

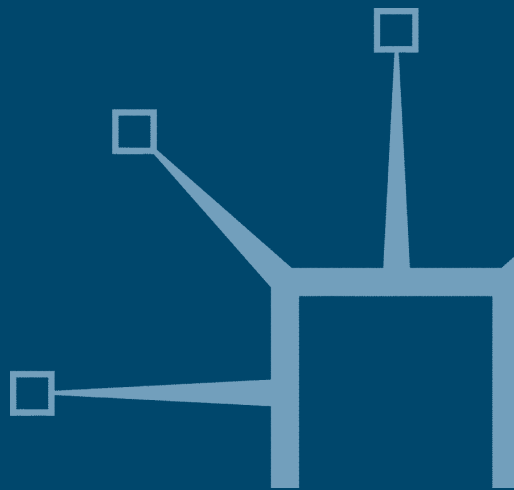
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# A Hybrid Theory of Metaphor

Relevance Theory and Cognitive Linguistics

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Markus Tendahl



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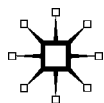
# A Hybrid Theory of Metaphor

Relevance Theory and Cognitive Linguistics

Markus Tendahl

*University of Dortmund, Germany*

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First published 2009 by  
PALGRAVE MACMILLAN

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Palgrave Macmillan in the US is a division of St Martin's Press LLC, 175 Fifth Avenue, New York, NY 10010.

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ISBN: 978-0-230-22793-4 hardback

This book is printed on paper suitable for recycling and made from fully managed and sustained forest sources. Logging, pulping and manufacturing processes are expected to conform to the environmental regulations of the country of origin.

A catalogue record for this book is available from the British Library.

A catalog record for this book is available from the Library of Congress.

10 9 8 7 6 5 4 3 2 1  
18 17 16 15 14 13 12 11 10 09

Printed and bound in Great Britain by  
CPI Antony Rowe, Chippenham and Eastbourne

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# Typographical Conventions

*Italics* are used for:

- metalinguistic uses, for example titles of works, examples without number, etc.
- important terms which have not been mentioned and explained before
- lexical concepts
- general emphasis

*Italics\** with an asterisk are used for:

- ad hoc concepts

SMALL CAPITALS are used for:

- conceptual domains
- conceptual metaphors
- conceptual metonymies
- image schemas
- mental spaces
- thematic roles

CAPITALS are used for:

- conceptual regions

# Acknowledgements

Many monographs are either started with a preface or with acknowledgments. As I see it, prefaces are usually written for two reasons: (1) deploring one's sufferings in writing the book, and (2) thanking various people for their support. A chapter with acknowledgments usually just serves the latter function. I have decided to restrict myself to acknowledgments – again for two reasons: (1) It is probably obvious to most people anyway that writing such a book is not a pleasure all the time and therefore I do not deem it necessary to set off on a long rambling account of my writing experience. At the same time, to me it certainly was a pleasure most of the time. (2) This should be the place where after several years of support, patience and endurance those people whose names are not on the cover, but who have been supportive, patient and enduring, ought to be in the centre of attention.

The first group of people I would like to thank are the ones who spent so much time with me discussing the topics and chapters of this book. I had the pleasure to spend the most rewarding discussions with my PhD supervisors Prof. Dr Hans Peters, Dortmund University and Prof. Raymond W. Gibbs, Jr, University of California at Santa Cruz, without whose help I would never have started nor completed this project. Both have not only accompanied my development as a young scholar, but have also become friends.

The second group of people I would like to thank are the ones who were always supportive in letting the first group of people capture so much of my time. In the terms of relevance theory I could say that this group of people has always spent a lot of effort in me, but has rarely gained the requisite benefits.<sup>1</sup> Among these people I want to specifically mention my partner Heike and my parents who have always been supportive in any decision I have made.

Furthermore, I want to thank Saskia Malan, Robert Krause and Daniel Bückner who read chapters of the first draft of this book and made many valuable comments.

All these people have been essential for this work, but without institutional and financial support this book would never have been printed either. Therefore, I take this opportunity to thank the wonderful English Department of Dortmund University, where I submitted an earlier version of this book as my Ph.D. dissertation. I also thank the Psychology Department of the University of California at Santa Cruz for my stay there as a Research Associate, the *Gesellschaft der Freunde der*

*Universität Dortmund* for financially supporting my stay in Santa Cruz and the DAAD (the German Academic Exchange Service) for providing a grant also enabling me to spend valuable time in Santa Cruz with Prof. Gibbs. Last but not least I want to thank Palgrave for being so patient with me.

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# 1

## Introduction

The main aim of this work is to make an original contribution to the study of metaphors, or more particularly, to the study of how people ordinarily use and understand metaphors in their daily lives. The phenomenon of metaphor has fascinated scholars for at least two millennia and still there are many open questions. Nonetheless, I do believe that the advances in linguistics, philosophy and cognitive psychology over the past four decades have led to substantial insights into the significance and workings of metaphors.

Various models describing the nature of metaphor have been put forward. The classical model is often attributed to Aristotle's *Poetic* and *Rhetoric* and is called the *comparison theory of metaphor*. According to this model, metaphors are elliptical versions of similes or comparisons. Thus, a metaphor of the form 'A is B' is the elliptical counterpart of the linguistic expression 'A is like B in respects X, Y, Z...'. This model was proven wrong by many scholars. One problem is that it presumes that metaphors cannot *create* similarities. From this perspective, metaphors can only describe existing similarities. However, research (cf. Lakoff and Johnson 1980; Reddy 1979/1993; Schön 1979/1993) has clearly shown that we use metaphors not only in order to describe similarities, but also in order to create them or, more generally, to conceptualize one conceptual domain in terms of a different conceptual domain. Another problem the comparison theory of metaphor has to face concerns the issue of how we process metaphorical language. Often, there simply is no similarity between the *vehicle* (the conventional referent of a metaphorical expression) and the *topic* (the actual unconventional referent). This raises the question of how we manage to understand such metaphorical utterances, if there is no similarity that we can accept as the *grounds* of the metaphor. Finally, Glucksberg (2001: 29–51; see also Glucksberg and Haught 2006) offers many good reasons to reject the idea that metaphors are implicit similes. For example, he points out that the vehicle of a metaphor (of the form *A is B*) refers to a new category, whereas the same term in a simile (*A is like B*) refers to the literal concept.

In the 1950s and 1960s the pragmatics movement won widespread attention through seminal works by John L. Austin (1962), John Searle (1969) and H. Paul Grice (1957, 1967). This was important for the study of metaphor, as linguists began studying contextual influences on utterance comprehension. Furthermore, the significance of inferential abilities in communication and the functions for which speakers use language were taken into account. All of these issues are highly significant for the study of language and metaphor, and therefore pragmatic theories of metaphor were able to give rise to important advances in metaphor research. The *standard pragmatic model of metaphor*, which was predominantly developed by H. Paul Grice (1967, 1975) and John Searle (1979/1993), was beneficial for research on metaphor, because it emphasized that metaphors rely heavily on inferences and on speakers' intentions. However, it also incorrectly assumed that metaphors are only used for special purposes and that literal language has priority over metaphorical language. These assumptions are no longer supported by current theories of metaphor due to a number of theory-internal and psycholinguistic counterarguments.

An alternative approach to language and cognition within a pragmatics framework is offered by *relevance theory* (Sperber and Wilson 1986). Relevance theory also considers the discourse context as being utterly fundamental to language understanding and stresses the importance of our inferences in communication. However, in contrast to other pragmatic approaches, relevance theory focuses explicitly on the cognitive background of communication. With respect to metaphor theory, relevance theory has the clear advantage over other pragmatic theories of metaphor that it does not presume that metaphor processing is different from the processes involved in understanding literal language. Quite to the contrary, metaphors are regarded as just one particular kind of the *loose use* of language. Metaphors are considered as a common way of achieving optimal relevance. Thus, relevance theory offers a sophisticated model that makes suggestions about how we process metaphors, and it also takes into account the cognitive abilities which are necessary to comprehend metaphors. In spite of this, the theory struggles with difficulties regarding its descriptive and explanatory possibilities concerning the interpretation of metaphors. I suggest that this is predominantly due to the fact that relevance theory has largely ignored the systematic and pervasive nature of metaphors in language and thought. This, however, is a topic that has been studied extensively by cognitive linguists.

Cognitive linguistics offers another cognitive, but in many respects different, orientation towards metaphor. In contrast to relevance theorists, cognitive linguists presume that language is not an isolated system. They believe that language is a cognitive ability that is intricately intertwined with general cognitive abilities which are deeply influenced by our cultural and bodily experiences of the world. George Lakoff and Mark Johnson's (1980)

pioneering work on conceptual metaphor has set in motion a whole new way of looking at metaphors. The main assumption underlying the *conceptual metaphor approach* is that metaphor is not primarily a phenomenon of language, but rather a phenomenon of thought. Conceptual metaphor theorists suggest that we use metaphors in order to make sense of our ordinary experiences of the world. Many concepts cannot be understood directly, and in these cases we use our knowledge of one tangible and well-understood conceptual domain in order to conceptualize another domain. This approach has initiated an enormous flood of publications on conceptual metaphor theory, and we owe many significant insights to this research conducted by cognitive linguists and psycholinguists (for a survey see Gibbs 1994). Thus, cognitive linguists have always focused on metaphor in thought, but initially their main interest had not been to present a processing model of metaphor. This is a shortcoming that was repaired to some extent by the work of cognitive linguists working in the framework of *blending theory* (Fauconnier and Turner 1998, 2002). These scholars also adhere to general assumptions shared by all cognitive linguists, but unlike conceptual metaphor theory, blending theory gives the online processing of metaphors some serious attention.

Thus, there have been two major developments in theorizing about metaphor during the past four decades: the pragmatic approach and the approach from cognitive linguistics. Relevance theory is certainly a pragmatic theory in the first place, but it has much in common with cognitive linguistics as well. Therefore, I consider it a fruitful project to combine central ideas from relevance theory and cognitive linguistics in order to create a more comprehensive *hybrid theory of metaphor*. I call it a hybrid theory, as it is deeply influenced by both relevance theory and cognitive linguistics. However, it is not a theory that can be seen as a version of a relevance-theoretic approach to metaphors, nor is it an approach that can be viewed as a version of conceptual metaphor theory or blending theory. My hybrid theory of metaphor rather attempts to combine the advantages of various existing theories of metaphor and discard their disadvantages. On top of that, the hybrid theory of metaphor makes unique and original suggestions and predictions that none of the two theories have made.

So far, the relationship between relevance theory and cognitive linguistics could have been described as something in between mutual rejection and mutual ignorance. I see two main reasons for this. First, some of the theoretical core assumptions of relevance theory and cognitive linguistics differ fundamentally. For example, relevance theory claims that our cognition is modularized with many autonomous modules executing domain-specific tasks. This is a position that cognitive linguists reject fervently. Hence, it is probably the case that many scholars working in either of the two frameworks could not imagine that there is potential for cooperation. Secondly, I assume that many scholars from both camps have not studied



the other theory closely enough. If this is true, then a certain lack of knowledge is perhaps one reason for the mutual ignorance. The structure of the present work reflects these considerations. In order to achieve theoretical credibility, I consider it useful to start this work with a critical overview of the developments in pragmatics and cognitive linguistics. After that, I will compare the two theories along the lines of several topics which are crucial in any theory of metaphor. Finally, I will present the hybrid theory of metaphor, and I will end this work with a summary of its main results and a look at future challenges.

In the following chapter I will examine influential developments in pragmatics with special emphasis on the question of how pragmatics deals with implicit language in general and metaphor in particular. In order to have a basis for doing this, I will start by briefly presenting Grice's theory of meaning and communication, which will be followed by a presentation of relevance theory. One of relevance theory's important, but also problematic, contributions to pragmatics is their idea of how interlocutors manage to coordinate the assumptions which are critical in discourse. Therefore, the section on relevance theory will have a special focus on this issue. In a subsequent section I will critically discuss pragmatic approaches to explicitness and implicitness proposed by François Recanati, Kent Bach and relevance theorists such as Deirdre Wilson, Dan Sperber and Robyn Carston. After this general introduction into the ways pragmaticists view implicit language, I will present the standard pragmatic approach to metaphor and, most importantly, various lines of criticism against this approach. As an alternative theory of metaphor in a pragmatic framework, I will then discuss the relevance-theory account of metaphor, which is not susceptible to the criticism put forward against the standard pragmatic approach. Nevertheless, this view has, besides all its advantages, some problems that will also be addressed. For example, in Section 2.3.5 I will critically discuss the predictions that relevance theory makes concerning the effort involved in processing metaphors. In Section 2.3.6 I will discuss the claims that relevance theory makes concerning the relationship between cognitive effort and cognitive effects. Section 2.3.7 will present the results of a study conducted by Gibbs and Tendahl (forthcoming) on the cognitive effects communicated by metaphors. This study underlines the importance of the contribution that relevance theory makes to the study of metaphor.

In Chapter 3 I will provide brief outlines of cognitive linguistics in general, of conceptual metaphor theory and of blending theory. In the section on conceptual metaphor theory, I will critically discuss the *invariance hypothesis*, which makes predictions about metaphorical entailments. Furthermore, I will specifically emphasize the importance of cognitive linguistic research on the motivation for metaphors, i.e. I will deal with the question of why we have the particular metaphors which pervade our language and thought. In the section on blending theory, I will devote particular consideration

to questions regarding the online processing of metaphors that conceptual metaphor theory does not address.

Having introduced the most important developments in pragmatics and cognitive linguistics, I will systematically compare these two directions of research in Chapter 4. The need for such a systematic juxtaposition of ideas in order to advance research on metaphor has also been recognized by Adrian Pilkington (2000) in his relevance-theory inspired book *Poetic Effects*:

At first glance there seems to be a certain amount of common ground between this approach [the conceptual metaphor approach] and that of relevance theory: both approaches are cognitive and both emphasise that metaphor is a natural non-deviant feature of language use, that metaphorical utterance interpretation does not involve calculating and then rejecting a literal meaning in favour of an alternative figurative meaning. Lakoff and Turner (1989) are also interested in developing an account of poetic metaphor. At second glance, however, there are a number of significant differences. A detailed analysis that compares and contrasts the two approaches would be valuable. (Pilkington 2000: 108)

Chapter 4 will do exactly what Pilkington advocates – it will provide a detailed analysis of what both theories have in common and it will also show where they differ. In order to accomplish this, I will select nine criteria along which I compare the theories.

Based on this comparison, I will develop the hybrid theory of metaphor in Chapter 5. The first part of the hybrid theory is a proposal on how we construct ad hoc concepts while processing utterances. The hybrid theory of metaphor posits that words have pointers to so-called conceptual regions which serve as blueprints for the creation of ad hoc concepts. These conceptual regions contain context-independent information, called the inherent domain, and context-dependent information. Via connectors they are connected to external knowledge structures, such as conceptual domains, metaphors or metonymies, image schemas, scripts, etc. Which elements from external knowledge structures eventually enter the ad hoc concept is determined by relevance-driven selection processes. Only elements which contribute to the overall relevance of the utterance will enter the ad hoc concept. In order for an external element to be relevant, it must be easily accessible. Therefore, one of the relevance-theory-inspired assumptions of the hybrid theory is that connectors get activated if the according external knowledge structures match assumptions in a person's cognitive environment that are held in a strongly manifest fashion. If such a match is detected and the degree of activation is sufficient, then the connectors may be activated and specify an ad hoc concept that will become part of a larger network structure that represents meaning. Thus, expectations of relevance play a decisive role in generating figurative meanings.

On the basis of these general considerations, I will explore the nature of metaphorical ad hoc concepts. A major defining feature of metaphorical concepts is that these concepts are predominantly profiled against external knowledge structures, whereas literal concepts are profiled against the inherent domain. Obviously, the hybrid theory of metaphor is based on a thorough description of the lexical processes involved in utterance interpretation. I consider this important, because the hybrid theory respects the fact that the online processing of utterances works incrementally. This entails that analysing processes on utterance level can only work if more fine-grained processes on a lexical level are devoted serious attention.

Having discussed the lexical semantics and pragmatics of metaphorical utterances, I will examine the processes involved on the level of utterances. The idea from blending theory that complex network structures of mental spaces are built up during utterance comprehension seems to be best suited in order to capture the dynamics of utterance comprehension. These processes do not work according to the principle of compositionality, which would imply that the meaning of a sentence is the composite meaning of its constituent meanings. The detailed discussion of an example in Section 5.5.1 will instead show that the construction of the network structure of mental spaces representing comprehension processes on utterance level is characterized by a substantial interaction between the context, expectations of relevance and the structure of the involved conceptual regions. These interactions can lead to an increase in our perception of figurativeness. Thus, the figurativeness of an utterance is not just proportional to the figurativeness of single constituents, but the combination of constituents can contribute to the level of figurativeness. In Chapter 5 I will explain these ideas, the sum of which I call the hybrid theory of metaphor, in detail.

# 2

## The Relevance-Theory Approach to Metaphor

This chapter presents an approach to metaphor that has largely been ignored by scholars of metaphor: the relevance-theory approach to metaphor. I consider this situation unfortunate, because relevance theory, as a cognitive pragmatic view on language and communication, can make very important and unique contributions to the study of metaphor. I will start this chapter by first giving a very brief overview of Gricean pragmatics, because although relevance theory differs from Gricean pragmatics in many respects, it is fundamentally based on core assumptions introduced by Grice. Then I will present an overview of the current state of relevance theory and finally I will critically discuss the advantages and problems of the relevance-theory approach to metaphor.

### 2.1 Grice's theory of meaning and communication

Within the first half of the nineteenth century, philosophers dealing with truth-conditional semantics were occupied with placing the study of meaning within the larger philosophical doctrine of logical positivism. The works of philosophers such as Gottlob Frege (1848–1925) and Bertrand Russell (1872–1970) were concerned with translating natural languages into scientifically adequate and accurate artificial languages. The truth-conditional theory of meaning, which was based on these ideas, was dedicated to the belief that to determine the meaning of a sentence is to know the conditions under which it would be true. Thus, knowing the meaning of a sentence amounts to knowing whether a given sentence in a given world is true or false. This account of meaning is seriously restricted as it can only be sensibly applied to declarative sentences. Furthermore, recent research has come to the conclusion that even the meaning communicated by a literally intended declarative utterance goes well beyond anything that truth conditions could purport.

The major change in philosophizing about the meaning of utterances came about with the pragmatic turn in the 1950s and 60s. At that time,

Austin and Wittgenstein had started thinking about language in terms of actions being performed in the context of social practices and institutions. Austin's speech act theory soon became one of the most recognized approaches in pragmatics – a discipline that has boomed ever since.

Grice can be seen as a figure who tried to reconcile truth-conditional semantics with ordinary language philosophy. In his work he attempted to delineate how differences between sentence meaning and speaker meaning may arise. In distinguishing between sentence and speaker meaning, he acknowledged a contribution from truth conditions to the meaning of sentences. However, in order to fully capture a speaker's meaning, he also proposed a pragmatic principle which may cause inferences on the part of the addressee of an utterance, so that eventually we have a model at hand that can be regarded as being more satisfying than anything that had been proposed until then.

Grice's programme started out with his 1957 article entitled 'Meaning', which laid the foundation for his theory of communication. His main interest was communication characterized by full intentionality, such that accidental information transmission would not fall under communication proper. Grice's subsequent major step in the history of pragmatics was his further division of communicated meaning, which he called nonnatural meaning (meaning<sub>NN</sub>), into *what is said* and *what is implicated*.

This distinction is of particular interest to the distinction between explicit and implicit language, which is at least for some scholars essential in distinguishing between literal and figurative language. I do not believe that such analogies between explicit and literal language on the one hand and implicit and figurative language on the other hand are possible at all. For one thing, not everything that is implicated is communicated nonconventionally, a characteristic that again many scholars would ascribe to figurative language. Nonetheless, I consider taking a closer look at Grice's discussions of what is said and implicatures quite useful. However, Grice distinguishes not only between what is said and implicatures, he also distinguishes

...between what is part of the conventional force (or meaning) of the utterance and what is not. This yields three possible elements – what is said, what is conventionally implicated, and what is nonconventionally implicated. (Grice 1978/1989: 41)

These distinctions are illustrated in Figure 2.1.

