.

The second chapter concentrates on the predominance of the 'middle' level of categorization, called basic level. It is argued that basic level categories for objects and organisms, such as *DOG*, *RABBIT* or *KNIFE*, are cognitively more important than either superordinate categories like *ANIMAL* or *CUTLERY* or subordinate categories like *GREYHOUND* or *PENKNIFE*, but it will also be shown that part-whole relationships like *TABLE-KITCHEN-HOUSE-TOWN* are just as important for the organization of our mental lexicon as the type-of hierarchies (*GREYHOUND-DOG-ANIMAL*) traditionally focused on. The notion of basic level categories can also be transferred from organisms and objects to the domain of actions. For the description of properties, it competes with another cognitive notion, the image schema, which is rooted in our bodily experiences.

Still within the framework of the experiential view, the third chapter starts out from the conceptual potential of metaphors (which was first pointed out by Lakoff and Johnson and has already been illustrated for the breakdown of the car). As a cognitive process it is understood as a mapping from a source to a target concept monitored by a conceptual mapping scope. Together with metonymies, conceptual metaphors make a significant contribution to the cognitive content and structure of abstract categories, especially emotion categories.

This view implies that metaphors and metonymies are no longer regarded as ornamental figures of speech (as in traditional stylistics), but are understood as important conceptual tools. The category-structuring power of metaphors is not restricted to lexical categories, but can also contribute

to our understanding of complex scientific, political and social issues, and this is also true of metonymies, whose fundamental importance for human thinking has only been gradually realized.

The fourth chapter is devoted to the prominence view. At the heart of this approach lies the principle of figure/ground segregation, which has its origin in the work on visual perception by gestalt psychologists. This principle is first applied to locative relations underlying prepositions like *out* or *over*. Then it is extended to describe other syntactic relations, in particular the prominence of subject versus object. The chapter ends with a rough sketch of Langacker's view of cognitive processes, which is shown to be based on a multiple application of the figure-ground contrast.

In the fifth chapter the potential of the attentional view will be demonstrated. The chapter (which owes much to the ideas of Fillmore, Talmy and Slobin) starts out from the notion of 'frame'. Basically, a frame is an assemblage of the knowledge we have about a certain situation, e.g. buying and selling. Depending on where we direct our attention, we can select and highlight different aspects of the frame, thus arriving at different linguistic expressions. Although elementary types of frames, for instance the 'motion event-frame', are presumably shared by all human beings, they are expressed in different ways in different languages; this will be illustrated with English, German, French and Spanish examples. Closely related to event-frames is the notion of construction as a meaningful linguistic element, which, following mainly Fillmore and Goldberg, is exemplified for verbal and nominal constructions as well as syntactic idioms.

The sixth chapter deals with the analysis of online cognitive processing, as represented by Fauconnier and Turner's theory of conceptual blending. This approach is applied to a wide range of lexical, grammatical and pragmatic phenomena as well as to ads, riddles and jokes to test its versatility. For example, it explains how we bring together information expressed in the headline of a print ad with the message of the picture by linking and blending the mental spaces evoked by them. Finally, the blending theory and other cognitive principles are related to some of the tenets of Sperber and Wilson's Relevance Theory, which is characterized as a cognitive-pragmatic approach capable of stimulating cognitive-linguistic thinking.

The seventh chapter brings together a number of issues that have not originated in cognitive-linguistic research. Although three of them, iconicity, lexical change and grammaticalization, can look back on a long tradition in linguistics, they have benefited considerably from being put on a cognitive basis. The final section discusses the potential of a cognitive

approach to foreign language learning, focusing on the potential of basic level, metaphor and metonymy, figure and ground as well as gestalt, to facilitate cognitive access to the language learning process.

To return to the general question of how 'cognitive linguistics' can be understood, the book will focus on the experiential aspects and the principles of prominence and attention allocation underlying language. By including cognitive online processing we want to emphasize the ties linking cognitive linguistics to psycholinguistic and pragmatic approaches.