In Grice's diction, to *say* something roughly refers to the conventional and truth-conditional meaning of utterances. This is the particular part of the meaning of an utterance that the hearer can arrive at mainly by using his linguistic knowledge. In addition to linguistic decoding, only the assignment of reference and disambiguation of multiple senses is accepted into the notion of what is said. Apparently, Grice's original intention was

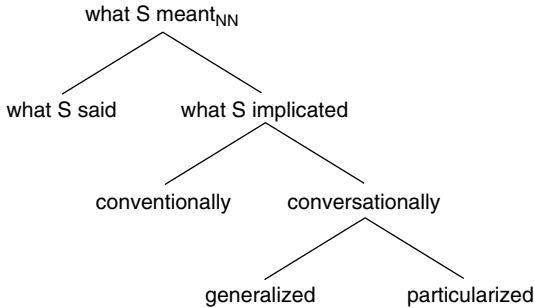


Figure 2.1 Components of Grice's Meaning<sub>NN</sub>

to make sure that it is possible to receive a truth-evaluable proposition out of what is said. Nowadays, however, it is univocally assumed that much more pragmatic work has to be done, before we can get to something like a fully truth-evaluable proposition. Furthermore, Grice left it largely unclear how hearers manage to assign references and disambiguate expressions. It is striking that he admitted these processes, which clearly fall outside the coded parts of language, into what is said, the conventionally transmitted, coded part of meaning. In Grice's programme, reference assignment and disambiguation seem to be possible without taking into account any pragmatic principle or speakers' intentions. Inference only seems to play a role in deriving *implicatures*, the implicitly communicated propositions of an utterance. Implicatures, however, do not play a role in what is said.<sup>2</sup>

As can be seen in Figure 2.1, what the speaker meant<sub>NN</sub> may also be realized in the form of implicatures. The verb *to implicate* and the noun *implicature* are terms of art, invented by Grice to suggest their similarity to the words *imply* and *implication* without identifying them with the logical relation of implication. Grice suggested several subtypes of implicature.

As *conventional implicatures* are deemed to be conventional elements of language despite being implicatures, they will not be of any interest to this work. Besides, many scholars would probably agree with Levinson, who is of the opinion that 'conventional implicature is not a very interesting concept – it is rather an admission of the failure of truth-conditional semantics to capture all the conventional content or meaning of natural language words and expressions' (Levinson 1983: 128). For us *conversational implicatures* are more interesting.<sup>3</sup>

These are implicatures which are recoverable by a reasoning process (cf. Wilson and Sperber 1991: 378). In contrast to what is said and the entailments of what is said,<sup>4</sup> conversational implicatures draw on the linguistic meaning of what has been said, the context, background knowledge and the cooperative principle together with the maxims of conversation. Capturing

a speaker's intention becomes the driving force in establishing them. The following example (adapted from Grice 1975/1989: 24) might help to illustrate this point:

- (1) *Gary*: How is Stuart getting on in his new club?  
*Paul*: Oh, quite well, I think; he likes his colleagues, and he hasn't been fined yet.

Linguistic decoding, reference assignment and possibly semantic disambiguation would deliver a truth-conditional content of Paul's answer that would demand quite a deal of work from a truth-conditional semantic or formal pragmatic theorist, and still, significant bits of Paul's intention would probably remain hidden. He perhaps wanted to imply that Stuart is the kind of person who is likely not to behave according to generally accepted rules of professional football players. This interpretation of Paul's utterance would be an implicature and also part of the meaning.

Grice investigated the phenomenon that people sometimes say something and mean something completely different from what the proposition of the sentence conventionally expresses by offering a general principle and a number of maxims. The basic idea is that speakers meet certain standards in communication and hearers will be guided in their interpretation process by the according assumption that a rational speaker follows these standards. In his 1967 *William James Lectures* (reprinted in Grice 1989), which were delivered at Harvard University, Grice introduced his notions about the guidelines that people make use of in order to communicate in an efficient and effective way. The basis for his theory is formulated in his now classic essay *Logic and Conversation* as follows:

Our talk exchanges...are characteristically, to some degree at least, cooperative efforts; and each participant recognizes in them, to some extent, a common purpose or set of purposes, or at least a mutually accepted direction. ... We might then formulate a rough general principle which participants will be expected (*ceteris paribus*) to observe, namely: Make your conversational contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged. (Grice 1975/1989: 26)

This *cooperative principle* has enough explanatory power to cope with the question of why Emma is able to interpret Paul's answer in (2):

- (2) *Emma*: Did Dwight score a goal?  
*Paul*: He sang the national anthem in the changing room.

According to the cooperative principle, Emma will not take Paul's answer as a change of topic, as she will assume that Paul chose his utterance in

correspondence with the cooperative principle and that his utterance therefore fits the purpose and the direction of the talk. Provided that Emma and Paul share the knowledge that Dwight's customs after having scored a goal include singing the national anthem in the changing room, Emma will easily recover Paul's answer as stating that Dwight did, indeed, score a goal.

The cooperative principle serves as a source for nine associated maxims, arranged in the categories of quantity, quality, relation and manner:

*Category of quantity*

1. Make your contribution as informative as is required (for the current purpose of the exchange).
2. Do not make your contribution more informative than is required.

*Category of quality*

*Supermaxim:* Try to make your contribution one that is true.

1. Do not say what you believe to be false.
2. Do not say that for which you lack adequate evidence.

*Category of relation*

Be relevant.

*Category of manner*

*Supermaxim:* Be perspicuous.

1. Avoid obscurity of expression.
2. Avoid ambiguity.
3. Be brief (avoid unnecessary prolixity).
4. Be orderly.

And one might need others. (Grice 1975/1989: 26–7)

Grice assumed that these maxims may not be followed consciously, but that they, together with possible other maxims, still structure discourse. In particular, Grice believed that hearers tacitly assume that these maxims and the cooperative principle underlie each utterance. But how do the maxims contribute to the questions that Grice wanted to find an explanation for? In other words, why do the maxims help us to understand how it is possible that sometimes speakers successfully communicate more than they say? Part of the answer is that utterances which seemingly do not fit the maxims are usually still interpreted as being cooperative. In order to behave in accordance with the cooperative principle, one basically needs to follow the nine maxims. Conversational implicatures 'are the assumptions that follow from the speaker's saying what he says together with the presumptions that he is observing the maxims of conversation' (Recanati 1989: 295). In addition to implicatures which derive from observing the maxims, speakers can create implicatures by failing to fulfil the maxims in different ways. They can for example, (a) quietly and unostentatiously *violate* a maxim, they can (b) *opt*



out from the operation, they can (c) be faced by a *clash* or they can (d) *flout* a maxim (cf. Grice 1975/1989: 30). Thus, there are various ways of and reasons for not adhering to the maxims. However, in order to understand the full impact of the cooperative principle and its associated maxims, it is important to note that even when one or several of the maxims have not been fulfilled, the cooperative principle will still work. Furthermore, a search for a reason that explains the nonfulfilment of one of the maxims will be initiated. Thus, failing to fulfil the maxims in either of the above-mentioned ways can propel the production of a conversational implicature like the one generated in (3), because the cooperative principle is assumed to still hold:

- (3) *Nicole*: Did you know that we're going to get the Brit Award for the best album of the year?  
*Gary*: Yes, and Manchester City will beat ManU 12–0 next time.

Obviously, the possible truth of this prediction is so highly unlikely that Nicole is supposed to realize that Gary has flouted the maxim of quality. Nevertheless, Nicole has no reason to assume that Gary is opting out from the operation of the cooperative principle. Therefore, she has enough reason to search for an interpretation that is in line with the cooperative principle. The fact that Nicole must assume that Gary does not really believe in the truth of his own prediction is probably meant to suggest that Gary estimates the possibility that Nicole and her band are going to win a Brit Award for the best album of the year as equally unlikely. As Gary has done nothing to stop Nicole from engaging in this unconscious train of thought, she is licensed to take this as the intended interpretation. Now it should be more or less clear in which ways the cooperative principle, the maxims and conversational implicatures are interwoven and how this can help to determine the intended meaning of an utterance.

Taking a look at Figure 2.1 reveals that there is still one distinction left that has not been discussed so far: the differentiation of conversational implicatures into *generalized conversational implicatures (GCIs)* and *particularized conversational implicatures (PCIs)*. Example (3) belongs to what Grice called *particularized conversational implicatures*, because here the context is important for the interpretation of the implicature. In contrast to this, GCIs are more or less context-invariant. Levinson gives the following definition of Grice's notion of PCIs and GCIs:

- a. An implicature *i* from utterance *U* is *particularized* iff *U* implicates *i* only by virtue of specific contextual assumptions that would not invariably or even normally obtain.
- b. An implicature *i* is *generalized* iff *U* implicates *i* *unless* there are unusual specific contextual assumptions that defeat it. (Levinson 2000: 16; italics in original)

Grice's somewhat sketchy ideas have been refined by numerous followers. Sperber and Wilson took these general ideas and developed relevance theory. In fact, Sperber and Wilson identified much more inference in communication than Grice had envisaged. In addition, Sperber and Wilson claim that we do not need a whole list of maxims. Instead, they argue that it is enough to take the maxim of relation and elaborate on that. The result of these modifications is a totally new theory of cognition and communication that still has its roots in Gricean pragmatics, but which has departed from Grice's original account in very significant ways, as will be shown in the next section.

## **2.2 The cognitive turn in pragmatics: relevance theory**

The last section demonstrated some of the advances that pragmatics has triggered in our understanding of what it means to communicate. It was, for instance, pointed out that a semantics merely based on truth conditions necessarily ignores much of the work that speakers and hearers have to perform in communication. This section looks at the ways in which relevance-theory deals with the question of how we communicate – be that explicitly or implicitly. What relevance theorists have come up with has turned out to be one of the most influential, elaborated, but also controversial contributions from linguistics to the study of human cognition and communication. Relevance theory originated in the 1980s and since then it has been pursued and professed by many linguists, anthropologists, psychologists and philosophers. Relevance theory emphasizes the major role of inference in communication to an even larger degree than previous pragmatic approaches did. It states that not only the implicit, the nonliteral, the unmentioned, the vague, the ambiguous or other allegedly problematic instances of communication trigger inferential processes in the hearer, but also what most people would call literal language. Inference is seen as a phenomenon that appears on both levels of communication, the implicit and the explicit. Nevertheless, the theory does not deny that the reason for verbal communication's relative clarity and its big potential in getting across intentions compared to other ways of communication can be attributed to the existence of a linguistic decoding process. Thus, relevance theory goes back one step towards the code model of communication, while at the same time it goes (at least) two steps forward to an utterly radical inferential account of communication. This section gives an outline of relevance theory and it starts doing so by discussing the problem of information coordination among interlocutors.

### **2.2.1 The epistemology of communication: mutual knowledge, mutual manifestness and mind-reading**

One of the major and substantial differences between traditional pragmatics and relevance theory is their respective way of dealing with the issue of

*mutual knowledge*. Therefore, I will start my presentation of relevance theory with a presentation of how it criticizes the mutual-knowledge hypothesis. After that, Sperber and Wilson's alternative suggestion concerning the nature of shared communication will be presented and following a critical evaluation of the mutual-knowledge hypothesis and Sperber and Wilson's proposal, I will present my own view of these issues. The final sub-section presents a topic that has found increasing attention in the pragmatic literature and is innately connected with matters of knowledge attribution to addressees: *mind-reading* or *theory of mind*.

### 2.2.1.1 *The role of mutual knowledge in communication*

Hearers and speakers must at least share some information in order to be able to communicate with each other and therefore many pragmaticists are of the opinion that successful communication can only be guaranteed if both interlocutors have some sort of what has been called *common knowledge*, *mutual knowledge* or *common ground* (cf. Lewis 1969; Schiffer 1972; Bach and Harnish 1979; Clark and Marshall 1981). These notions are mainly based on the assumption that at least parts of the context that speakers and hearers bring into a communicative situation need to be identical. The problem, however, is to decide which assumptions are identical and which are not, because even if two speakers witness the same situation, they can create different representations of this situation. Furthermore, in order to decide which assumptions are identical, new assumptions have to be formed about first-order assumptions et cetera ad infinitum. Thus, these assumptions must be not only shared, but also known to be shared and known to be known to be shared, etc. It is knowledge of this sort that is labelled *mutual knowledge*.

This construct loses much of its theoretical appeal once it is tested for psychological reality. Sperber and Wilson have put forward three main arguments that refute the existence of true mutual knowledge in communication (cf. Sperber and Wilson 1982, 1990, 1986).

The first of these arguments is the observation that problems in identifying mutual knowledge cause problems in comprehension (cf. Sperber and Wilson 1982: 62–5; see also Clark 1992; Clark and Carlson 1981; Clark and Marshall 1981; Gibbs 1987). If pure mutual knowledge was a necessity for successful verbal communication, speakers and hearers would have to spend all of their processing time for an infinite number of tests checking whether mutual knowledge has been established. Naturally, limited resources, as for example time constraints or working memory limitations, make it impossible to go through this procedure. The dichotomy between checking an infinite number of conditions and a finite amount of time available is known as the *mutual knowledge paradox*. Lewis (1969) and Clark and Marshall (1981), however, claim that we can take a finite shortcut in order to maintain mutual knowledge. These authors suggest that under special

circumstances speakers and hearers have sufficient evidence to take mutual knowledge for granted. In these situations they do not have to check an infinite number of conditions, but they only need to be sure that they have 'a proper basis *G*, grounds that satisfy all three requirements of the induction schema' (Clark and Marshall 1981: 33). The induction schema, which Clark and Marshall took over from Lewis (1969) in a slightly modified form, looks like this:

*Mutual knowledge induction schema*

A and B mutually know that *p* if and only if some state of affairs *G* holds such that

1. A and B have reason to believe that *G* holds.
2. *G* indicates to A and B that each has reason to believe that *G* holds.
3. *G* indicates to A and B that *p*. (Clark and Marshall 1981: 33)

Clark and Marshall elaborate on the circumstances which allow speakers to take mutual knowledge for granted and they distinguish four main kinds of establishing the necessary grounds. The strongest evidence for mutual knowledge seems to be physical co-presence. Any object that is in immediate, potential or prior presence of the speaker and the addressee may be part of their mutual knowledge. Another situation is that of linguistic co-presence. Whenever two interlocutors can assume that they have both become exposed to the same linguistic output (something said or something written), they can easily assume that they have both recovered identical representations from this and that these representations belong to their mutual knowledge. A third situation which justifies assumptions concerning the mutual knowledge of certain information is common membership of a particular community. When all interlocutors know that they are part of the same community and that this community is in part characterized through certain knowledge everyone shares, then these interlocutors can assume that these shared assumptions belong to their mutual knowledge. Apart from these cases, mixtures between physical or linguistic co-presence and community membership may occur which can also establish mutual knowledge.

Another important insight that Clark (1992) stresses is the one that mutual knowledge is not to be understood as a set of propositions that we entertain as being certain. Sometimes what we need is a notion of mutual belief or mutual assumptions. To account for this idea, Clark uses the term *common ground* as a cover term for the different degrees of certainty possible in mutually shared information.

Thus, Clark and Marshall suggest with their co-presence heuristics a solution to the mutual-knowledge paradox. A solution, however, which can still not be the whole story. Blakemore (1987: 30) remarks that Clark and Marshall

seem to disregard that two people being exposed to the same phenomenon may construct different mental representations of it, for instance, because of different prior experiences. Hence, for mutual knowledge we need more than just identical observable data.

Sperber and Wilson's second argument against the mutual-knowledge hypothesis refers to the observation that even if it was possible to establish mutual knowledge, this would not tell us what will really be part of the conversational context (cf. Sperber and Wilson 1982: 65–7). The point is that the context used in communication is much smaller than mutual knowledge would allow for. Or inversely formulated: the mutual knowledge we share with many other people is usually much too big to be used in communication. What we should be interested in if we want to explain how communication works is some subset of our mutual knowledge with others. Clark, Schreuder and Buttrick (1983: 257) also identified this problem and arrived at their own solution. They suggest that 'the "relevant context" ... consists of the common ground between the speaker and addressees, and the inferences needed are based on the principle of optimal design, which governs language use in general'. The principle of optimal design is defined as follows:

*Principle of optimal design*

The speaker designs his utterance in such a way that he has good reason to believe that the addressees can readily and uniquely compute what he meant on the basis of the utterance along with the rest of their common ground.

(Clark, Schreuder and Buttrick 1983: 246)

According to Clark, Schreuder and Buttrick, it is the speaker who must assess in which ways a particular utterance is connected to the common ground between speaker and addressee. Still, the principle of optimal design leaves much unexplained. What is the way in which the speaker should design her utterance? Or what is the rest of the common ground? Clark fleshes this out in his articles and monographs (cf. Clark 1992, 1996). He seems to think that the idea of perceptual saliency against the common ground is an important clue. Elements which belong to the common ground of several people and which are particularly salient to these people are very likely to be picked as referents needed in conversation and for further inferences. Thus, according to Clark, the principle of optimal design together with notions of saliency are able to limit our common ground to exactly what we need in conversation.

Sperber and Wilson's third argument against pure mutual knowledge also presupposes the hypothetical possibility that mutual knowledge could in principle be established. But this time Sperber and Wilson demonstrate that mutual knowledge is not even necessary for the sort of context that renders

communication successful (Sperber and Wilson 1982: 67–70). And when problems occur, then communicators simply misunderstand each other or ask for clarification.

Summing up, it is well justified to state that pure mutual knowledge is (a) hardly possible to construct and (b) not to be identified with the context used in communication. So far, Clark on the one hand and Sperber and Wilson on the other hand are very much in line with each other. However, instead of clinging to the mutual-knowledge hypothesis and the code model of communication, Sperber and Wilson informally suggest in their 1982 paper on mutual knowledge that it is enough for communicators to have sufficient ground for mutual assumptions (cf. Sperber and Wilson 1982: 69, 71) and that communication is downright inferential. In later versions of relevance theory (e.g. Sperber and Wilson 1986), Sperber and Wilson elaborated their notion of mutual assumptions into a definition of *manifest assumptions* and *mutual manifestness*. The next section offers a presentation of these notions.

#### *Mutual manifestness and the context*

As was shown in the previous section, Sperber and Wilson were not very satisfied with the idea of mutual knowledge. In order to tackle the issue of shared information and to avoid the problems associated with the idea of mutual knowledge, the concept of *mutual manifestness* was elaborated on. In this section I will first explain the term manifestness. After that I will argue that the term manifestness is indeed quite useful. Nevertheless, I will conclude that the notion of mutual manifestness does not pose conditions strong enough for it to be the context that is used in conversation.

The foundation for the concept of manifestness is laid by the following definition:

A fact is *manifest* to an individual at a given time if and only if he is capable at that time of representing it mentally and accepting its representation as true or probably true. (Sperber and Wilson 1986: 39)

Sperber and Wilson continue by saying that ‘to be manifest, then, is to be perceptible or inferable’ and in endnote 28 they further focus their notion of manifestness by adding that ‘to be manifest is to be capable of being perceived or inferred without being immediately invalidated’ (Sperber and Wilson 1986: 284). Thus, anything that is manifest to a person must at least be capable of being constructed as a mental representation and judged to be true or probably true.

Apparently, manifest facts need to fulfil fewer and less strict conditions than known facts, no matter whether we want to work with a weak or a strong version of knowledge. A weak notion of knowledge includes those facts which can be deduced from existing knowledge, but which have never

come to our level of conscious awareness, i.e. on which we have never even wasted a thought. An example might illustrate this point. Consider the following two assumptions and the conclusion in (6):

- (4) Nowadays, musicians may use the Internet to distribute their music.
- (5) Wolfgang Amadeus Mozart lived before computers and the Internet were invented.
- (6) Mozart did not distribute his music using the Internet.

I know the conclusion in (6), although I have probably never thought about it before. This is also consistent with our intuition about the nature of knowledge. It would, for example, be absolutely natural to make the following statement: *I've always known that Mozart did not distribute his music using the Internet*. Sperber and Wilson are willing to accept this weak notion of knowledge, but this notion of knowledge still presupposes factual truth. This is one major difference to manifestness. Manifest assumptions do not presuppose truth. For something to be manifest it must only be probably true in the eyes of the person to whom this assumption is manifest.

As manifestness allows for factual falseness, it refers not only to known facts but also to the weaker concept of true and false assumptions. In analogy to what constitutes our knowledge, our set of assumptions does not only contain those assumptions of which we have had a mental representation before. Sperber and Wilson state that mental representations which are the logically valid outcome of a deduction that is based on existing assumptions also belong to the set of assumptions that a person entertains. Of course, the degree to which we believe in an assumption that is the result of deductions based on other assumptions is even weaker than the original assumptions which we used as premises. Let us, only for illustrative purposes, assign strength values between 0 and 1 for some assumptions A, B and C. Assumption A gets the value 0.7 and assumption B gets the value 0.8. Assumption C may be won by a deduction which is based on assumptions A and B. In this case assumption C will only have a strength value of 0.56 (the result of the multiplication  $0.7 \cdot 0.8$ ). The assumptions in (7), (8) and (9) and the conclusion in (10) might illustrate this point a bit further. The type of deduction employed here is the standard *modus ponendo ponens*.

- (7) Gary is a football player of Real Madrid. (*strength value 1.0*)
- (8) Gary scored a goal on Saturday. (*strength value 0.7*)
- (9) If Real Madrid scored a goal in the match on Saturday they won the Cup. (*strength value 0.8*)
- (10) Real Madrid won the Cup. (*strength value 0.56*)

We know for certain that Gary is a football player, but we are less than certain that Gary scored a goal in the match on Saturday and that Real

Madrid won the Cup if they scored a goal. Of course, the inference that Real Madrid won the Cup then has to be less certain than the premise which is the least certain. This holds true at least in an idealized mathematical world. However, Sperber and Wilson rightly claim that we do not measure the strength of assumptions numerically, but in a comparative way. Considering this, we have to omit the strength values, which are indeed completely counter-intuitive. However, we can still note that the strength of an assumption which has been deduced from less than certain assumptions will be lower than the strength of the weakest assumption included in the premises (Sperber and Wilson 1986: 75–83). If I am neither absolutely certain that Gary scored a goal, nor that Real Madrid needed this goal to win the Cup, then I will be even less certain that both of these assumptions apply at the same time.

Having displayed Sperber and Wilson's ideas of what constitutes a person's knowledge and a person's set of assumptions, I would like to continue explaining a point that is of fundamental importance in the technical details of their whole theory. This is the conviction that the concept of manifest assumptions is not only weaker than a weak notion of facts, which are by definition true, but that it is also weaker than the notion of *usual* assumptions, which may be true or false.<sup>5</sup> The main difference between assumptions and manifest assumptions is the idea that the former either have been represented mentally before or are at least deducible in a demonstrative way, i.e. by deduction, whereas for the latter it suffices that they are inferred non-demonstratively, i.e. by choosing at random premises leading to a logical conclusion which can be confirmed subsequently. Wilson (2000: 423) remarks that 'an assumption cannot be known or believed without being explicitly represented; but it can be manifest to an individual if it is merely capable of being non-demonstratively inferred'. In a footnote, Wilson (2000: footnote 1) adds that assumptions which have not been represented before must 'at least be deducible from assumptions explicitly represented'. Thus, manifest assumptions need not have been represented before, although, of course, they may have been, and furthermore they may be the outcome of a non-logical process. It is non-logical because the spontaneous selection of premises in inference does not follow logical rules. The second part of the whole process, however, is logical, as the conclusion is the result of a deduction based on those randomly selected premises. After having reached a conclusion, i.e. an interpretive hypothesis, this hypothesis can be confirmed or rejected by the hearer. Carston (2002: 378) suggests, for example, that an assessment of the *cognitive effects* gained by this hypothesis could lead to either confirmation or disconfirmation of such an interpretative hypothesis.<sup>6</sup> Once a manifest assumption has been represented mentally, it is no longer just a manifest assumption, but also an assumption. According to my understanding of Sperber and Wilson's definition of manifestness, differences between manifest assumptions and assumptions



are restricted to those assumptions that have not been represented before – whether these differences really exist remains to be proved.

Thus, what we can note is that known facts are a subpart of assumptions, that assumptions are a subpart of manifest assumptions and that, by transitivity, known facts are also a subpart of manifest assumptions. Thus, the following implications hold:

- (11) (known fact)  $\Rightarrow$  (assumption)  $\Rightarrow$  (manifest assumption)
- (12) (known fact)  $\Rightarrow$  (manifest assumption) (*by transitivity*)

The reverse is not valid. Consequently, for a mental entity to be considered a known fact, the conditions must be tougher than for assumptions or manifest assumptions.

After this rather abstract introduction into the notion of manifestness, an example may help. The following example underlines that so far we have been talking primarily about cognition and not only about communication. Imagine the following situation:

- (13) In a football match, Gary passes the ball to Paul, who immediately rushes after the ball. Paul thinks that there is still a defender between himself and the opposing goalkeeper. Suddenly the referee blows the whistle and Paul realizes that he is offside.

Paul most certainly did not assume that he is offside, but after the referee's whistle this has become not only an assumption of his, but even a known fact. Paul infers from the perceived positions of the other players that he is offside. The point is that Paul's offside position has been manifest to him all the time, but it has not been an assumption of his all the time. However, using his vision and his inferential abilities it was easy for him to verify his offside position after the referee's whistle. If Paul had not been in an offside position, then being in an offside position would neither have been an assumption of Paul's, nor would it have been a manifest assumption; precisely because it could not even potentially be verified that he is offside. Consider a variation of this example:

- (14) Paul had, in fact, not run into an offside position, but nevertheless the referee blew the whistle.

Paul knows that he is not in an offside position. In this case, it is neither an assumption of Paul's that he has run into an offside position, nor it is a manifest assumption of Paul's. But what we can say is that it has been manifest to Paul all the time that the referee would blow the whistle despite the fact that Paul is not in an offside position. It is possible to say that the referee's action of blowing the whistle has turned this manifest assumption into

a known fact. What this example also points out is that manifestness is a very formal property which is a bit remote from the information we actually incorporate in communication. The problem is that any assumption can be considered to be manifestly present, as long as it could theoretically be confirmed. An even greater problem is that manifestness sometimes comes after the fact. If something totally unthinkable, but theoretically possible, happens, let us say Manchester United won the Champions League, then we would never have expected this to happen and therefore we would not say that we assumed this to happen, but once it actually did happen, we can say that it was manifest to us all the time. This sort of manifestness, however, only becomes apparent once the world has changed in the relevant ways.

As was indicated before, up to now we have been concerned primarily with cognition proper. However, it is important to know that the notion of manifest assumptions also plays a crucial role in verbal communication. Earlier on it was mentioned that the context is an important variable affecting the production and interpretation of utterances. After having talked so much about knowledge, assumptions and manifest assumptions, Sperber and Wilson's understanding of what a context is can now be given:

The set of premises used in interpreting an utterance (apart from the premise that the utterance in question has been produced) constitutes what is generally known as the *context*. A context is a psychological construct, a subset of the hearer's assumptions about the world. It is these assumptions, of course, rather than the actual state of the world, that affect the interpretation of an utterance. A context in this sense is not limited to information about the immediate physical environment or the immediately preceding utterances: expectations about the future, scientific hypotheses or religious beliefs, anecdotal memories, general cultural assumptions, beliefs about the mental state of the speaker, may all play a role in interpretation. (Sperber and Wilson 1986: 15–16; italics in original)

This quote further stresses the importance of the nature of one's assumptions when being engaged in a conversation. It also implies that the ontology of our environment is only a secondary issue for a cognitive account of communication; what matters is the epistemology of things. In the light of this definition it once more becomes clear what Blakemore (1987) had in mind when she criticized Clark and Marshall (1981) for restricting their considerations concerning mutual knowledge to observable data (see above). This view is reflected in Sperber and Wilson's nomenclature. In the course of developing their own theory of verbal communication, they introduce the notion of a *cognitive environment*:

A *cognitive environment* of an individual is a set of facts that are manifest to him. (Sperber and Wilson 1986: 39)

In accordance with the definition of manifest facts, a person's total cognitive environment consists of all the facts that this person actually entertains plus those that this person is able to become aware of. Both true and false assumptions may belong to a cognitive environment.

After this introduction into Sperber and Wilson's ideas concerning knowledge, assumptions and manifest assumptions, I would like to present a critical assessment of the concept of manifestness. In order to do this in a principled way, it may be useful to distinguish between two different kinds of manifest assumptions:

(15) *Two different kinds of manifest assumptions:*

- (i) Assumptions which are manifest because they were, are or could possibly be representations of something an individual has perceived.
- (ii) Assumptions which are manifest because they were, are or could possibly be representations of something an individual has inferred from other manifest assumptions.

Whenever a manifest assumption has really been represented mentally, we can call this representation either a known fact or an assumption. There is no doubt that knowledge and assumptions are indeed significant in communication in the sense that if true mutual knowledge or at least mutual assumptions could be established, this would be a promising basis for successful communication. The really interesting question we have to face is whether mutual manifestness in all its varieties is a possible basis for communication. Therefore, we will now focus only on those cases in which something is perceptible or inferable but has not been represented before. These are the situations which tend to be problematic. Hence, the instances I will consider in greater detail are the following two more specified versions of (15):

(16) *Two different kinds of manifest assumptions – without representation:*

- (i) Assumptions which are manifest because they could, but have not yet been, representations of something an individual has perceived.
- (ii) Assumptions which are manifest because they could, but have not been, representations of something an individual has inferred from other manifest assumptions.

I want to start with a discussion of (16)-(i). The first question is whether manifest assumptions which are possibly derivable from perception are categorically different from assumptions. Let us create an example for this case. Imagine that Nicole is standing behind Gary and that Gary has not noticed

her. He has not perceived her in any way and so he neither has knowledge of it, nor does he have the weakest assumption that Nicole is standing behind him. His cognitive environment does not allow him to infer Nicole's presence in a demonstrative way. Still, the fact that she is standing behind him is a manifest assumption of his, as she is perceptible and her position could be verified the moment Gary turns round and sees her. In this case it seems totally plausible that we do indeed have a categorical difference to usual assumptions and it also becomes obvious that manifest assumptions belong to a weaker category than assumptions.

(16)-(ii) will turn out to be more difficult. So, how does this work with inference rather than perception? In order to answer this we need to recall that Sperber and Wilson posit that the main difference between assumptions and manifest assumptions is that manifest assumptions can be inferred non-demonstratively. Sperber and Wilson exemplify this point by arguing that it was probably never an assumption of ours that Noam Chomsky and Ronald Reagan never played billiards together (cf. Sperber and Wilson 1986: 40). Still, they say, it was a manifest assumption. It might make sense to trace the reasoning involved in getting towards this assumption.

- (17) Noam Chomsky is fiercely opposed to conservative politics.
- (18) Ronald Reagan is known for his very conservative politics.
- (19) People who do not like each other's politics do not like each other.
- (20) Noam Chomsky and Ronald Reagan do not like each other.
- (21) People who do not like each other are not interested in joint spare time activities.
- (22) People who do not like each other are not interested in playing billiards together.

From these assumptions I can deduce the following conclusion:

- (23) Noam Chomsky and Ronald Reagan never played billiards together.

Assumptions (17) to (19) are assumptions which must be manifest to anyone to whom the conclusion in (23) is also manifest. To those people, these assumptions might have even been represented before. Assumption (20) is an interim inference based on (17) to (19). Assumption (21) again is an assumption that has probably been represented before and assumption (22) follows from (21). The overall conclusion in (23) takes into account the premises sketched in (17) to (22) and must be regarded as a manifest assumption that probably has not been represented before. As we see, some of the premises might have been represented before, but probably not all of the premises

have been represented before, as for example assumptions (20) or (22). Still, they are necessary in order to get to (23). If I want to come to a representation of (23), my mind must make some creative loops and provide these extra assumptions or I need to get some hint like Sperber and Wilson telling us that Ronald Reagan and Noam Chomsky never played billiards together. In any case, the provision of these premises is relatively arbitrary and therefore what we have is a case of non-demonstrative inference.

But let us now take a look at the Chomsky–Caesar example (cf. Sperber and Wilson 1986: 40). In this example, Sperber and Wilson assert that we know, in a weak sense, that Noam Chomsky and Julius Caesar never had breakfast together. The following assumptions might be involved in getting towards a representation of this known fact:

- (24) Julius Caesar has been dead for more than two millennia.
- (25) Noam Chomsky was born in the first half of the preceding century.
- (26) Noam Chomsky and Julius Caesar were not living during the same time period.
- (27) People who do not live during the same time period cannot engage in joint activities.
- (28) People who do not live in the same time period cannot have breakfast together.

Assumption (29) follows from assumptions (24) to (28):

- (29) Julius Caesar and Noam Chomsky never had breakfast together.

Now, what is the difference between this inference and the one in (23)? For one thing, assumptions (24), (25) and (27) are known facts which directly lead to the known facts in (26) and (28). Thus, no matter whether we have represented all of these assumptions, according to a weak notion of knowledge we do know every single premise in this example. This is, of course, different from the premises in (17) to (22), which are definitely less than certain. However, this fact does not justify a categorical distinction between assumptions and manifest assumptions, as assumptions do not need to be correct either according to our definition. We just need to have some confidence in their correctness. Perhaps we can find a categorical distinction in terms of the inference processes taking place in our two examples. Yet again, it can be shown that identifying categorical differences is hardly possible. In both examples we can take some premises more or less for granted. These might be premises we have represented before or assumptions which are directly linked to our encyclopaedic knowledge connected to the concepts involved in our conclusions. For example, when we think about Reagan, Chomsky or Caesar, it will immediately come to our mind whether they are

still alive or whether they are already dead. The assumptions that Chomsky is a person with left-wing political attitudes and Reagan is a strict conservative are also intricately connected to one another and they probably turn up when thinking about these persons. However, in both examples we have some assumptions which have a substantial freedom in being selected. It is by no means self-evident that I will access assumption (22) when I think about Chomsky and Reagan. Neither it is self-evident that I will access assumption (28) when I think about Chomsky and Caesar. In both cases my mind needs a particular stimulus that triggers the selection of these premises.

Thus, it looks as if there might be a difference between manifest assumptions and assumptions in terms of perception, but there does not seem to be a categorical difference between manifest assumptions and assumptions in terms of inference. If I am right, this of course means that at least in terms of assumptions gained by inference Sperber and Wilson would be wrong in stating that 'something can be manifest without being actually assumed' (Sperber and Wilson 1986: 40). Therefore, I would like to maintain that there is no general categorical difference between usual assumptions and manifest assumptions. After all, most of the information we need to incorporate in communication is not bound to our physical surroundings, but is retrieved from memory and via inferences. It is one of the most striking particularities of human communication that it is mostly done independently of concrete objects in our momentary or past environment. Hence, if manifest assumptions cannot be distinguished from assumptions in terms of the inferential processes which are necessary, I see no reason for distinguishing between manifest assumptions and assumptions at all.

In the further course of this book, I will use the term manifestness not as a category different from known facts or assumptions, but simply as a gradable term covering the whole range of assumptions and known facts. As this is a notion which is not even contradictory to Sperber and Wilson's use of the term, it will be possible and justified to preserve the term manifestness in my use and understanding of relevance theory. The degree of manifestness derives from propositional attitudes such as the confidence we have in an assumption or the situational preponderance of this assumption in our consciousness. According to this conception, assumptions in which we have undiluted confidence and which are momentarily in the centre of our attention are strongly manifest and assumptions in which we have only little confidence and which are very far away from our current attention are only weakly manifest.

Our acceptance of the term manifestness, however, does not necessarily mean that Sperber and Wilson's replacement for the mutual-knowledge hypothesis, the proclaimed necessity of *mutual manifestness*, is technically possible or even the sort of information we need in communication. My remarks to follow will suggest that mutual manifestness is indeed, and in contrast to mutual knowledge, a technically possible notion, but it is not a

notion that is really significant in communication. It will be shown that a few little modifications to the mutual-manifestness hypothesis are necessary before it can be taken as a basis for communication.

Going back to the mutual-knowledge hypothesis, we remember that a speaker and a hearer should have identical contexts available and that a mutuality of this knowledge should be striven for. As was portrayed in some detail, Sperber and Wilson were on the one hand completely opposed to the idea of mutual knowledge, but on the other hand they were also aware that some sort of shared information is a necessary part of successful communication. We are now in the position to sketch Sperber and Wilson's alternative to the mutual-knowledge hypothesis.

Of course, it is possible and usual that the cognitive environments of two or more persons intersect. If this intersection contains an assumption about which people share this cognitive environment, these people have what is called a *mutual cognitive environment*. It can be noted that this first intuitive definition of a mutual cognitive environment does not make use of an endless recursion. This definition even reminds one of Clark and Marshall's mutual-knowledge induction schema, and therefore this definition seems to be quite appealing at first sight, but let us take a closer look at mutual cognitive environments. For obvious reasons a mutual cognitive environment can only be a subset of the total cognitive environment of a person. Sperber and Wilson (1986: 38) rightly point out that due to different experiences and cognitive abilities, two people will never have a completely identical cognitive environment. Those assumptions which are part of this particular intersection of two or more cognitive environments are called *mutually manifest assumptions*. For Sperber and Wilson, the notion of mutual manifestness replaces the implausible notion of pure mutual knowledge, viz. mutual knowledge characterized by an endless recursion and a demand for certainty. However, it does not seem to contradict Clark and Marshall's proposal for mutual knowledge. Let us take a look at an example illustrating Sperber and Wilson's idea of mutual manifestness. Imagine that *E* is a part of two cognitive environments which is shared by Paul and Ruud and that the following assumptions are both manifest:

(30) Paul and Ruud share *E*.

(31) Thierry is driving the ball towards Edwin's goal.

If (30) and (31) are manifest, then mutual manifestness could recursively be established like this:

[It is mutually manifest to Paul and Ruud that Thierry is driving the ball towards Edwin's goal]  $\Leftrightarrow$

$[A_1 = (\text{It is manifest to Paul and Ruud that Thierry is driving the ball towards Edwin's goal.}) \wedge$

$\bigcap_{\substack{i \in \mathbb{N} \\ i \geq 2}} A_i = (\text{It is manifest to Paul and Ruud that } A_{i-1})]$

According to Sperber and Wilson (1986: 42–3), the important difference between mutual manifestness and mutual knowledge is that a technically clear mutuality can indeed be achieved with a notion of manifest assumptions instead of usual assumptions or known facts. It can precisely be achieved, because for assumption  $A_{n+1}$  to be true, assumption  $A_n$  does not have to be made. Every single assumption  $A_i$  will be manifest, although the degree of manifestness decreases continually and approaches asymptotically zero. However, if we accept that mutual manifestness can be achieved and if we recall that we did not find significant differences between manifest assumptions and assumptions, it follows from our considerations above that a mutuality of assumptions can in principle also be achieved, if only because assumptions may be wrong and need not have been represented either. Thus, in analogy to mutual manifestness it should be possible to state that for assumption  $A_{n+1}$  to be true, assumption  $A_n$  does not have to be made. The question is, however, whether this kind of mutuality is really significant in communication and whether this notion of shared information is strong enough for engaging in communication at all, no matter whether successfully or unsuccessfully.

If mutual manifestness really was a potential basis for communication, the following situation should at least be a possible basis for communication to take place. Imagine that Gary and Nicole are sitting beside the football pitch and behind them Alex Ferguson is dancing a polka dressed up in a traditional Polish dress. Gary and Nicole have not perceived Sir Alex in any way and so his presence is only very weakly manifest. It could be confirmed the moment Gary or Nicole turned around, but this has not happened and so they neither know nor assume that Sir Alex is dancing behind them. It is even possible to state Sir Alex's strange behaviour is mutually manifest to Gary and Nicole, because the moment they turned around, it will not only be strongly manifest to them what Sir Alex is doing, but also that this is manifest to each other, etc. Despite the mutual manifestness of this situation, it is probably very safe to say that it does not make communication possible, unless Gary and Nicole turned around. But this would be a totally different situation. So, only if at least one of them knew or assumed what is happening, they could communicate about this. Although Sir Alex's behaviour is mutually manifest to Nicole and Gary, there is not even a chance to incorporate this into communication as long as no situation arises which forces Gary and Nicole to become aware of Sir Alex's presence. It seems as if pure mutual manifestness is not strong enough for communication. However, the moment at least one of them does actually turn around, we have a situation in which Sir Alex's behaviour is not only manifest to this person, but where this person has knowledge of Sir Alex's behaviour. Of course, Sperber and Wilson state over and over again that the context used in communication is not fixed in advance anyway, but that the context is generated during conversation. According to this view we do not take a previous context for granted but we search for a context that



seems to be relevant. Yet nothing has changed by saying that. If a situation is only weakly manifest to both the speaker and the audience, communication just cannot work. Apparently, the only type of manifest assumptions which really seems to be different from assumptions, namely assumptions which are only manifest because a particular situation could be perceived but actually has not been perceived yet, does not lead to situations which are relevant for communication. Hence, mutual manifestness in the form proposed by Sperber and Wilson might not be acceptable in its entirety.

The next section tries to reconcile the different versions of mutually shared information as proposed by Clark on the one hand and Sperber and Wilson on the other. It will conclude with a new proposal that is very much characterized by insights from both proposals.

#### *A new look at mutual manifestness*

After the preceding considerations we still need to ask ourselves in which ways people share necessary information in communication. The minimum requirement seems to be that at least one of the interlocutors, i.e. the speaker, has certain strongly manifest assumptions, which he also considers his addressee to entertain in at least a weakly manifest way. This thought is also described by Clark and Marshall (1981) when they write about *potential physical co-presence*. The following quote illustrates this notion.

Imagine that Bob isn't paying attention to the target candle, but it is easily within view. Ann can then say *this candle*, which gets Bob to look at it and complete the physical copresence of him, her, and the candle. (Clark and Marshall 1981: 38)

Perhaps mutual knowledge as conceived by Clark and Marshall is not that different from mutual manifestness after all. At any rate, it is not manifestness itself which is really interesting, but the potential that both, or all, interlocutors form similar assumptions; in other words, that they coordinate their assumptions. Unless we do not want to write about coincidental circumstances leading to communication, we must insist that at least one of the interlocutors has a mental representation that can serve as the basis for communication. This representation should suffice for him to direct his addressee(s) towards accessing the necessary assumptions as well. The way a speaker can accomplish this is to communicate by ostension, i.e. by making it obvious that he has got the intention to inform his addressee(s) of something. It is interesting to note that many of Sperber and Wilson's examples also take this for granted. An often quoted example (cf. Sperber and Wilson 1986: 43) is the one in which Mary and Peter are looking at a landscape where only Mary notices a distant church. Sperber and Wilson suggest that in order to talk about that church, Peter need not have noticed that church. What is required is that Mary's behaviour, usually the making

of an utterance, directs Peter's attention towards the church. The church has been manifest to both of them. The important point to note, however, is that at least one of them must not only have some manifest assumption about that, but a strongly manifest assumption. An assumption that is so strong that Mary has even formed a mental representation of it. Thus, my conclusion is very much in line with Gibbs' conclusion (1987: 569), in which he argues that Sperber and Wilson 'are "sneaking" mutual knowledge in the backdoor of their theory of conversational inference by appealing to the idea of mutual cognitive environments which can be manifest but not known'.