## CHAPTER 1

# Prototypes and categories

## 1.1 Colours, squares, birds and cups: early empirical research into lexical categories

*The world consists of an infinite variety of objects with different substances, shapes and colours. How do we translate this variety into manageable word meanings and why do we succeed even where no clear-cut distinctions seem to be available, such as between the colours 'red' and 'orange' or 'green' and 'blue'? Experimental psychology has shown that we use focal or prototypical colours as points of orientation, and comparable observations have also been made with categories denoting shapes, animals, plants and man-made objects.*

Moving through the world we find ourselves surrounded by a variety of different phenomena. The most eye-catching among them are organisms and objects: people, animals, plants and all kinds of everyday artefacts such as books, chairs, cars and houses. In normal circumstances we have no difficulty in identifying and classifying any of them, and in attributing appropriate class names to them. However, it is not so easy to identify, classify and, as a consequence, to name other types of entities, for instance parts of organisms. Knees, ankles and feet of human beings and animals or the trunk, branches and twigs of a tree belong to this type. It may be fairly clear that one's kneecap belongs to one's knee and that the trunk of a tree includes the section which grows out of the ground. Yet at which point does one's knee end and where does one's thigh start? Where does a trunk turn into a treetop and where does a branch turn into a twig? Similar problems arise with landscape names, and words denoting weather phenomena. Who can tell at which particular spot a valley is no longer a valley but a slope or a mountain? Who can reliably identify the point where drizzle turns into rain, rain into snow, where mist or fog begins or ends?

When we compare the two types of entities mentioned, we find that they differ with respect to their boundaries. Books, tables, cars and houses

are clearly delimited objects. In contrast, the boundaries of entities like knee, trunk, valley and mist are far from clear; they are vague. This vagueness has troubled philosophers and linguists interested in the relationship between word meanings and extra-linguistic reality, and has given rise to various theories of vagueness'.\* Yet in spite of their vagueness, we have the impression that these boundaries exist in reality. A kneecap cannot be included in the thigh, and a mountain top will never be part of a valley. So classification seems to be forced upon us by the boundaries provided by reality.

However, there are phenomena in the world where this is not the case. Take physical properties such as length, width, height, temperature and colours, all of them uninterrupted scales extending between two extremes – how do we know where to draw the line between cold, warm and hot water? And how do we manage to distribute the major colour terms available in English across the 7,500,000 colour shades which we are apparently able to discriminate (see Brown and Lenneberg 1954: 457)? The temperature scale and the colour continuum do not provide natural divisions which could be compared with the boundaries of books, cars, and even knees or valleys.

Therefore the classification of temperature and colours can only be conceived as a mental process, and it is hardly surprising that physical properties, and colours especially, have served as the starting point for the psychological and conceptual view of word meanings which is at the heart of cognitive linguistics. This mental process of classification (whose complex nature will become clearer as we go on) is commonly called **categorization**, and its product are the **cognitive categories**, e.g. the colour categories RED, YELLOW, GREEN and BLUE, etc. (another widely used term is 'concept').

What are the principles guiding the mental process of categorization and, more specifically, of colour categorization? One explanation is that colour categories are totally arbitrary. For a long time this was what most researchers in the field believed. In the 1950s and 1960s, anthropologists investigated cross-linguistic differences in colour naming and found that colour terms differed enormously between languages (Brown and Lenneberg 1954; Lenneberg 1967). This was interpreted as a proof of the arbitrary nature of colour categories. More generally, it was thought to support the relativist view of languages, which, in its strongest version as advocated by Whorf, assumes that different languages carve up reality in totally different ways.<sup>2</sup>

A second explanation might be that the colour continuum is structured by a system of reference points for orientation. And indeed, the anthropologists Brent Berlin and Paul Kay (1969) found evidence that we rely on

\*Suggestions for further reading are given at the end of each chapter.