Sperber and Wilson's theoretical construct might be different from the one proposed by the mutual-knowledge hypothesis in that it really seems to be weaker. However, it does not seem to be able to do its job: enabling people to communicate. All of Sperber and Wilson's examples presuppose stronger requirements than mere mutual manifestness. But what should the conclusion be from all of this? What we have got so far is that requirements of mutual knowledge are too severe and that mutual manifestness is in general too weak. What to me seems to be a reasonable trade-off between the two competing frameworks is a construct that I would like to call *lopsided mutual manifestness (mutual manifestness<sup>L</sup>)*.

*Lopsided mutual manifestness (mutual manifestness<sup>L</sup>)*

The minimum requirement for coordinated context available to  $n$  communicators is that the grounds of communication  $G$  be a strongly manifest assumption, that is, a represented assumption, to at least one communicator, usually the initiator of the topic, and at least a weakly manifest assumption to the remaining  $n - 1$  communicators.

This initial context has to be expanded in conversation into mutual assumptions. The mutual assumptions are not represented via an infinity of meta-assumptions, but as proposed by the mutual-knowledge induction scheme by Clark and Marshall. However, in contrast to Clark and Marshall who define the grounds of communication in very concrete ways (i.e. as instances of physical co-presence, linguistic co-presence and community membership), I would rather suggest a purely cognitive and epistemological view as proposed by relevance theorists. It does not really count that, for example, a candle is in the co-presence or potential co-presence of two people. What really counts is the mental representation that these people have of the candle. Imagine the following interchange between Nicole and Gary at a candlelit dinner:

- (32) *Nicole*: Red candles always make me dreamy.  
*Gary*: Well, I prefer white candles.

If Nicole has in mind that on their first date Gary put up red candles all over the place, then Gary's answer will probably awaken Nicole from her sweet dreams. The reason is that on a particular level, communication has

not succeeded. Nicole probably wants to communicate much more than just that she likes the colour of the candle in front of her. She also wants to initiate some romantic thoughts in Gary, which he obviously does not realize. The mental representation he forms when seeing a red candle at a romantic dinner is obviously not the same as the one that Nicole forms in such a situation. Nicole's and Gary's cognitive environments match to a degree that enables them to talk about the object, but they do not enable Nicole and Gary to communicate what Nicole really wanted to communicate about: their romantic feelings for each other. Thus it is not only the pure co-presence of the candle, Gary and Nicole that constitutes the context for communication. The candle just makes certain assumptions accessible which then must be accessed by Gary and Nicole in order to make communication successful.

The necessary tool for expanding mutual manifestness<sup>L</sup> into mutual assumptions and at the same time narrowing down all mutually available assumptions to the context that is really used in a particular situation will be provided by relevance theory. Relevance theory assumes that it is the communicator who has to assess which codes and contextual information are accessible to the audience and which are at the same time likely to be used in the process of interpretation. The communicator has to make these assessments in order to make misunderstandings less probable. Thus, speakers have to take the cognitive environment of their addressees into account. However, the whole cognitive environment is far too big to be considered in its entirety. What we need is a procedure that helps speakers and hearers to narrow down the possible set of (manifest) assumptions that play a significant role in a communicative situation. At the moment we can only say that hearers are expected to interpret and, of course, justified in interpreting the communicator's utterances by using the code and the contextual information which they can retrieve most conveniently. This behaviour is characterized by the underlying presumption that the communicator wants the addressee to opt for exactly this background and that she formulates her utterance accordingly. A more elaborated treatment of this issue will be provided in the sections to come.

First of all, however, the following section is meant to give a deeper insight into what it means to reason about mental states of other people. In psychology, the discipline which is involved in making guesses about someone else's state of mind is called *theory of mind*. The reason for such a detailed treatment of these matters is that especially in implicit language, it becomes very important to assess the addressee's cognitive environment. Thus, an improved idea of the assumptions that are incorporated into communication should lead to an improved understanding of how cognitive and linguistic tools such as metaphor work and, more particularly, what their impact on interlocutors is.

*Higher-order assumptions: theory of mind and metarepresentations*

What has become clear by now is that communication involves a great deal of inference and that the premises involved in communication on both the side of the speaker and the side of the addressee include assumptions about each other's cognitive environments. Making guesses about someone else's state of mind is what in psychology and psycholinguistics is called *theory of mind* or *mind-reading*. Forming assumptions about other assumptions, which is basically what interlocutors are doing when they assess their counterpart's cognitive environment or when a speaker has got some kind of attitude towards the proposition expressed, such as belief, desire, dislike, etc., is labelled as forming *metarepresentations*. In this section I will try to give a brief outline of these issues and their impact on linguistics.

A crucial ability that humans possess in all kinds of social interaction is the ability to make guesses about someone else's state of mind. Without such an ability, road traffic would almost certainly mean death to every participant sooner or later. Apart from the very code-like rules that we have established to make our roads safer, much of our action depends on assessments of what the other participants will probably do next. Often, these assessments are not based on a given code but include very natural and spontaneous abilities to make inferences taking into account the context of a situation. As communication is a paradigm form of social interaction, it should follow naturally that communication must also rest on a substantial amount of mind-reading. Traditionally, the role of inferences was restricted to implicitly conveyed meaning. Nowadays, however, many pragmaticists and in particular relevance theorists emphasize that apart from a little element of linguistic decoding, inferences are involved in the whole process of meaning construction. Speakers, for instance, have to disambiguate referential expressions,

- (33) *He* scored a goal in the very last minute.

fix the scope of quantifiers,

- (34) *Everyone* was laughing about the latest news concerning Gary and Nicole.

assign appropriate interpretations to vague expressions

- (35) It will take them *some effort* to win the championship this year.

or resolve illocutionary indeterminacies.

- (36) This will be his last match for the team. (Which could be used as an assertion, a threat or a prediction.)

Carston (cf. 2002: 19–28) refers to this phenomenon as the *underdeterminacy thesis*. This means that the linguistic meaning underdetermines what is said.<sup>7</sup> Carston mentions several possible sources for linguistic underdeterminacy. Typical sources include multiple encodings (i.e. ambiguities) and indexical references. In other cases conceptual constituents need to be adjusted, either strengthened/narrowed as in (37) or loosened/widened as in (38).

(37) Ann wants to meet a bachelor.

(38) The steak is raw.

(37) has to be strengthened, because Ann does not want to meet any unmarried man. She probably only wants to meet men who are eligible for a relationship. The pope, for example, would not be the sort of bachelor that is being referred to in (37). When (38) is uttered by a customer in a restaurant, then one can only hope that the steak is not totally raw, i.e. fully uncooked, but only insufficiently cooked. Only after these underdeterminacies have been resolved can we claim that we have understood what the speaker intended to communicate. Thus, pragmatics aims to explain how contextual information can help an addressee in making guesses about the speaker's intentions, not just in what some linguists and philosophers consider extraordinary language, but in every possible utterance a speaker may produce. Linguistic expressions, according to Sperber and Wilson's view, are only a very good means to direct hearers in their search for the relevance and the intended meaning of these expressions. For the moment we can note that the addressees in a communicative situation usually have to recognize the speaker's intention to communicate and they have to recognize into which directions a speaker's utterance is intended to guide them. Thus, interlocutors are attributing intentions to each other and this is, of course, an issue of a general theory of mind.

The necessity of intact theory-of-mind abilities for successful communication has been proven by various psychologists and psycholinguists (cf. Langdon, Davies and Coltheart 2002; Happé and Loth 2002). The work that has been done in this field predominantly focuses on young children and on people with a developmental or acquired disorder of cognition, such as autism or schizophrenia. It has been shown that autistic and schizophrenic people have severe problems with metaphor interpretation, which is explained by poorer mind-reading abilities. On the other hand, children at the age of two are supposed to have available an astonishing theory of mind at least in the domain of communication.

Thus, we can conclude that something like a mutual cognitive environment can only be established if the mind-reading abilities of all interlocutors are sufficient to form justified assumptions about other people's cognitive environments.

An important part of mind-reading is the otherwise independent notion of metarepresentation. So what exactly is a metarepresentation? Deirdre Wilson defines a metarepresentation as 'a representation of a representation: a higher-order representation with a lower-order representation embedded within it' (Wilson 2000: 411). Dan Sperber further distinguishes between different types of metarepresentation:

Mental representations of mental representations (e.g., the thought 'John believes that it will rain'), mental representations of public representations (e.g., the thought 'John said that it will rain'), public representations of mental representations (e.g., the utterance 'John believes that it will rain'), and public representations of public representations (e.g., the utterance 'John said that it will rain') are four main categories of metarepresentation. (Sperber 2000b: 3)

Wilson (2000: 413–14) mentions a type of metarepresentation in which 'the higher-order representation is an *utterance* or *thought* and the lower-order representation is an *abstract representation*' (italics in original), where abstract representations would be sentence types, utterance types, propositions, names, words and concepts. However, research on metarepresentation leaves out the following types of representation (examples are taken from Sperber 2000c):

- (39) Bill had a thought.
- (40) This claim is often repeated.

These representations are representations of representations, but they tell us nothing about the content of the lower-order representations. The disciplines involved in research on metarepresentation, however, have a foremost interest in our 'capacity to represent the *content* of representations' (Sperber 2000c; italics in original). It has also been pointed out by Dan Sperber that theory-of-mind theorists have mainly been concerned with the first type of metarepresentation where a thought is entertained about another thought. I have even made the observation that in most works within the theory-of-mind literature the scope is even narrower than this. The focus usually lies on what I would suggest be called *lateral metarepresentation*, a thought about a thought that someone else might entertain. However, it is this type of metarepresentation that is especially valuable for linguistics anyway.

The standard *false-belief tests* are prime examples of tests which investigate the ability to form lateral metarepresentations. In these tests, subjects have to attribute a false belief to somebody else independently of their own beliefs, i.e. they must be able to make the step from their own possibly correct belief about a particular situation towards the insight that another person in the same situation might hold a wrong belief for some reason. A

typical example could be the following situation. Gary might witness that Ruud scored a goal and thus he forms the representation in (41):

(41) Ruud scored a goal.

As he knows that Paul also witnessed the goal, Gary might also form the metarepresentation in (42):

(42) Paul knows that Ruud scored a goal.

Gary also saw that the referee was distracted and that he did not witness the goal. If Gary's mind-reading abilities have developed in a normal way, he will furthermore form the metarepresentation in (43), which is different from his own assumption:

(43) The referee does not know that Ruud scored a goal.

If, however, Gary's mind-reading abilities have not developed correctly, he might form the metarepresentation expressed in (44) attributing his own representation to the referee:<sup>8</sup>

(44) The referee knows that Ruud scored a goal.

If Gary indeed forms the representation in (44), we can still say that he is able to form metarepresentations. Gary's problem, however, would be that he cannot form metarepresentations independently of his own representations of a situation. Thus, his theory-of-mind abilities would be impaired although he is able to form metarepresentations. Children with a typically developed theory of mind are able to pass false-belief tests by the end of their fourth year (cf. Mitchell 1997; Happé and Loth 2002), but people with psychotic disorders, such as autism or schizophrenia, have problems with these tests either throughout their whole life, as in autism, or after having acquired this disorder later in life, as with schizophrenic patients.

A field that has been researched thoroughly is that of the relation between word-learning and theory of mind. It has been shown that word learning largely depends on theory-of-mind abilities and that this specialized instance of a theory of mind might even predate other instances of mind-reading (cf. Baldwin 1995; Tomasello 1992; Bloom 2000). Dan Sperber (2000c), very much in line with his modular view of the mind, therefore speculates that we may have more than one *theory-of-mind mechanism* (*ToMM*) with one being responsible for communication. Happé and Loth (2002), for example, carried out an experiment showing that preschool children apparently find

it easier to identify a false belief in a word-learning task than in a standard false-belief test. In addition to that, it has been observed that people with Asperger's syndrome (a relatively mild autistic disorder, characterized, for instance, by social awkwardness) are able to acquire language in a relatively normal way compared to their social skills, which do not develop in a normal way (cf. Bloom 2000). One explanation could indeed be that communicative abilities rest upon a specialized ToMM. However, in Section 4.9 some major problems with this position will be presented.

What all the works mentioned have in common and what has been made explicit by Papafragou (2002) is that communication in general and issues like children's word learning in particular are subject to metarepresentational skills. Both interlocutors involved in a communicative situation are required to make assumptions about somebody else's intentions. As mentioned before, these assumptions are the outcome of inferential processes triggered by decoding linguistic elements and contextual clues. Linguistic meaning, i.e. the meaning of morphemes, words, phrases, clauses or sentences, is not to be equated with speaker meaning. The job that pragmatics has to do is fill the gap between linguistic meaning and speaker meaning. A first rough picture can be sketched that illustrates which metarepresentational abilities communication usually involves: Speakers have thoughts which they represent mentally. If they want to communicate these thoughts they usually represent their thoughts publicly via an utterance. Intending this utterance is a metarepresentation. The utterance also has to be based on several metarepresentations about representations their addressee might have. The addressee himself has to attribute an utterance to the speaker and he has to attribute certain intentions to the speaker, which are also metarepresentations. Often, he will also go as far as asking himself which of his own representations the speaker is likely to metarepresent. In this case hearers are forming second-order metarepresentations à la *What did the speaker think that I may think?* Humans are able to construct enormously complex communicative situations, as, for example, in cases of intended deception. Thus, human communication draws heavily on the use of metarepresentations.<sup>9</sup>

The notion of metarepresentation and mutual metarepresentation is consistent with Sperber and Wilson's notion of manifestness and mutual manifestness, however, it is not identical with it. It is consistent because both manifest assumptions and representations of whatever kind may be right or wrong. It is not identical because manifest assumptions need not have been represented. If every manifest assumption had to have been represented, there would be no reason left for Sperber and Wilson to use the term 'manifestness'. On the other hand, it is obvious that a metarepresentation has to be represented.

Having introduced the major ideas on how speakers and hearers coordinate assumptions and build representations about their addressees' states of mind, I now want to present the essentials of relevance theory, which is



based on these ideas. Furthermore, Chapter 5 will pick up the ideas on the epistemology of communication again.

### 2.2.2 Relevance, ostension and inference

Relevance theory is based on the very general notion about human cognition that 'human beings are efficient information-processing devices' and that they therefore always strive for *relevant* information (Sperber and Wilson 1986: 46). The word *relevance* in relevance theory cannot be identified with the ordinary English word *relevance*. The concept of relevance in relevance theory is very technical and will be explained in the further course of this section.

Relevance is based on the following observation: On the one hand, the central conceptual abilities of humans only allow for a very limited range of information to be processed. On the other hand, humans constantly want to improve their knowledge of the world with respect to quantity, quality and organization. Therefore, it is necessary that humans allocate their processing efforts only to that information which is most likely to improve their knowledge of the world. In this sense, optimally relevant information refers to information which yields the greatest possible contribution to a cognitive system at the lowest processing cost. Wilson and Sperber (1987: 10) see the striving for a maximization of relevance as 'the key to human cognition' and they argue that the attempt to maximize relevance works in a reflex-like manner. According to Sperber and Wilson, we cannot help but search for relevance. Seeking for relevance is seen as an outcome of evolutionary processes:

As a result of constant selection pressures towards increasing efficiency, the human cognitive system has developed in such a way that our perceptual mechanisms tend automatically to pick out potentially relevant stimuli, our memory retrieval mechanisms tend automatically to activate potentially relevant assumptions, and our inferential mechanisms tend spontaneously to process them in the most productive way. (Wilson and Sperber 2004: 610)

For example, it is due to the phylogenesis of humankind that we automatically pay attention to loud and sudden sounds or that we usually find a fiercely looking face more striking than an expressionless face. Our ability to distinguish between relevant and less relevant stimuli in our environment is virtually vital. When we are standing in the middle of the street and a fast car approaches, identifying this percept as especially relevant information can be very useful. However, allocating our full attention to the car is not self-evident. Every moment we are overwhelmed with an innumerable number of stimuli, only a fraction of which, the relevant ones, reach our attention. Similarly, it is argued, a single utterance could be interpreted

in many ways and be processed indefinitely, but we usually manage to interpret utterances in a more or less, yet normally fairly restricted, manner, because we focus on relevant interpretations. Utterances may be interpreted in such a large number of ways, because the linguistic form of utterances is vastly underdetermined. As I pointed out in Section 2.2.1.4, we need to determine referents, disambiguate expressions, assign interpretations to vague expressions, determine the scope of quantifiers, resolve illocutionary indeterminacies, etc. Because utterances usually allow for several lines of interpretation, utterances need to be enriched at various levels (the explicit and the implicit) in order to render the communicated propositions of an utterance. Sperber and Wilson claim that the basis for these sophisticated guesses is the existence of a mutual cognitive environment between the speaker and the hearer and, in addition, important interpretation strategies can be derived from the notion of relevance.

Relevance theory only deals with fully intentional communication, which includes that speakers have two kinds of intentions. First of all, a communicator has an informative intention if she produces a stimulus and intends thereby 'to make manifest or more manifest to the audience a set of assumptions *I*' (Sperber and Wilson 1986: 58). Making manifest or more manifest a set of assumptions is a first-order metarepresentation, because the addressee forms a representation (a private, mental one) of a representation (a public utterance).

In addition to an informative intention, a communicator has a communicative intention. Thus, intentional communication by ostension means producing a certain stimulus with the aim of fulfilling an informative intention and on top of that a communicative intention, which is the intention 'to make it mutually manifest to audience and communicator that the communicator has this informative intention' (Sperber and Wilson 1986: 61). A communicative intention is a higher-level informative intention which results in more complex levels of metarepresentation. From the point of view of the speaker it is a third-order metarepresentation, because the speaker intends that it become more manifest to the addressee that she has an informative intention. When hearers notice a speaker's communicative intention, then they even form a fourth-order metarepresentation. (*She intends to make more manifest to me that she intends to make more manifest to me that I.*)

Ostension, an informative intention and a communicative intention are important elements for the kind of communication that relevance theory is concerned with – *ostensive-inferential communication*:

*Ostensive-inferential communication*: the communicator produces a stimulus which makes it mutually manifest to communicator and audience that the communicator intends, by means of this stimulus, to make manifest or more manifest to the audience a set of assumptions *I*. (Sperber and Wilson 1986: 63)

Ostensive-inferential communication has the wider range of possibilities compared to the severely limited coded information, but ostensive-inferential communication is always dependent on judgements about the mutuality of cognitive environments. Above it was said that Sperber and Wilson claim that verbal communication works with *non-demonstrative* inference. Thus, communicators give evidence about their informative intention, but this evidence can never be a proof of it. The truth of the evidence only makes the truth of the conclusion more probable. The strength of an assumption received as the outcome of a non-demonstrative inference is 'a result of its processing history, and cannot be accounted for in terms of the logical concept of confirmation' (Sperber and Wilson 1986: 77). Therefore, it seems obvious that clear perceptual experiences are very strong, that assumptions arrived at as the result of somebody's utterance are about as strong as the belief in this utterance, and that the strength of assumptions based on a deduction depends on the strength of the premises.

The latter situation is chosen by Sperber and Wilson to be the major process in non-demonstrative inference. The formation of assumptions by deduction has several advantages: For example, new information can be obtained on the basis of old information, and consequently the cognitive benefit of the new information increases and the validity of old assumptions can also be checked. Deductive rules that take only one proposition as input are called *analytic rules*, those taking two propositions are called *synthetic rules*. Sperber and Wilson (cf. 1986: 104) claim that synthetic implications play a central part in verbal communication. The importance of synthetic implications comes from a certain subclass of synthetic implications which is regarded to be capable of explaining how deduction serves the goal to achieve relevance. This particular subclass takes as input both the utterance of a speaker and premises from the hearer's knowledge of the world. It connects old with new information and, as mentioned above, achieves relevance thereby. Sperber and Wilson call this subclass *contextual implications*:

#### *Contextual implication*

A set of assumptions **P** contextually implies an assumption **Q** in the context **C** if and only if

- (i) the union of **P** and **C** non-trivially implies **Q**,
- (ii) **P** does not non-trivially imply **Q**, and
- (iii) **C** does not non-trivially imply **Q**.

(Sperber and Wilson 1986: 107–8)

A contextually implied assumption is normally not the consequence of a conscious reasoning process. Contextual implications take place subconsciously and 'the fact that we process information in such a very short time suggests that the procedures we use must be spontaneous and finite'

(Blakemore 1987: 46). Example (45) illustrates the notion of contextual implications:

- (45) *Gary*: Have you often been to The Underground in Leeds?  
*Nicole*: Jazz sucks!

Nicole's (slightly rude) answer turns out to be quite tricky if Gary cannot set up some premises along the following lines enabling him to derive the conclusion in (47):

- (46) a. Jazz is a kind of music.  
b. An essential distinguishing feature of nightclubs is the kind of music played there.  
c. The nightclub The Underground in Leeds is famous for its jazz music.  
d. Someone who does not like jazz music will not often go to a nightclub in which jazz is favoured.
- (47) Nicole has not often been to The Underground.

In this case, (47) is contextually implied by Nicole's utterance in (45) in a context including (46). Both Nicole's utterance and the contextual premises are necessary to derive (47) and recognizing the relevance of Nicole's utterance in (45) obviously depends entirely on the recovery of the contextual implication.

Apart from contextual implications, there are two other ways in which new information might interact with the context of existing assumptions: new information can either strengthen older assumptions or it can contradict and eliminate these assumptions. The effects achieved in any of the three ways are called *contextual effects*. If Gary entertained the assumption that Nicole likes jazz and Nicole tells Gary that she likes to go to The Underground in Leeds because of the music played there, then Gary's assumption would be strengthened. If, however, Nicole told Gary that she does not often go to The Underground because of the music played there then this would contradict Gary's initial assumption and Nicole's utterance would also create a contextual effect.

Evidently, contextual effects depend in a significant way on the context. In relevance theory, the context serves as the source from where the premises used to derive contextual implications are taken. The choice of context thus has a direct impact on the relevance of an utterance. But the context is not just understood as something given. Sperber and Wilson (1982: 76) suggest 'that the search for the interpretation on which an utterance will be most relevant involves a search for the context which will make this interpretation possible'. Thus, our expectations of relevance will guide us in selecting a context. The context exerts a fundamental influence on our

cognitive environments, but what is important to understand is that we do not represent every detail of the actual context. Instead, our expectations of relevance will lead us to search for a context that will make an utterance optimally relevant.

In their search for the intended context, addressees may have to extend an available context. They start with an initial context, which consists of the proposition that has been processed most recently, because this context is directly accessible and rather small. In a conversation, for example, this is usually the interpretation of the immediately preceding utterance. Speakers, however, can deliberately or accidentally design their utterance so that sufficient relevance is not immediately achieved. Then the hearer has to extend the context in order to search for possible relevance. Extra information can be remembered from earlier discourse or preceding deductions, it can be received from sense perception or it can be taken from encyclopaedic entries of concepts in the memory (cf. Wilson and Sperber 1986: 253). In their original account of relevance theory, Sperber and Wilson (1998b: 94) define concepts as 'triples of (possibly empty) entries – logical, lexical and encyclopaedic – filed at a single address'. Thus, every concept consists of information about deductive rules in which the concept may be involved, for example, rules like *modus ponendo ponens* or entailment relations. In addition, there is information about linguistic signs connected to that concept, for example words, phrases and their collocations. Last but not least, there is information about the denotation and connotations of that concept, for example, typical objects or ideas instantiating the concept plus potential attitudes and feelings towards them. Those assumptions that are recruited to support the initial context are supposed to yield the maximal number of contextual effects accompanied by the lowest possible processing effort.

Sperber and Wilson (1982: 76–7) are of the opinion that the type of discourse is, for instance, one feature that determines the addressee's willingness to extend his context. They state that in a usual conversation the duration of the actual utterance limits the processing time, whereas readers of a sacred text devote much more time and processing effort. They are driven by the anticipation to achieve greater relevance in turn for extending the context. The process of extending the initial context to an ever more inclusive set of contexts could basically go on into several directions until the least accessible, i.e. the most inclusive context, is reached. Of course, a hearer could never and would never approach an all-inclusive context for the simple reason that it would never be worthwhile to go so far, because each extension incurs a double cost in processing. This is due to the fact that on the one hand the accessibility of the new assumptions decreases every time the context is extended, and on the other hand the total number of assumptions that have to be checked for possible contributions to contextual implications increases. Under normal circumstances, a speaker will unconsciously perform his utterance in a way that enables the hearer

to identify the contextual effects at minimal processing cost. A high degree of mutual manifestness will, of course, help the speaker to provide enough clues for the hearer to opt for the right direction in which the required context is to be searched.

Apparently, the context used in ostensive-inferential communication is not fixed in advance. The hearer selects a context that promises to provide as many contextual effects as possible for as small as possible a processing effort. Relevance theory gives an enormously dynamic portrayal of the context used in communication and thereby gains a lot of psychological credibility in this respect, because the context used in communication indeed seems to be a multifarious phenomenon characterized by many parameters such as the setting of the situation (time and place), memories, sense perception, interlocutors involved, inferential abilities, etc. All of these aspects compete for activation in utterance interpretation.

The relevance of an assumption is optimal when the assumption has been *optimally processed*, i.e. the best possible context has been selected and effort and effect have been balanced (cf. Sperber and Wilson 1986: 144). Compare the following examples:

- (48) Gary: I'm aching all over.  
Nicole: Ferguson is a madman.
- (49) Gary: I'm aching all over.  
Nicole: Ferguson is a madman. He makes you exercise too hard.

Imagine that Paul listens to (48) purely by chance. Paul, being a team mate of Gary's, will probably be able to derive relevant assumptions from (48) immediately. (49) is nearly as relevant to him, as it has about the same contextual effects, but the linguistic form of (49) is longer and accordingly it will take him a little more processing effort than (48), whereby some relevance is detracted.<sup>10</sup> If Melanie, one of Nicole's friends, listened to (48) or (49), it would perhaps turn out that to her (49) is more relevant than (48). If (48) did not communicate any contextual effects for her, perhaps because she does not know who Ferguson is, she would have to extend her context in the search for relevance and processing costs would rise. Obviously, relevance varies between different persons and not just between different contexts. Therefore, in the postface of Sperber and Wilson (1995) a slight adjustment in terminology is suggested:

Contextual effects in an individual are *cognitive effects*...They are changes in the individual's beliefs...Let us first define a *cognitive effect* as a contextual effect occurring in a cognitive system (e. g. an individual), and a *positive cognitive effect* as a cognitive effect that contributes positively to the fulfilment of cognitive functions or goals. (Sperber and Wilson 1995: 265)

So far, the notion of *relevance* has been defined in a pretty vague way, but Sperber and Wilson also define relevance more technically in a classificatory and in a comparative fashion:

*Relevance to an individual (classificatory)*

An assumption is relevant to an individual at a given time if and only if it has some positive cognitive effect in one or more of the contexts accessible to him at that time.

*Relevance to an individual (comparative)*

*Extent condition 1:* a phenomenon is relevant to an individual to the extent that the positive cognitive effects achieved when it is optimally processed are large.

*Extent condition 2:* a phenomenon is relevant to an individual to the extent that the effort required to achieve these positive cognitive effects is small. (Sperber and Wilson 1995: 265)

Again, the maximization of relevance is the gist of this definition. The processing of phenomena (or stimuli) is directed by this wish for maximal relevance. Sperber and Wilson (cf. 1986: 154) are of the opinion that an ostensive stimulus carries with it the communicator's guarantee of relevance. An utterance, as an instance of ostensive stimuli, automatically requests the hearer's attention by suggesting that the very utterance is relevant enough for the hearer to pay attention to. The next section will elaborate this idea into two *principles of relevance*.

### 2.2.3 The principles of relevance

It has been stated that human cognition is relevance-oriented and that relevance is a function of two arguments: cognitive effects and processing effort. Cognition, and communication in particular, can be understood in terms of a maximization problem of these two arguments. Sperber and Wilson formulate a principle around this notion:

*Cognitive principle of relevance*

Human cognition tends to be geared to the maximisation of relevance.

(cf. Sperber and Wilson 1995: 260)

This they call the first, or cognitive, principle of relevance. Sperber and Wilson are keen on pointing out that this does not mean that speakers and hearers expect maximal relevance. The mental effort of looking for the most relevant interpretation of a stimulus would prevent the hearer from expecting maximal relevance. This is particularly true with respect to utterances. A notion of *optimal-relevance* accounting for what hearers are looking for seems to be more realistic.

### *Optimal relevance*

An utterance, on a given interpretation, is optimally relevant iff:

- (a) It is relevant enough for it to be worth the addressee's effort to process it;
- (b) It is the most relevant one compatible with the communicator's abilities and preferences.

(Wilson and Sperber 1998: 9)

This definition implies that the most relevant utterance possible is not necessarily worth the addressee's effort and that speakers might fail in producing the most relevant utterance. Hearers should be aware that speakers might not have the information hearers would find most relevant. Perhaps speakers even withhold the most relevant information deliberately or they just cannot think of it at the moment. Lack of time, of ability, or personal stylistic preferences could be reasons which prevent speakers from expressing themselves maximally relevant.

The notion of optimal relevance is a central constituent of the second principle of relevance: the (*communicative*) *principle of relevance*.

### *Communicative principle of relevance*

Every act of ostensive communication communicates a presumption of its own optimal relevance.

(cf. Sperber and Wilson 1995: 260)

Two considerations are worth pointing out: First, this principle is not to be understood as a goal that communicators consciously pursue. Secondly, as a consequence, utterances do not necessarily have to be optimally relevant. Nevertheless, it is this principle around which Sperber and Wilson's theory revolves. The next section will be concerned with the interpretation strategies that can be derived from the two principles of relevance.

#### **2.2.4 Relevance-theoretic utterance interpretation**

The theoretical framework has been laid in order to explain how ostensive-inferential communication (possibly) works. I will now try to bring together the various results that have been dealt with so far in order to further elaborate on this and create a unified picture of how Sperber and Wilson understand ostensive-inferential communication.

Sperber and Wilson argue that communication consists of two processes: the first process is that of coding and decoding and the second process that of ostension and inference. In verbal communication, the code is an external language like English or German. The idea is that whenever we hear a linguistic utterance we automatically understand this as a stimulus to start a process of decoding. What we get out of this process, however, is not a complete propositional form, but a semantically underdeterminate logical



form. It is underdeterminate because the linguistic indicators only show us the direction in which we, as rational communicators, should search for relevance. In order to reach the propositions expressed by an utterance, our deductive device has to fulfil three basic tasks: disambiguation, identification of the referents of referring expressions and enrichment.

On this account, the coded communication process serves as input for the inferential process. Accordingly, coded communication is not comprehension; it just lays the foundations for the inferential process leading to comprehension. Sperber and Wilson summarize this in the following way:

The coded communication process is not autonomous: it is subservient to the inferential process. The inferential process is autonomous: it functions in essentially the same way whether or not combined with coded communication (though in the absence of coded communication, performances are generally poorer). (Sperber and Wilson 1986: 176)

The inferential process is guided by interpretation strategies that will lead the addressee to an interpretive hypothesis. Most of the time addressees are entitled to use the default strategy, according to which we can assume that the communicator is both competent and benevolent. This entails that the communicator is able to correctly assess where the addressee would search for relevance after having been exposed to the communicator's utterance. Moreover, it means that the addressee assumes that the communicator has produced this utterance because she wants to direct her addressee to the most salient interpretation, i.e. the interpretation that the communicator would reasonably assess as being the most relevant interpretation to the addressee. Thus, the addressee assumes that he was not accidentally and neither intentionally misguided, and therefore Sperber (cf. 1994a: 189–91) calls this strategy *naive optimism*. However, how exactly does interpretation work according to the naive optimism strategy? First of all, ostensive communication can only succeed if the audience realizes that the communicator wants to make a certain set of assumptions manifest to them. If this basic condition is fulfilled, the audience identifies the presumption of relevance embedded in this set of assumptions. It always does so because 'an act of ostensive communication automatically communicates a *presumption of relevance*' (Sperber and Wilson 1986: 156; italics in original). The presumption of relevance, however, is not just part of the set of assumptions that the communicator wants to make manifest, it also contains information about this set of assumptions and thus it can be confirmed or rejected by the content of this set of assumptions. Rational communicators design their utterances in a way which gives them reason to believe that the intended set of assumptions confirms the presumption of relevance. The audience is to decide, usually subconsciously, which set of assumptions confirms the presumption of optimal relevance. Having identified one set of assumptions that fulfils this

condition, the audience can suppose that the speaker's informative intention has been identified. They will form a metarepresentation in which they attribute to the speaker a particular informative intention.

Hearers try to achieve comprehension by forming hypotheses about the speaker's informative intentions and checking them in order of accessibility. When the hearer arrives at a hypothesis that satisfies the principle of relevance, he should stop processing. There might be other interpretations which meet the first condition of the definition of optimal relevance, i.e. they are relevant enough to be worth processing. The second condition, however, will almost always be infringed upon in such a case. If the addressee has to pass several relevant hypotheses in order to get to the intended hypothesis on a higher level of accessibility, then the communicator has failed to save the addressee the effort of moving through several layers of accessibility and of subsequently having to compare the various relevant hypotheses. In successful ostensive-inferential communication, speakers design their utterances so as to make sure that the first accessible interpretation consistent with the principle of relevance is the one intended. All other interpretations would violate the second condition of the optimal-relevance definition. These ideas are important in the relevance-theory framework, as they suggest a processing mechanism of utterances. Thus, in a further definition, Wilson and Sperber describe this default strategy in the following way.

*Relevance-theoretic comprehension procedure*

- a. Follow a path of least effort in computing cognitive effects: Test interpretive hypotheses (disambiguations, reference resolutions, implicatures, etc.) in order of accessibility.
- b. Stop when your expectations of relevance are satisfied (or abandoned).

(Wilson and Sperber 2004: 613)

Sometimes, however, speakers are not able to assess which interpretation of an utterance would be most relevant to their addressees. This is usually due to a misjudgement of the cognitive environment of their addressees and an insufficient degree of mutual manifestness. If, for example, it is not manifest to the speaker which assumptions the addressee has got readily available at the moment of utterance, then communication may fail, because the speaker was not fully competent. However, interlocutors know that sometimes speakers may be fully benevolent, but not fully competent. Therefore, addressees sometimes opt for another interpretation strategy, when they cannot obtain relevance and naive optimism would obviously lead them wrong. The metarepresentative abilities of healthy, adult interlocutors allow for a more complex variant: *cautious optimism* (cf. Sperber 1994a: 191–4). According to this interpretation strategy, addressees are

aware that what they see as most relevant in an utterance might not be what the speaker wanted to communicate. Consequently, an extra level of metarepresentation is added, because the addressee now questions whether his interpretation is not just the most relevant interpretation to himself, but also the interpretation that the speaker would assume to be most relevant to his addressee. If the addressee comes to the conclusion that, in fact, it is not the interpretation that the speaker would assume to be most relevant, he will have to look for another interpretation that satisfies this requirement. After all, in a communicative situation we do not just want to gain cognitive effects per se, but usually we are also interested in what the speaker wanted to communicate. Knowing this, among other things, increases our further possibilities of social and communicative interaction. Slips of the tongue are a good example illustrating that sometimes the strategy of cautious optimism is necessary. When a speaker produces a slip of the tongue, we are usually able and willing to repair the speaker's utterance and interpret it in a way in which the speaker had possibly intended her utterance.

After having identified two possible strategies of interpretation, we can now consider a third variant. In the first variant we assumed that the speaker would be both benevolent and competent. The second strategy presupposed that the speaker is benevolent, but that she may not be fully competent. Hence, the third strategy considers that speakers need neither be fully competent, nor benevolent. Sometimes speakers want to communicate something quite different from what they would usually be taken to communicate by a particular utterance. Dealing successfully with this sort of communicator requires mastery of the strategy of *sophisticated understanding* (cf. Sperber 1994a: 194–8). An addressee who has got reason to believe that the speaker is not necessarily a benevolent communicator (perhaps because the speaker wants to push through his own ideas against the addressee's interest) will not uncritically accept the first relevant interpretation that comes to his mind. The procedure rather looks like this:

...the hearer should follow that path of least effort, but he should stop, not at the first relevant enough interpretation that comes to mind, nor at the first interpretation that the speaker might have thought would be relevant enough to him, but at the first interpretation that the speaker might have thought would *seem* relevant enough to him. (Sperber 1994a: 196–7; italics in original)

In order to illustrate different results of these three strategies consider the following example:

- (50) *Nicole, to Gary*: It's really astonishing how much money Athletico Madrid spend on their players.

Assuming that Gary interprets this utterance according to the naive optimism strategy, he may understand this utterance as a mere sign of Nicole's astonishment about how much money the players of the football team of Athletic Madrid get.

Assuming that Gary interprets it according to the cautious optimism strategy, he will be able to repair the import of Nicole's utterance in a certain respect. Gary knows that Nicole knows nothing about football. He also knows that it is not *Athletico* Madrid but *Real* Madrid that spends the most money on their player's salaries. Thus, he will assume that what Nicole really wants to say is that the players of Real Madrid earn an incredible amount of money.

If Gary, however, has reasons to be sceptical about Nicole's benevolence, this interpretation might be even more complex. Let us imagine that Nicole has been urging Gary for months to leave rainy Britain and move to a warmer country. Gary might then realize that Nicole's real intention is different from what it looks like. Gary might not take Nicole's utterance as a mere sign of astonishment, which under normal circumstances would seem relevant enough to him, but he will realize that Nicole really wants to persuade him once more of her wish to move to a sunny country. After all, Gary could earn a lot of money if he played for Real Madrid. Thus, Gary first of all repairs Nicole's utterance in that he assumes that she really means Real Madrid, and secondly he detects Nicole's hidden informative intention. The particularity about this is that Gary's metarepresentative capabilities have to be good enough to represent an extra level of Nicole's total informative intention, although Nicole tried to hide her communicative intention regarding this extra level.

The type of strategy used by an addressee will depend on several different aspects. It matters, for example, how well speaker and hearer know each other or how trustworthy the speaker is. Although competent hearers have several strategies at their disposal, communicators may fail in being optimally relevant, which means that the presumption of relevance is not confirmed by the addressee. This, however, is not a flaw in the theory. It just backs up what everybody experiences any day: that misunderstandings are a common part of communication, that people bore us to death, that expectations in communication are disappointed, etc.

The level of complexity rises from naive optimism towards sophisticated understanding. The strategy of sophisticated understanding, for example, requires the hearer to form at least a fourth-order metarepresentation:  $_4[She\ intends\ _3[to\ make\ more\ manifest\ to\ me\ _2[that\ she\ intends\ _1[to\ make\ more\ manifest\ to\ me\ _0[that\ I]_{01}1]_2]_3]_4$ . The speaker's informative intention is situated on level one. A naively optimistic hearer would reach level two on which he attributes the informative intention to the speaker, but only with the ability to form the complex representation up to level four, the hearer can try to assess whether the speaker is both competent and benevolent. It is easily

explained why. A hearer capable of constructing fourth-level metarepresentations has the ability to identify a conflict between level two and level four. Let us consider our latest example again (above as (50)).

- (51) Nicole, to Gary: It's really astonishing how much money Atletico Madrid spend on their players.

Based on the naively optimistic strategy, Gary would form the following representation:  $_1$ [Nicole makes more manifest to me  $_0$ [that she is astonished about how much money Atletico Madrid spend on their players] $_0$ ] $_1$ . It can be noted that Gary would have no possibility of understanding that Nicole wanted to predicate something about Real Madrid rather than Atletico Madrid and that her main intention was to persuade him of her wish to move to a sunny country. Gary could not do this, because he does not metarepresent an informative intention, nor does he metarepresent a communicative intention of Nicole's.

According to the strategy of cautious optimism, Gary would at least form the following metarepresentation:  $_2$ [Nicole intends  $_1$ [to make more manifest to me  $_0$ [that she is astonished about how much money Atletico Madrid spend on their players] $_0$ ] $_1$ ] $_2$ . In this case, Gary would be able to correct Nicole's mistake, because he does not take the information provided by Nicole as an irrefutable fact. He understands what Nicole intends to inform him about, but because Gary is also aware of the fact that what Nicole intends to inform him of could be erroneous and therefore he can try to identify what Nicole really wanted to communicate.

However, only if he was able to form a fourth-level metarepresentation, he would be able to identify Nicole's main intention as well. Thus, if Gary was able to apply the strategy of sophisticated understanding, he could form the following representation:  $_4$ [Nicole intends  $_3$ [to make more manifest to me  $_2$ [that she intends  $_1$ [to make more manifest to me  $_0$ [that she is astonished about how much money Atletico Madrid spend on their players] $_0$ ] $_1$ ] $_2$ ] $_3$ ] $_4$ . First of all, in this fourth-level metarepresentation Gary could correct Nicole's mistake and include Real Madrid instead of Atletico Madrid. Furthermore, it is now possible for Gary to realize that Nicole's communicative intention metarepresents an informative intention which might not be the most relevant informative intention she has and wants to communicate. Only this realization makes it possible for Gary to understand that Nicole predominantly wants to communicate an informative intention which he is not supposed to metarepresent as her communicative intention. Gary is now able to see that Nicole only wanted to make mutually manifest her intention to express her astonishment, because this is something that would seem relevant enough to Gary to stop processing, but that she really wanted to communicate more than that. Thus, Nicole's communicative intention was correctly recovered by Gary, as he has realized that Nicole wanted to make

manifest her intention to express her astonishment. The point, however, is that if Gary is equipped with a sufficiently good theory of mind, he may also realize that Nicole's covert informative intention is nothing she wanted to make mutually manifest. Without the ability to metarepresent Nicole's pretended informative intention, Gary would not have had an opportunity to see both what Nicole tried to present as her informative intention and which informative intention she predominantly has. Only assumptions which can be metarepresented can be denied.

So far it has become clear that relevance theory emphasizes the role of inferences and metarepresentation in communication. It was also shown that the linguistic form of utterances significantly underdetermines the propositional forms that speakers want to communicate and hearers take as being communicated. Thus, we can never comprehend an utterance just by decoding a linguistic expression. Pragmatics is involved in the understanding of every utterance – implicit and explicit ones. In the next chapter I want to discuss pragmatic views on the implicit and the explicit in greater detail and present pragmatic approaches to metaphorical language.

## 2.3 The explicit, the implicit and metaphors

In the first two sections of this chapter a brief outline of Grice's and relevance theory's main ideas concerning such complex matters as meaning and communication was given. An important distinction that was drawn and that will be of great importance for the present work is the distinction between the explicit, viz. what is said, and the implicit, viz. what is implicated. It will be essential for this work as many pragmaticists presume that it coincides with the distinction between the literal and the figurative, a distinction which is obviously of great interest to anyone trying to get an understanding of the mechanisms involved in and the communicative functions attributed to metaphorical expressions. Therefore, in the subsequent section I want to focus on the explicit/implicit distinction. I will first specify Grice's own ideas concerning this distinction. After that I will consider some post-Gricean developments and I will finish this section with a portrayal of relevance theory's view on this issue.

### 2.3.1 Pragmatics and the explicit/implicit distinction

Pragmaticists have always been concerned with the question of how to draw the line between explicitly and implicitly conveyed information. Major suggestions have been put forward by François Recanati, Kent Bach and the relevance theorists Deirdre Wilson, Dan Sperber and Robyn Carston.

#### 2.3.1.1 *François Recanati: our intuitions and what is said*<sub>max</sub>

François Recanati's main concern in many of his writings (cf. Recanati 1989, 1993, 1995, 2001, 2002a, 2002b) is Grice's distinction between the explicit

and the implicit, i.e. the distinction between what is said and what is implicated. Grice equated the conventional parts of language and communication with his notions of *conventional implicatures* and *what is said*. Only the latter, however, contributes to the truth-conditional content of utterances in Grice's point of view. Thus, the conventional and compositional meanings of the linguistic expressions used in an utterance, the utterance's syntax and processes of disambiguation plus the fixation of indexical elements together are understood as being sufficient in order to make an utterance truth-evaluable. Truth conditions under this perspective are clearly a matter for semantics. Recanati, however, was one of the first philosophers and linguists to propound a view of truth-conditional pragmatics which emphasizes the observation that often Grice's what is said does not deliver a complete proposition at all and that sometimes it only delivers a proposition which might be truth-evaluable but which does not match our intuitions about the proposition communicated. Often hearers need to *enrich* an utterance even after reference assignment and disambiguation in order to get to the level of a complete proposition that can also be assumed to be communicated. Consider the following example (Recanati 1989: 297):

(52) He has bought John's book.

Recanati claims, in accordance with Kay and Zimmer (1976), that syntactic constructions like the genitive require not just semantic decoding, but also pragmatic inference. The noun phrase *John's book* is by no means determinate in its sense and reference. It could, for example, be the book that John wrote, the only book that John owns, a very salient exemplar of all the books that John owns, the particular book that Maria lent John, etc. Recanati therefore concludes that *John's book* means something along the lines of 'the book that bears relation  $x$  to John' (Recanati 1989: 297). The parameter  $x$  needs to be assigned a value and this can only be done in a particular context. Hence, our understanding of genitive constructions does not solely depend on our linguistic knowledge, but also to a certain degree on our ability to use the context. In particular, it depends on our intuitions about speaker meaning. This type of context dependence is very similar to that of indexicals. In both genitive constructions and indexicals the sentence provides a slot that needs to be filled in context, i.e. a particular expression in the sentence triggers the search for an adequate contextualization. Providing values for these slots is a bottom-up process that Recanati calls *saturation*. It is rarely controlled by a particular rule which – like a code – provides such contextual values, but it is mandatory in the sense that a linguistic element in the sentence triggers the process of saturation. Recanati (cf. 1989: 298, 1993: 235) remarks that it has often been assumed that at least some indexicals are functions which map parts of the context onto meaningful references. Such a rule might be construed for the personal

pronoun *I*, which directly generates a reference to the speaker. However, even if we are willing to accept this, such a rule does not exist for demonstratives or genitive constructions. Demonstratives refer to salient parts of the context and genitive constructions generate salient relations between two objects embedded in the context. The idea of salience, however, is a purely pragmatic phenomenon that appears as the result of idiosyncratic cognitive environments, relevance considerations and statistical knowledge about objects in a cognitive environment.

Accepting these thoughts clearly leads to the conclusion that Grice's original equations of semantics with what is said and pragmatics with anything beyond what is said cannot be maintained any longer. Either the notion of what is said must be extended in order to admit purely pragmatic inferences into what is said, which would in consequence mean that the notion of what is said will no longer be a clearly semantic notion, or it will be necessary to use another term for those fully propositional forms which are closely connected to the structure of the sentence and which are also communicated. The former variant is what Recanati basically opts for, the latter variant is what Bach, Carston and Sperber and Wilson opt for in one way or another.

As a first consequence of these considerations, Recanati (2001: 75–7) tries to distinguish between different representational types. On the one hand he distinguishes between the linguistic meaning of a sentence type, which is a purely semantic notion, and what is said, which in this case would be an extended version of Grice's original what is said, such that it is always both communicated and truth-evaluable. On the other hand Recanati distinguishes between what is said and what is merely conveyed. Thus, he proposes the following three units: sentence meaning, what is said and what is implicated. In contrast to what is said and what is implicated, the meaning of a sentence is solely linguistic in kind and usually it is not fully propositional. What is said and what is implicated are both notions which are propositional and in parts pragmatically derived. Even though what is said is not independent of the context, it is still constrained predominantly by the semantic potential of the sentence uttered. Thus, what is said is an enriched version of the structure that the sentence prescribes. Contrary to this, implicatures are not constrained in this way. Implicatures take both what is said and the context as premises and can therefore arise in a way that exceeds the semantic potential of the sentence.

In Grice's framework it used to be quite simple to distinguish between *literalness* and *figurativeness*, or at least *nonliteralness*.<sup>11</sup> In the picture drawn by Recanati, the literal/figurative distinction very much depends on whether what is said should be allocated to the literal together with sentence meaning or whether it should be allocated to speaker's meaning together with implicatures. An argument for the former would be the structurally close relation between the sentence uttered and what is said. An argument for the latter could be the pragmatic character of what is said.



Above it was mentioned that what is said in Grice's favoured sense may not be fully propositional even after all sentential variables have been contextually filled, i.e. even after the skeleton provided by the sentence type has been saturated completely. Another pragmatic process which alongside saturation also plays a role as a form of enrichment is that of *strengthening*. Recanati (2001: 77) quotes examples from Sperber and Wilson (example (53) below) (1986: 189) and Bach (example (54) below) (1994a: 267) to illustrate the notion of strengthening.

- (53) I've had breakfast.  
 (54) You are not going to die.

After reference assignment, the utterance in (53) could be considered to be fully propositional. The proposition would be true iff the referent of (53) has had a breakfast before at least once in his lifetime. The example in (54) works in a very similar way. After a referent for the personal pronoun *you* has been found, it should be easy to determine the truth conditions for the proposition expressed in (54). In this case, we know that strictly speaking a proposition of (54) will always be false, as everybody has to die at some point. Thus, utterances may be assigned a determinate truth value, but it is possible that the truth value is based on a proposition that is not the one that is intended to be communicated. The speaker of (53) probably wants to communicate that he had (a probably very large) breakfast that very morning. The speaker in (54) probably wants to communicate that the addressee will not die from the particular wound he has just suffered. These strengthenings, however, are not mandatory. Omitting them would not result in a defective proposition. Thus, it is possible to distinguish between two types of proposition. One type only includes mandatory elements which are absolutely necessary for full truth-evaluability and the other type may also include elements which seem to be optional from the perspective of truth conditions, but which are obligatory from a communicational perspective. Propositions of the first kind which do only exhibit absolutely necessary elements are called *minimal propositions*. The doctrine which posits that such a minimal proposition of an utterance is exactly what is said and coincides with *the* truth-conditional content of an utterance is called *pragmatic minimalism*. The principle that pragmatic minimalism is based on is the *minimalist principle*.<sup>12</sup>

### *Minimalist principle*

A pragmatically determined aspect of meaning is part of what is said if and only if its determination is necessary for the utterance to express a complete proposition.

(Recanati 1989: 302)

Anything that goes beyond the structure of the sentence, i.e. beyond the elements articulated in the sentence, does not form part of what is said according to the minimalist doctrine. Only the bottom-up process of saturation has a role to play in order to establish the proposition of an utterance. Top-down processes such as free enrichment, which are completely pragmatic and not at all linguistically controlled, do not contribute to minimal propositions (cf. Recanati 2002b: 302).

Recanati is well aware of the problems with a minimalist position. Apart from the question of whether a minimal proposition can be a psychologically realistic representation of an utterance, he states the following observation concerning the minimalist principle:

For any (pragmatically determined) aspect *a* of the meaning of an utterance, the Minimalist Principle can be used to decide whether *a* is a conversational implicature or an integral part of what is said only if one already knows whether or not the determination of *a* is necessary for the utterance to express a complete proposition, i.e. only if one already possesses a semantic analysis of the sentence uttered. (Recanati 1989: 308)

This means that first of all we need to know which variables a sentence requires us to fill in to get a complete proposition. Once we have a complete semantic analysis of a sentence we are able to take the minimalist principle and decide which parts of our interpretation of an utterance belong to what is said. In consequence, the minimalist principle on its own will not help us a great deal in deciding what is explicit in a sentence and what is implicit.

Given the problems associated with minimalism, Recanati takes into account the position of maximalism, which appears to be more promising to him (cf. Recanati 2001: 79–80). Maximalism does not distinguish between optional and mandatory contextualizations, but between *primary* and *secondary* pragmatic processes. Primary processes are necessary to determine the intuitive truth-conditional content of utterances and can therefore include both saturation and free enrichment. In addition, Recanati claims that the process called *transfer* also belongs to primary pragmatic processes. In transfer ‘an already available constituent is mapped into another one which replaces it’ (Recanati 1993: 263). Thus, referential expressions are typical candidates which are susceptible to the process of transfer. In metonymy, for instance, one referent of a referential expression may be replaced by another referent which also belongs to the same conceptual domain. After the primary processes have been carried out, something like a composition can take place, which results in a form that in Recanati’s terminology is called what is said<sub>max</sub>.<sup>13</sup> In contrast to what is said<sub>min</sub>, what is said<sub>max</sub> could be considered as a type of representation that is really processed in the process of utterance understanding.

We know that despite a pragmatic view of what is said, not everything that is communicated belongs to what is said. Therefore, a notion of secondary processes is needed. These are inferential processes which take the content of what is said as input and yield inferences such as Gricean implicatures. Before secondary processes can be initiated, the content of what is said must be clear. This leaves us with the following picture of the meaning conveyed by an utterance (Recanati 2001: 80):

literal meaning = sentence meaning + what is said<sub>min</sub>  
 speaker's meaning = what is said<sub>max</sub> + what is implicated.

This definition of literal meaning clearly refers to a propositional level. However, Recanati (1995) also illuminates how literal and nonliteral interpretations of utterances can be broken down into nonliteral interpretations of constituents. He argues very compellingly against a *literality-based serial model* of nonliteral interpretation, which is the typical Gricean model of nonliteral interpretation. According to Recanati, the proposition of a nonliteral utterance does not have to be computed before we can arrive at the nonliteral interpretation. Nevertheless, he argues, we do activate literal meanings of constituents before we activate possible nonliteral interpretations of these single constituents. However, Recanati claims that nonliteral interpretations of constituents may still get more activation in the course of online interpretation and therefore may lead to a nonliteral interpretation of the whole utterance due to greater accessibility. Thus, on a local level literal meanings are activated before nonliteral meanings are activated, but on a propositional level, a nonliteral meaning may still prevail without being the result of an inference starting from the literal proposition. The point is that a literal semantic value of a constituent is activated and before it is being processed, associatively related semantic values are also activated. Each of these semantic values may achieve additional activation through the co-text and contextually available schemata. The semantic value with the greatest amount of activation is considered to be most salient in the context and is provisionally incorporated into the interpretation of the whole sentence. Moreover, this candidate can be swapped for another possible candidate after further constituents have been processed or a changing context demands another candidate. Recanati is of the opinion that this is the standard procedure of nonliteral interpretation, though he also admits that in special cases a literal proposition may be first computed before it is rejected as making no sense. It is these few cases in which typical Gricean implicatures enter the picture. For the moment it should suffice to notice that Recanati does distinguish between literal and nonliteral utterances at least on a local level of constituents and that literal interpretations of utterances do not come as a default value. Neither do they generally cause inferences from the proposition of what is said to the proposition communicated

if Grice's maxim of quality is violated or flouted. Because of this they cannot be generally categorized as implicatures either.

Bach (1994b) and Ariel (2002: 386–7) criticize this approach towards non-literal interpretation. Both agree that the spread of activation from a literal to a nonliteral interpretation of constituents has to include inferences, at least in novel nonliteral interpretations. Without further explanation, Ariel nevertheless accepts that the literal proposition does not have to be computed before a nonliteral communicated proposition is entertained. I think that it is not that easy to reject Recanati's ideas. In my opinion Recanati correctly bases his analyses on the following assumptions:

- (1) Literal propositions do not have to be computed before nonliteral interpretations are computed.
- (2) Utterance interpretation should be analysed online and on a constituent-by-constituent basis.
- (3) Our mental lexicon is a network in which lexical entries are interwoven because of various reasons (e.g. logical relationships like entailment, co-occurrence in identical schemata, collocations, etc.).
- (4) The co-text and context determines which links to other lexical entries are activated.

These ideas based on Recanati's pragmatics have strongly influenced my hybrid theory of metaphor which I suggest in Chapter 5. What I consider particularly problematic in Recanati's account of nonliterality is the alleged existence of literal semantic values which get activated before other possible values get activated. Research by Renate Bartsch (cf. 1996), for example, shows that the existence of literal semantic values is not as self-evident as Recanati seems to think. Due to this and other empirical evidence, I do not support Recanati's idea that on a local level hearers first access literal meanings of constituents. I rather believe that hearers access a unit that I will call a conceptual region. The conceptual region cannot be equated with the literal meaning of a constituent, because a conceptual region always has to be elaborated into a concept which may be literal or metaphorical, depending on the context of its use.

In conclusion, it can be noted that Recanati is very sceptical about the notion of a minimal proposition. He proposes a maximalist view of what is said, which accepts the idea that pragmatically inferred information can also enter what is said. Top-down processes play a substantial role in the determination of what is said<sub>max</sub>. The notion of what is said<sub>min</sub> might be of theoretical interest, but according to Recanati's and my own points of view it does not correspond to any stage in the interpretation of utterances. The *syncretic view*, which postulates the existence of what is said<sub>min</sub> and what is said<sub>max</sub>, therefore does not give us a realistic picture of how the explicit parts of utterances are understood, and because of this it is only of limited

interest. In the same vein, Recanati's notion of literal meaning as something equalling sentence meaning plus what is said<sub>min</sub> is only of limited interest. If what is said<sub>min</sub> as a part of his definition of literal meaning is an entity that is not considered a level that is processed in utterance interpretation, we can do without the notion of literal meaning on a propositional level. In the end what matters is not to find some neat distinctions which work together in a perfectly logical way. What we really want is an idea of the representational formats which actually play a role in the process of utterance formation and interpretation.

Kent Bach and relevance theorists such as Robyn Carston, Dan Sperber and Deirdre Wilson propose frameworks which roughly fit Recanati's maximalist doctrine and which do propose unique levels of representation between a Gricean what is said and true implicatures. The following section will provide a short presentation of Bach's ideas.

### 2.3.1.2 *Kent Bach: conversational implicature*

In a number of articles Kent Bach has commented on the continuum between what is said and what is implicated (cf. Bach 1987, 1994a,b, 1997, 2001, 2002; Bach and Bezuidenhout 2002). In many ways he endorses Recanati's opinions as portrayed in the last section. In some ways, however, he proposes alternative views.

Bach identifies two phenomena which cannot be properly handled in a typically Gricean account of what is said and implicatures. The first of these phenomena is *sentence nonliterality* (cf. Bach 1994b: 267). Example (54) from above, repeated here as (55), and example (56) are standardly used to illustrate the phenomenon of sentence nonliterality (Bach 1994b: 267–8).

- (55) You are not going to die.  
 (56) I haven't eaten.

For (55) imagine a situation in which a little boy with a cut finger comes to his mother and the mother makes the utterance in (55). Bach insists that every single word the mother uses is being used literally. Nevertheless, she would certainly not be taken to communicate that her son is immortal. The same line of reasoning applies to example (56). Surely the speaker of (56) has eaten before in her life, and therefore what she says is strictly speaking false. Still we would not want to accuse her of lying and neither would we assume that she uses any of her words with a nonliteral sense. Thus, Bach points out that ambiguity, vagueness or nonliterality are not restricted to the lexical level. Often these semantic indeterminacies are due to certain words being left out. In this respect we could *expand* (55) and (56) into (57) and (58).

- (57) You are not going to die *from this wound*.  
 (58) I haven't eaten *dinner today*.

In accordance with Recanati, Bach realizes that the utterances in (55) and (56) carry minimal propositions which are fully truth-evaluable. However, the propositions communicated are the ones belonging to (57) and (58). Some extra expressions have to be inserted in order to get what is being communicated, and therefore Bach refers to this process as *expansion*. The extra expressions which form part of the proposition expressed, but not of the minimal proposition of the utterance, are called *implicit qualification*. The process Bach refers to as expansion is very similar to what Recanati calls strengthening.

The second phenomenon is discussed under the heading *semantic underdetermination*. Bach defines this as follows:

An (indicative) sentence is semantically underdeterminate if it fails to express a complete proposition – determine a definite truth condition – even after ambiguity and vagueness are resolved and indexical references (including the time of the utterance) are fixed. (Bach 1994b: 268)

The following examples are given by Bach (1994b: 268) to explain this notion:

- (59) Steel isn't strong enough.
- (60) Willie almost robbed a bank.

The important difference of such examples compared to the ones for sentence nonliterality is the lack of a determinate truth value. As long as nothing is added to these examples, we cannot state whether (59) and (60) are true or false. In (59) we need to know what it is that steel is not strong enough for. Concerning (60), Bach (1994b: 269) suggests that we need to know why Willie *almost* robbed a bank. It could, for example, be communicated that Willie 'nearly succeeded at robbing a bank' or that 'he decided against robbing a bank and robbed something else instead'. The propositional content of these utterances is what Bach calls a *propositional radical*. Propositional radicals need *completion* in order to express a truth-evaluable proposition which is communicated. In Bach's theory the term completion is equivalent to Recanati's term saturation.

Whereas Recanati, however, prefers to continue working with the terms what is said and implicature, Bach points out that both expansion and completion are processes which do not fall under what is said or what is implicated. Recanati modifies the denotation of what is said into what is said<sub>max</sub> and allows all sorts of pragmatic processes into it. Bach is also of the opinion that expansion and completion are of a pragmatic nature and essentially rely on the same kinds of processes as those involved in implicatures. The consequences he draws are different though. He does not argue, as has been done by some of Grice's critics, that Grice draws the line between what is

said and implicature in the wrong place, but rather that it is not possible to draw any such line. What is said and implicature are units which are separate ends on a continuum with considerable middle ground.

Carston (2002: 170–83) is of the opinion that the notion of what is said is very problematic and that there is no independent motivation for such an intermediate level between the logical form of the utterance and the proposition expressed anyway. Therefore, she suggests to abandon it and to restrict oneself to the logical form of an utterance and the proposition expressed. Whereas Recanati discarded minimalism largely due to its lack of psychological reality, Bach does not see any reason to do completely without notions such as what is said<sub>min</sub>. He is of the opinion that even if what is said<sub>min</sub> is not a psychologically real notion in terms of what hearers do, this does not bear any consequences for what speakers say. It rather means that hearers are able to understand the proposition communicated without having represented what is said<sub>min</sub>. In general, Bach does not seem to be very optimistic about modelling a psychologically real description of how utterances are understood (cf. Bach 1997: 42).

However, considering the efficiency of communication, I think that what we should look for is a mechanism in which the production of utterances, on the part of the speaker, and the interpretation of utterances, on the part of the hearer, are viewed as complementary processes. Accepting this entails that if what is said<sub>min</sub> is not a representation that hearers form in their interpretation endeavours, it should not be something that plays a role in the production of utterances either, and consequently it would not play any role in communication at all. I assume that speakers design their utterances in a way that foresees the communicational load of the sentences uttered. Generally, they do not worry predominantly about what they are saying, but rather about what they are communicating. Hearers process the linguistic meaning of utterances locally and online, i.e. the utterance's single constituents are processed one after the other. What is said is not a form of representation in their interpretation process. The meaning potential of the constituents which are processed is also narrowed down online. This is done through recognition of the co-text and expectations of relevance. The meaning potential of single constituents is narrowed down one after the other and may be readjusted after having taken additional information of further constituents and the situation into account. The result of these processes is not a representation like a minimal proposition, but one in which all sorts of pragmatic processes, for instance, reference assignment, disambiguation, expansion and completion, have taken place. Thus, the result will be a representation that is similar to Recanati's what is said<sub>max</sub>. Apparently, Bach's attempt to argue in favour of at least some notion of what is said at some level in a communicative situation is not on very safe grounds. Despite all of this, Bach agrees with the widespread view that true top-down pragmatic processes do not only enter at the level of implicatures. In his

framework, a third category, situated between what is said and implicatures, is needed. It is this middle ground which gains particular recognition in Bach's suggestions.

Bach coins the term *implicature*, which is meant to be a cover term for the middle ground between what is said and implicature. Thus, the propositions a hearer has constructed after expansion and completion are exactly what Bach refers to as implicatures. Bach (1994a: 126) explains that implicature 'is a matter of saying something but communicating something else instead, something closely related to what is said'. The term itself is meant to signal that it is neither to be identified with the explicit parts of language, nor with implicatures, but that it nevertheless contains what is taken to be implicit in the speaker's utterance. Bach proves this by pointing out that implicatures can, just like implicatures and unlike what is said, be cancelled. The following examples can be used to illustrate this phenomenon (Bach 2002: 25):

- (61) Jack and Jill went up the hill.
- (62) Jack and Jill went up the hill *together*.
- (63) Jack and Jill went up the hill but not together.

The proposition in (62) is an expansion of the one in (61). In (63), however, the implicit qualification, which is printed in italics in (62), is cancelled without any sense of contradiction.

Thus, Bach divides the realm of utterance interpretation into what is said, implicatures and implicatures. In Bach's framework, what is said is largely the same as in Grice's framework with the major exception that it does not entail that this is also meant. Implicatures are not exclusively linguistic, like what is said. Both inferential bottom-up and top-down processes may contribute to implicatures. Nevertheless, the linguistic form of the utterance is still very important. Implicatures 'are built out of what is said' (Bach 1994b: 273) via processes such as completion and expansion. In contrast, implicatures 'are additional propositions external to what is said' (Bach 1994b: 273). 'In implicature one says and communicates one thing and thereby communicates something else in addition' (Bach 1994a: 126). The propositional form of an implicature may differ considerably from the propositional form of what is said.

Thus, where does Bach stand regarding the literal-figurative dimension? Bach (1997: 44) doubts that there is a 'viable distinction between literal and nonliteral meaning'. However, Bach (1997: 40) also says that 'only literal contents are semantically relevant'. Given further the fact that Bach is of the opinion that a clear-cut distinction between semantics and pragmatics can be drawn, it is a problem to see how he can allocate the literal to semantics if there is no clear distinction between the literal and the nonliteral. The underlying issue seems to be that even the literal use of a sentence, a phrase, or just a word, depends on contextual inferences. According to Bach,



language is context-sensitive through and through and literalness is not a default value of sentences. Therefore, only after consideration of the context a hearer can say whether an utterance is intended in its literal use or not. This is a position I largely share in my hybrid theory of metaphor.

A further complication is the above-mentioned phenomenon of sentence nonliterality. It seems to be possible that every constituent in a sentence is used in its literal sense and still the utterance must be interpreted in a non-literal way. All in all, it seems as if Bach believes that a distinction between the literal and the nonliteral is, in fact, possible, but that literalness is not a default value. Nonliterality, according to Bach (2001: 17), is characterized by 'saying one thing and meaning something else'. It takes pragmatic considerations to decide on the question of literalness. At any rate, the notion of what is said is something completely dependent on the literal meanings of its constituents. The communicational import of utterances, however, depends on more. The way the constituents interact with each other and the way the whole utterance is expanded or completed to communicate the intended thought are responsible for the way in which utterances are finally understood. Apparently, Bach is of the opinion that what is said has to be a literal representation. After what is said has been established, pragmatic considerations determine whether the proposition expressed should be understood literally or whether, given the circumstances, it makes more sense to develop a nonliteral understanding. That the understanding of nonliteral comprehension raises many problems has been briefly touched upon above when Recanati's critique of the literality-based serial model was presented and when it was sketched how Recanati explains nonliteral interpretation. In the next section, I will give an outline of the relevance-theory perspective on issues such as the literal, the figurative and the explicit/implicit distinction.

### 2.3.1.3 *Relevance theory: explicature*

Another significant departure from Gricean thinking concerning the explicit and the implicit is the relevance-theory approach as initiated by Dan Sperber and Deirdre Wilson. It was already briefly pointed out in previous sections that the relevance approach sees truly pragmatic inferences not only in the implicit parts of language, but also in its explicit parts. Furthermore, it was said that Robyn Carston is not of the opinion that a minimal proposition, such as Grice's or Bach's what is said or Recanati's what is said<sub>min</sub>, plays a role in a psychologically real description of utterance understanding. This section will present the suggestion as offered by relevance theorists.

According to relevance theory, when being exposed to a linguistic stimulus, the hearer constructs the *logical form* of the utterance, or alternatively, if the utterance was ambiguous, several logical forms. This process is assumed to happen uncontrollably, like a reflex, by a language input module.<sup>14</sup> The logical form is supposedly constructed merely by decoding the language

input. What is gained by this process of decoding is a semantic representation of the utterance which is not fully propositional, but which provides the frame which is intended to initiate further inferences eventually leading to at least one intended and fully propositional form. Carston defines the logical form as follows:

It is a structured string of concepts, with certain logical and causal properties but it is seldom, if ever, fully propositional. It is a kind of template or schema for a range of possible propositions, rather than itself being a particular proposition. (Carston 2002: 57)

Thus, the logical form does not encode a complete thought or proposition, but it provides the foundation on which pragmatics can work out the proposition expressed. However, the proposition expressed is not necessarily communicated. Sometimes it is quite obvious that what the speaker has meant must be something different from the proposition expressed. Carston says that figurative uses of language, such as metaphorical expressions or irony, and non-declarative utterances express propositions which are not communicated. Consider the following examples:

- (64) *Gary, to Nicole:* You are my sunbeam on a cloudy day.
- (65) *Nicole is in a very bad mood and unbearable to anyone around her.*  
*Gary, to Nicole:* It is a pleasure being with you.
- (66) *Gary, to Nicole:* Stop being mad!
- (67) *Gary, to Nicole:* I admire your beauty and hate your behaviour.

In (64) Gary speaks metaphorically, and he surely does not mean what he says. He might want to communicate something along the lines of (68).

- (68) You make me happy when I am feeling low.

In (65) Gary does not speak metaphorically, but again he probably does not mean what he says. He probably intends to communicate something like (69).

- (69) It is no pleasure at all being with you.

According to the traditional view of what the proposition of a non-declarative utterance looks like, example (66) expresses the proposition in (70).

- (70) You stop being mad.

However, again we must note that this is not what the imperative in (66) communicates. The illocutionary force of (70) is that of an assertion rather

than that of an order as in (66). In these cases something else than the proposition expressed by the utterances is communicated. This is different from (67). In this case we can usually assume that the proposition expressed matches the proposition communicated. A rough natural language description of the proposition communicated by (67) could possibly be formulated as follows:

(71)  $I_1$  admire [your<sub>2</sub> beauty]<sub>3</sub> and  $I_1$  hate [your<sub>2</sub> behaviour]<sub>4</sub> towards me<sub>1</sub>.

Of course, a natural language such as English can never give an exhaustive representation of the proposition communicated by an utterance, but for the moment let us assume that the following characteristics all apply to (71): 1. all references in (71) are fixed; 2. conceptual content has been added; 3. the proposition expressed as represented in (71) is built around the logical form of (67); 4. it can be assumed that (71) is the proposition communicated by Gary. These observations fit Robyn Carston's definition of *explicatures*.

An assumption (proposition) communicated by an utterance is an 'explicature' of the utterance if and only if it is a development of (a) a linguistically encoded logical form of the utterance, or of (b) a sentential subpart of a logical form. (Carston 2002: 124)

Thus, those propositions expressed which fall under the communicative intention of the utterer are explicatures of the utterance. What Carston and other relevance theorists consider as a development of the logical form of the utterance is essentially characterized by the fixation of referents, disambiguation and enrichment. Thus, explicatures are the product of two different processes taking place in utterance interpretation: linguistic decoding and drawing pragmatic inferences. According to relevance theory, the first process is what constitutes semantics. Semantics understood in this way is merely concerned with information we can receive by decoding the linguistic input. What is opened up through this process is an array of possible meanings of an utterance. The second process is what pragmatics is all about: drawing inferences by taking into account both the results of linguistic decoding, i.e. the logical form, and assumptions taken from context.<sup>15</sup>

The assumptions communicated by an utterance, however, are not necessarily explicatures. In line with traditional Gricean thinking, relevance theorists also acknowledge that part of the content that we communicate may be communicated implicitly. Sperber and Wilson (1986: 182; italics in original) say that 'any assumption communicated, but not explicitly so, is implicitly communicated: it is an *implicature*'. Thus, what is communicated is divided into explicatures and implicatures. Furthermore, these representations are mutually exclusive.

We can note that according to relevance theorists, the process of interpreting an utterance comprises the following three levels: logical form,

explicature and implicature. Ostensive verbal communication is presumed to automatically lead the hearer to form a logical form, which is a purely semantic unit, as it is the result of the process of linguistic decoding. Explicatures take the logical form of the utterance and background information as premises leading to a representation of the utterance's explicit content. Implicatures are purely inferential. This does not mean that the linguistic content of an utterance does not play any role in the derivation of implicatures. What it means according to Carston (1988, 2002) is that the propositional form of the implicatures is functionally independent from that of the explicatures.

A further claim by Wilson and Sperber (2004: 615) is the hypothesis that we do not necessarily first compute the logical form, then expand it into an explicature and after that derive implicatures. Often these representations are developed in parallel against a background of expectations of relevance. When expecting an answer to a question, for example, we usually have very determinate expectations of relevance, and we adjust explicatures and implicatures until we have come to a point where we can either say that the overall communicative content of the answer fits our expectations or that the utterance was relevant in another way. These expectations might even go so far that we are first of all expecting a particular answer and then check back whether the logical form of the utterance warrants our expected explicatures and/or implicatures.

Carston (cf. 2002: 134) points out that subdivisions of implicatures into conversational and conventional types do not play a role in relevance theory. The distinction that Grice had in mind rather refers to what relevance theorists, and in particular Diane Blakemore (cf. 1987, 1989, 1990, 1992, 2000, 2002), refer to as the conceptual/procedural distinction. According to this distinction, constituents either have conceptual content or they give procedural information. Under this perspective, conventional implicatures provide information about how the interpreter is supposed to process the utterance. Other examples of linguistic units giving procedural information include, for instance, pronouns and demonstratives. Procedural encodings therefore guide the inferences that addressees perform and contribute to a reduction in inferential work and cognitive effort.

Thus, the division between conventional and conversational implicatures has not been maintained, but relevance theorists have proposed another subdivision of implicatures. Implicatures are either *implicated premises* or *implicated conclusions*. Implicated premises are assumptions that need to be inferred only in order to further infer implicated conclusions. The latter convey the more prominent assumptions communicated by the utterance. An example that was previously used may illustrate this (above as (3)):

- (72) *Nicole*: Did you know that we're going to get the Brit Award for the best album of the year?  
*Gary*: Yes, and Manchester City will beat ManU 12–0 next time.

A tentative attempt at delineating which implicated premises Nicole needs to derive is provided in (73) and (74). The implicated conclusion is the one in (75).

- (73) Gary assumes that we are going to get the Brit Award for the best album of the year with approximately as much confidence as he has got in the assumption that Manchester United will lose the next match against Manchester City 12–0.
- (74) It is absolutely ridiculous to assume that Manchester United will lose the next match against Manchester City 12–0.
- (75) It is absolutely ridiculous to assume that we are going to get the Brit Award for the best album of the year.

Without the implicated premises Nicole would have no possibility of getting to the implicated conclusion, which can safely be assumed to communicate the most essential proposition of Gary's utterance. The premise in (73) is fairly much restricted by Gary's utterance and Nicole's expectations of relevance. Nicole presents an alleged fact to Gary and wants to know whether Gary is already aware of this fact. Gary first confirms this fact and then goes on presenting another alleged fact. As Nicole was asking whether Gary knows about a certain fact or not, a relevant way of interpreting this second part of Gary's answer is to take it as another fact which to Gary is just as sure as the fact Nicole mentions. The second premise reflects Nicole's evaluation of the comparative assumption. Both of these premises are restricted mainly by relevance considerations, but none of them follows logically from Gary's utterance. This is one example for why Sperber and Wilson regard utterance interpretation as a non-demonstrative process. The conclusion, however, nevertheless follows logically from the premises. Once the premises are set up, a deduction provides the implicated conclusion.

Another characteristic of the particular relevance-theoretic understanding of implicatures which Carston (cf. 2002: 138–41) emphasizes is the compatibility of entailments and implicatures. Grice and most of his followers were of the opinion that entailments are not implicatures and vice versa. According to relevance theory, however, entailment and implicature are just two terms situated on different levels. Entailments are semantic relationships which do not need pragmatic inference and which do not play a particular part in a psychologically oriented account of communication. Not even all the entailments of explicatures are really communicated. Consider the following simple utterance and some of its entailments.

- (76) Their new pet is a dog.
- (77) Their new pet is a mammal.
- (78) Their new pet has got canine DNA.

- (79) Their new pet has received its genetic information via molecules of deoxyribonucleic acid each arranged in the form of a double helix and characteristic of canine animals.

It is probably less than debatable whether the entailments in (77), (78) and (79) are communicated every time somebody makes an utterance of (76). I suppose that they are not communicated on every occasion, although these entailments certainly can be communicated via the utterance in (76), given an appropriate context. Whenever they are communicated, however, relevance theorists would call these representations implicatures. The point is that the term entailment tells us something about logical relationships between propositions and the term implicature tells us something about content that was implicitly communicated by an utterance. These are two notions which are basically independent from one another, but, of course, it is possible that a logical relationship is communicated implicitly.

Relevance theorists believe that utterance understanding is utterly inferential, because pragmatic inferences enter explicatures and implicatures. This being the case, it is not always easy to determine which pragmatic inferences contribute to explicatures and which ones to implicatures. In Gricean frameworks, the question of what to allocate to the explicit and what to allocate to the implicit used to be quite simple. Apart from reference assignment and disambiguation, which are processes that are triggered by the syntax of an utterance, all sorts of pragmatic inferences contributing to communicated content were held to be implicatures. An important test that was used to identify implicatures was the *cancellability test*. This test, however, is not trustworthy, if one accepts that sentences generally underdetermine explicit and implicit meanings. The cancellability test identifies pragmatic meanings in general and not only implicatures. Therefore, even parts of explicatures can be cancelled, and cancellability as a test is not a sufficient criterion for identifying implicatures. Carston (cf. 2002: 138–40) furthermore argues that cancellability is not even a necessary feature of implicatures. This insight is a consequence of the above-mentioned belief that entailments may be implicated. Because entailments of lexemes or propositions cannot be cancelled without a sense of contradiction, we must conclude that at least implicated entailments are not cancellable. Thus, cancellability runs the danger of overgeneralizing, because pragmatically inferred material of explicatures is also cancellable, and at the same time it also runs the danger of undergeneralizing, because one sort of implicatures, namely implicated entailments, are not identified at all by this test.

For the time being we can say that according to relevance theory the interpretation process of verbal utterances starts with decoding sentences on a linguistic basis resulting in a logical form. This process is completely subconscious and works in a reflex-like manner. The hearer then constructs several interpretive hypotheses, which can be classified as explicatures (the

explicit content which is the result of decoding, reference assignment, disambiguation and free enrichment), implicated premises (assumptions that the hearer needs to create in a non-demonstrative way to derive implicated conclusions) and implicated conclusions (the intended contextual implications based on the utterance and implicated premises). These interpretive hypotheses are balanced and refined until the overall picture satisfies one's expectations.

After this intensive discussion of explicatures and implicatures, it should be interesting to know what status the term *literal language* has in relevance theory. Wilson and Sperber (2002: 620; italics in original) are quite clear in this matter when they say that they 'give a theoretical status to the notions of *explicature* and *implicature* (...), but not to the notions of *literal meaning* or *what is said*'. They reject the notion of literalness mainly due to its definitional vagueness and its psychological irrelevance.

In Wilson and Sperber (2002: 619–24) several attempts at defining literalness are all shown to be defective. Above, it was shown that utterances are often semantically underdeterminate. Thus, we are faced with the problem of either defining literal meaning as being closely related to linguistic meaning, which would imply that literal meaning is not necessarily communicated meaning, or we would define literal meaning as something like an explicature, but then we will be confronted with cases of explicatures requiring a lot of free enrichment.

Furthermore, Sperber and Wilson consider the notion of literalness as being psychologically irrelevant. According to their account, every process of utterance interpretation involves the same kind of unconscious reasoning. Every interpretation is guided by considerations of relevance which trigger pragmatic inferences eventually leading to an interpretive hypothesis about the informative intention of the utterance. Relevance theorists argue that drawing a distinction between literal and nonliteral language does not matter, because these terms are focused on the products of interpretation. Relevance theory is interested in the processes of interpretation.

In conclusion, it can be noted that relevance theory draws distinctions between the linguistic content of utterances, explicatures and implicatures. However, the theory does not incorporate notions such as what is said or literalness.

### 2.3.1.4 *The explicit and the implicit in pragmatics: an interim conclusion*

Apparently, the relevance-theoretic notion of explicatures is very similar to Recanati's what is said<sub>max</sub> and Bach's implicatures. The differences between these concepts are to a large degree only terminological and accordingly much of the criticism levelled at these ideas is about terminological issues. Recanati could be criticized for using the term what is said with only a small index but a great modification to Grice's original conception of this term. Bach has had to face criticism for using a term that is graphically

and phonologically very similar to the term implicature. Besides, the noun implicature does not have an accompanying verb form. Relevance theorists have chosen a term that is (a) different from Grice's what is said, (b) can hardly be mixed up with its antagonist implicature, and (c) has got an accompanying verb (*to explicate*). However, Bach does not understand why Sperber and Wilson decided to call this representation an explicature, given that explicatures contain a lot of implicit material.

I do not want to dwell on terminological issues, but the different terms are parts of different systems and even if what is said<sub>max</sub>, implicature and explicature are propositional forms which do not differ too much, the systems they are part of differ substantially. Above some selected criticism was put forward in the respective sections on Recanati, Bach and relevance theorists. Therefore, I only want to point out the major differences between the three systems at this point.

Bach, for example, puts what is said between the purely semantic representation of an utterance and its implicature. It was shown above that Bach's conception of what is said is not a coherent construct, nor does what is said figure as a level in utterance understanding and therefore it is rendered superfluous. Recanati argues against a level of what is said<sub>min</sub> and minimalism in general. Relevance theorists do not have to worry about the problems associated with a minimal notion of what is said either, as they are also of the opinion that what is said does not play a role in utterance interpretation at all and that there is no intermediate level between what is said and the proposition communicated. After decoding the utterance into its logical form, we immediately begin to assign references, disambiguate and enrich the logical form in various ways so as to receive the communicated propositional forms of the utterance. It can be noted that Bach's proposal raises many interesting questions, but it does not seem suitable for a psychologically real account of utterance understanding. Recanati appears to be a bit closer to such a psychologically realistic account, as he omits a minimal propositional level. It is true that Recanati (1995) gives a very illuminating outline of the general processes involved in literal and nonliteral interpretation, but he nevertheless remains quite sketchy when it comes to finally deciding whether a particular constituent is to be interpreted literally or figuratively. Relevance theory shares the advantages of Recanati's account and furthermore it proposes guidelines which display how hearers construct communicated representations that can be taken to reflect the speaker's communicative intention.

What the accounts on explicitness and implicitness all have in common is the inability to clearly define what the terms literal and figurative language relate to. However, this is usually not considered to be a major drawback. Relevance theorists, for example, have clearly stated that literality is not a significant issue in a psychologically real model of utterance interpretation. They rather focus on the differences between explicit meaning



and implicit meaning. Recanati and Sperber and Wilson prefer using these terms, because these terms make claims about how we process utterances. According to relevance theory, for example, there is no unique figurative language processing, but there is a unique way of processing implicatures.

Altogether I prefer the solution offered by relevance theory. In contrast to Bach, relevance theorists are interested in developing a model of communication and cognition that describes the processes actually involved in utterance interpretation. Recanati has certainly contributed many important ideas to the issue of distinguishing between the explicit and the implicit. In addition he has provided many stimulating thoughts concerning nonliteral interpretation. Relevance theory agrees in so many ways with Recanati that it shares many of the advantages of Recanati's model. The major advantage of relevance theory, however, is that it is a comprehensive model of communication and cognition that provides a complete account of utterance interpretation.

In the following I will use the terms 'explicature' and 'implicature' on the one hand and 'literal' and 'figurative' language on the other hand. I will use both sets of terms, because it is by no means possible to equate explicatures with the literal content of utterances and implicatures with the figurative content of utterances. Instead, it is conceivable that figurative elements enter explicatures and that there are implicatures which would not be considered figurative. The terms explicature and implicature will always be used when a reference to the propositions communicated by an utterance is intended. Furthermore, as mentioned earlier, the distinction between explicatures and implicatures also entails a difference in terms of utterance processing. The terms literal and figurative will be used when a distinction between literal contents of utterances and figures of speech communicated by an utterance is being referred to. The terms literal and figurative will not entail anything about how utterances are processed. In Chapter 5 I will offer a more precise view of literal and figurative language, but until then I will use the terms literal and figurative as convenient pre-theoretic terms. The focus in this work will be on metaphors. Several attempts at delineating what a metaphor is and how we can distinguish metaphorical uses of language from literal uses of language will be made in the following section, where the standard pragmatic approach to metaphor is discussed.

### 2.3.2 The standard pragmatic approach to metaphor

The standard pragmatic approach to metaphor has predominantly been influenced by Paul Grice and John Searle. The central tenet of this direction holds that metaphorical utterances are *defective* and that hearers have to work out the speaker's intention pragmatically. In particular, this approach presumes that the principle of compositionality does not work for metaphorical utterances.

In the following sections I would like to start my discussion of the pragmatic approach to metaphor by giving a brief account of metaphor theorizing in

a Gricean framework. Then I will present the more systematized framework offered by John Searle, and finally I will point out criticism from psycholinguistics against these traditional pragmatic models of metaphor interpretation.

### 2.3.2.1 H. Paul Grice: metaphors as conversational implicatures

In Section 2.1 Grice's cooperative principle and the associated maxims were introduced. It is this background that Grice also uses to describe how metaphors are understood. According to Grice (1975/1989: 34), metaphors are understood as particularized conversational implicatures arising from a flouting of the first maxim of quality: 'Do not say what you believe to be false' (Grice 1975/1989: 28). This is because Grice thinks that a speaker uttering a metaphor very obviously and ostentatiously makes a statement that represents a category mistake. As the addressee of such a metaphor usually has no reason to believe that the speaker is opting out from communicative cooperation, he will search for an interpretation that would explain why the speaker has obviously not adhered to the maxim of quality. In other words: When we are exposed to a metaphorical utterance, we detect at least a part of the utterance as being deviant and an inferential process is initiated. Grice (1975/1989: 34) uses the following example to illustrate this point:

(80) You are the cream in my coffee.

A Gricean analysis of this metaphor from the point of view of the addressee would roughly go like this:

1. The speaker said<sup>16</sup>  $p$  = You are the cream in my coffee.
2. There is no reason to think that the speaker is not observing the maxims, or at least the cooperative principle.
3. In order for the speaker to say  $p$  and be indeed observing the maxims or the cooperative principle, the speaker must think that  $q$  = *You are my pride and joy*.
4. The speaker must know that it is mutual knowledge that  $q$  must be supposed if the speaker is to be taken to be cooperating.
5. The speaker has done nothing to stop me, the addressee, thinking that  $q$ .
6. Therefore, the speaker intends me to think that  $q$ , and in saying that  $p$  has implicated  $q$ .

As mentioned above, the general mechanism underlying these steps can be reduced to three essential stages: First the hearer decodes a literal interpretation, then he detects a defect in the literal meaning of the utterance and eventually he looks for another interpretation.

This approach to metaphor has been criticized in a number of ways. Let us first start with theory-internal problems, before we will consider criticism from psycholinguistics in Section 2.3.2.3.<sup>17</sup>

First of all, Grice's system only offers a method for the recognition of metaphorical implicatures. Grice does not write about how we actually get from the propositional content of what is being said to what is implicated. Knowing about mechanisms that tell us how we identify metaphors and distinguish them from literal language is one thing, but then we should also have an idea about how we eventually interpret metaphors.

Next, it can be noted that this mechanism does not identify all types of metaphors. For example, when predications involving a category mistake are negated, then the category mistake does not exist anymore, but the metaphoricity of the utterance may still be there. Consider (81):

(81) Gary is not a steam engine.

Moreover, speakers sometimes utter metaphors which are intended metaphorically, but which could also be understood literally. In these cases there is not necessarily a category mistake in the first place, but still we can, given a suitable context, understand these utterances as metaphors. This is illustrated by the following example:

(82) Gary is a soldier.

There could be circumstances in which Gary, in fact, is a soldier and this utterance is intended in its literal sense, however, this utterance could also be made with reference to a person called Gary who is not 'really' a soldier. It is these cases, where a metaphor could be intended. What makes things even more complex is the fact that even if Gary really is a professional soldier, an utterance like (82) can still be metaphorically intended and be successfully recognized as a metaphor. Obviously, (82) can be literally true or false. In both conditions (82) can be meant metaphorically.

In addition to the cases where metaphors are not characterized by a flouting of the maxim of quality, the same mechanism is overgenerative in other cases. After all, not every flouting of the maxim of quality is metaphorical. Hyperboles and ironies, for example, are also floutings of the maxim of quality, but they are not necessarily metaphors.

Further theory-internal criticism comes from a different direction. In Grice's framework, sometimes the conventional meaning of the linguistic expressions that we are using is not part of what we mean and therefore it is not a part of meaning<sub>NN</sub>. In Grice's terminology this would be a case of *making as if to say* (cf. Grice 1975/1989: 34, 1978/1989: 41). In particular, we would be faced with a notion of making as if to say in cases of nonliteral uses of language, such as metaphor or irony. The problem with this is that if somebody has only made as if to say something, she has not said anything in Grice's technical sense of the word *say*. Consequently, she cannot violate or flout a maxim anymore. Where nothing is said, nothing can be violated. As a result,

metaphors could not be viewed as a violation of the maxim of quality anymore. If we wanted to view metaphors as a violation of the maxim of quality, at least the notion of making as if to say would have to be abandoned.

So far we can note that Grice's theory of conversational implicature is only a partially useful approach to the study of metaphor. Nevertheless it is Grice's merit that speaker's intention has since been a topic in metaphor research. Some of the problems that remain in Grice's theory were later tackled by Searle, who also put forward a pragmatic account of metaphor understanding.

### 2.3.2.2 John R. Searle: how to get from sentence to utterance meaning

John Searle (1979/1993) approaches the issue of metaphor understanding from a very systematic perspective. He sets out by stating the problem of explaining how metaphors work: According to his judgement, what needs to be explained is how speakers can say one thing and mean a different thing, or in other words, the hearer understands a different thing.

In Searle's view, the words uttered in a metaphorically intended sentence do not receive a metaphorical meaning, neither does the sentence acquire a new meaning. The semantics of words and sentences remains untouched. However, sentences can be uttered and intended to be understood metaphorically. Thus, a metaphorically intended sentence has a literal sentence meaning and a metaphorical utterance meaning, which is the meaning that the speaker intends to communicate. In a formulaic way, Searle points out that the question of at least simple metaphors of the subject–predicate type is how we can utter *S is P* and thereby mean *S is R*. The answer that Searle provides encompasses the hearer's linguistic knowledge, some background assumptions and a number of principles which speakers and hearers share and which can be used for most metaphorical utterances. Searle claims that it is in particular these principles which distinguish literal language from figurative language, because Searle correctly notes that even in literal language hearers need some shared background assumptions in addition to their linguistic knowledge.

Searle says that metaphor understanding involves three steps that a hearer has to go through:

First, he must have some strategy for determining whether or not he has to seek a metaphorical interpretation of the utterance in the first place. Secondly, when he has decided to look for a metaphorical interpretation, he must have some set of strategies, or principles, for computing possible values of *R*, and third, he must have a set of strategies, or principles, for restricting the range of *R*'s – for deciding which *R*'s are likely to be the ones the speaker is asserting of *S*. (Searle 1979/1993: 103)

The first step mentioned here basically refers to the question of whether the utterance is defective or not. This is a natural consequence of Searle's

very strict and rigid notion of the semantics of lexical items and sentences. If the senses and denotations of lexical items are considered to be fixed, then something can be predicated of the subject which is literally speaking impossible and a sentence can be called defective. Consider the following example (Searle 1979/1993: 83):

(83) Sally is a block of ice.

Speaking literally, Sally is a human being and a block of ice is inanimate material. Therefore, the subject and the subject complement in this sentence do not have much in common. Consequently, the subject complement *block of ice* cannot be predicated of the subject *Sally* in a copular structure. We can see here that Searle is very much in line with Grice in saying that metaphors are to be considered as defective language. At least, Searle acknowledges that the use of metaphors in communication is not something extraordinary, because metaphors often fill lexical gaps. Furthermore, he thinks that metaphors achieve extra effects compared to literal paraphrases with identical truth conditions, as the hearer is required to search for an intended meaning. But like Grice, Searle's theory of metaphor predicts greater processing effort for metaphorical language. Let us illustrate this with the following example that Searle (1979/1993: 83) uses:

(84) Sam is a pig.

Given that Sam is a human being, the hearer of such an utterance would have to detect a semantic anomaly. Then, having decided that he should better look for a meaning other than the literal one, he must use a strategy to find the intended meaning. Searle suggests that in cases like (84) the following strategy (principle 2 in his taxonomy of strategies) can be used (Searle 1979/1993: 104): 'Things which are *P* are contingently *R*. ... if the metaphor works, the property *R* should be a salient or well known property of *P* things.' Because pigs are contingently 'filthy, gluttonous, sloppy, and so on' (Searle 1979/1993: 105), we have several possibilities of understanding (84). Now, according to the third step, the hearer has to go back to the *S* thing and decide which of the *R*s the speaker may have wanted to predicate of *S*. This process seems to be a very effortful cognitive activity: a speaker first has to detect a defect or some inappropriateness, then he has to apply an appropriate strategy to search for possibly intended meanings and then he has to go back to the *S* object again in order to finally decide what *R* is.

Searle's approach can be criticized in ways very similar to Grice's approach. For example, Searle (1979/1993: 103) says that 'the defects which cue the hearer may be obvious falsehood, semantic nonsense, violations of the rules of speech acts, or violations of conversational principles of communication'. However, not all of these cues exclusively prime a metaphorical

interpretation. Thus, just like in Grice's framework, Searle's recognition of metaphors is in fact only a recognition of 'defective language' and not a very good tool to exactly detect metaphors. It has to be noted though that Searle concedes that semantic defectiveness is not a necessary condition for metaphors. This, at least, is a definite advantage over Grice's cursory remarks about metaphor, but the problem is that Searle is not very explicit about alternative ways of spotting metaphors. He has the promising idea that, for example, in the interpretation of romantic poetry we are more alert to metaphors; however, Searle unfortunately does not elaborate on this idea. This is a pity, as this would surely have proved to be a rewarding direction of research. The idea that in particular situations we are especially alert to metaphors would have been fully compatible with the relevance-theoretic notion of expectations of relevance, or with psycholinguistic studies showing that rich contexts can prime metaphorical understandings (cf. Allbritton, McKoon and Gerrig 1995; Gerrig 1989; Inhoff, Lima and Carrol 1984; Langston 2002; Ortony, Schallert, Reynolds and Antos 1978; Pfaff, Gibbs and Johnson 1997).

The second step in Searle's framework is about the principles that speakers and hearers must have available to get from an utterance of *S is P* to the meaning *S is R*. Searle lists eight such principles and acknowledges that there might be more and that the ones he gives might not be independent from one another. But even if we disregard the problematic question of whether these principles are really the ones that hearers use in their interpretation endeavours, it still is not clear how we decide online which of these principles we are to use. This, of course, does not mean that such principles do not exist, but it should at least be pointed out that Searle's theory lacks suggestions on how we decide for one of the principles. At least Searle's principles are good approximations of what later theorizing by other metaphor scholars has discovered. This is well illustrated by his principle number four:

Things which are *P* are not *R*, nor are they like *R* things, nor are they believed to be *R*, nonetheless it is a fact about our sensibility, whether culturally or naturally determined, that we just do perceive a connection, so that utterance of *P* is associated in our minds with *R* properties. (Searle 1979/1993: 105)

Searle supports this principle with examples like (83), repeated here as (85):

(85) Sally is a block of ice.

Part of the metaphorical interpretation of (85) is certainly that Sally is unemotional. The crucial issue at stake here is how we manage to interpret (85) in this way, given that emotions are not attributes that are applicable to blocks of ice. Searle does not offer a clear explanation for this problem,

but at least he seems to be aware that such a sensibility could be 'culturally or naturally determined' (Searle 1979/1993: 105). This foreshadows later research in cognitive linguistics about primary metaphors that will be a major topic in a later chapter.

Searle further assumes that after having applied one of the principles of step two, we may have several candidates for *R* and we need to restrict the range of possible values of *R*. The one principle he suggests in order to achieve such a restriction is to look back to the *S* term and decide which of the *R* values can be predicated of *S*. Again, this is not a very thorough description of such a process. After all, it is not just the *S* term which determines the values of the *R* term. The context certainly plays a substantial role in deciding how to restrict the *R* term candidates and Searle is most certainly aware of this. At any rate, Searle's account is not specific about how exactly we narrow down the number of possible candidates for *R* to only those which are communicated. Just to point out one problem here: Often more than just one candidate for *R* could be predicated of *S*, but still not all of those candidates are speaker-intended.

After having pointed out theory-internal lines of criticism, I will now present criticism against the standard pragmatic approach to metaphor based on psycholinguistic experiments.

### 2.3.2.3 *Criticism from psycholinguistics*

Severe criticism against the traditional pragmatic approach to metaphor has been put forward by psycholinguists. Gibbs (1994) provides a comprehensive survey of psycholinguistic studies delivering fairly unambiguous evidence about the unfeasibility of the pragmatic three-stage model. Glucksberg (2003) also summarizes psycholinguistic research that very impressively documents that literal language does not have priority over metaphorical language.

It has been pointed out above that the pragmatic three-stage model predicts greater cognitive effort for the processing of figurative language than for the processing of literal language. The reason is that after computing the literal meaning of the utterance, the hearer must make a decision about its appropriateness, and after a potential rejection of a literal speaker intention, the hearer is supposed to compute a second (metaphorical) meaning of the utterance. However, even the most cautious claim that is found in the psycholinguistic literature emphasizes that at least in a rich context, figurative language does not require more processing effort than does literal language, and that furthermore it is not generally necessary to process the literal meaning of a metaphorically intended utterance.<sup>18</sup> Given such empirical findings, it is difficult to hold up the claim that in the interpretation of metaphorical utterances we have to pass two steps before we compute the intended figurative meaning. In the following, I will present a brief and cursory overview of some exemplary studies refuting the pragmatic three-stage model.

One of the first studies to be mentioned here is by Ortony, Schallert, Reynolds and Antos (1979). Ortony et al. conducted two experiments with the intention of confirming the following two hypotheses: 'First, given insufficient contextual support, targets requiring a metaphorical interpretation should take longer to be processed than targets requiring a literal interpretation. Second, given sufficient contextual support, they should not' (Ortony, Schallert, Reynolds and Antos 1979: 466–7). In the first experiment, reaction times of subjects in understanding target sentences following either long or short contexts which induced either literal or metaphorical interpretations were measured. It was shown that after short contexts literal target sentences were understood faster, but after longer contexts there was no significant difference between literal and metaphorical targets. In the second experiment it was found that phrases that can have either an idiomatic or a literal interpretation according to the context do not need more interpretation time when interpreted idiomatically than when interpreted literally. Ortony et al. (1979) even found some evidence that, in fact, interpretation times for idiomatic meanings were shorter than for literal meanings. These results clearly show that depending on the context at hand there is no need to first access a literal interpretation of metaphorical or idiomatic utterances. Ortony et al. (1979) suggest that contexts can set up expectations that already pre-empt the understanding of contextually embedded utterances and that utterances are thus interpreted via top-down processes from the context. The actual interpretation of such utterances is only meant to support pre-existing assumptions (for a similar account see Ritchie 2004). Clearly, these ideas contradict the standard pragmatic approach, but they share a lot with relevance-theoretic ideas on expectations of relevance. They even suggest that utterances often generate cognitive effects as strengthenings or contradictions of manifest assumptions.

Another early study with comparable aims and results is Gibbs (1983), although Gibbs did not focus explicitly on metaphorical utterances, but examined whether people generally process the literal meanings of indirect requests. In two experiments, Gibbs provided evidence that speakers do not have to process literal meanings in order to understand indirect requests such as *Can you pass the salt?* or *Must you open the window?* In the first experiment, participants read story contexts ending in a sentence that could be understood either literally or indirectly. After this, participants were exposed to sentences that were either literal or indirect interpretations of the story-final prime, sentences with no obvious relation to the story contexts or just strings of words which are no meaningful English sentences at all. The participants were supposed to decide whether these target sentences were sentences or nonsentences. The decision times were measured and the hypothesis was that a story context priming the indirect reading of a sentence like *Can you pass the salt?* does not facilitate the reading of literal targets, although according to the traditional pragmatic model, these decision



times should be fairly fast, because the pragmatic model assumes that not just the indirect meaning of the prime had been accessed, but also the literal meaning. If, however, the literal meaning of the story-final sentence was processed, this should result in a faster sentence/nonsense decision for literal targets. Notwithstanding, Gibbs' hypothesis was confirmed in that responses to literal targets were not facilitated when preceded by an indirect request. In addition, Gibbs made another even more interesting observation. Whereas indirect primes did not facilitate the sentence/nonsense judgements of literal targets, literal primes did facilitate judgements of indirect targets. Gibbs (1983) hypothesized that this is due to an initial analysis of the conventional, indirect meaning of the primes, before the literal meaning was computed. The validity of these results was supported by a second experiment. These results clearly indicate that literal meanings are not always processed. It rather seems to be the case that 'people are biased toward understanding the conventional, metaphoric meanings of many nonliteral expressions' (Gibbs 1983: 530).

Inhoff, Lima and Carrol (1984) also established a connection between processing times of literal and metaphorical sentences on the one hand and the length of a preceding context on the other hand. In a first experiment, Inhoff, Lima and Carrol (1984) found evidence that after minimal contexts literal sentences were read faster than metaphorical sentences. In a second experiment, the short contexts from the first experiment were replaced by longer contexts. In this experiment it was shown that literal and metaphorical sentences do not differ in reading times, if the preceding context is rich. At the same time it was shown that the processing of sentences unrelated to the context takes longer than both literal and metaphorical sentences. The third experiment gave evidence that metaphoric targets were read faster when preceded by metaphorically structured contexts than when they were preceded by a literal context. Based on experiments one and two, Inhoff, Lima and Carrol (1984: 564) conclude that ease of metaphor comprehension is at least influenced by the 'length of context' and by the 'transparency of the relationship between context and target'. Their third experiment additionally suggests that a metaphorically pre-structured context also supports ease of metaphor comprehension. Inhoff, Lima and Carrol (1984: 564) give two possible explanations for this. First, they suggest that a metaphorical context could activate a metaphorical processing strategy that is still available when interpreting the metaphorical target. However, this sounds very much as if there were different processing strategies for literal and metaphorical language, a notion that is rejected by both relevance theorists and cognitive linguists. Their second suggestion is that there is more 'schema overlap' when a metaphorical target is interpreted against a metaphorical context. This suggestion seems to make more sense and is also independently supported by several other psycholinguistic studies, for example by Allbritton, McKoon and Gerrig (1995), Pfaff, Gibbs and Johnson (1997) and Langston (2002).

In a refined replication of a study by Glucksberg, Gildea and Booklin (1982), Boaz Keysar (1989) found evidence for the claim that metaphorical interpretations of utterances are not optional, if available. This means, for example, that even sentences with possible literal interpretations are also interpreted metaphorically if such an interpretation is possible. This, in turn, amounts to a rejection of the standard pragmatic model of metaphor comprehension, because according to the standard pragmatic model, metaphorical interpretations are only triggered after the identification of defective language and not after a successful literal interpretation of an utterance. In a first experiment, Keysar (1989) had the participants verify utterances which were either congruent in a preceding context, i.e. both utterances were literally and metaphorically correct or wrong, or the utterances were incongruent in the preceding context, i.e. either the literal or the metaphorical interpretation could be generated, but not both. One result was that it did not take participants reliably longer to judge literally true sentences than literally false sentences as true or false. Furthermore, it was shown that there was a 'metaphor-interference effect' (Keysar 1989: 380) for both literally true and false sentences. Overall, verification was fastest when literal and metaphorical interpretations were congruent. In the second experiment, comprehension times were measured. This experiment gave evidence that both the possibility of a literal interpretation and the possibility of a metaphorical interpretation facilitated comprehension. In conclusion, it can be noted that the main result of Keysar's (1989) study was that metaphorical interpretations come up whenever possible and that they are not just triggered by deviant language.

Using a cross-modal priming paradigm, Blasko and Connine (1993) studied the effects of familiarity and aptness of metaphors on processing. In a series of experiments they presented participants with metaphorical utterances aurally and with accompanying target words visually. The target words were either words related to the metaphorical meaning of the utterance, to the last word of the metaphor or they were totally unrelated. The participants had to decide whether these targets were words of the English language or not. The metaphors varied according to familiarity and aptness. In experiment one, where the target word appeared without delay after the offset of the metaphorical vehicle, and experiment two, where the target word appeared with a 300-ms delay, Blasko and Connine gathered evidence for immediate activation of the meanings of highly familiar metaphors. Experiment three showed that even the figurative meaning of non-familiar metaphors is directly available, if the metaphors are apt. Experiment four showed that 750 ms after the offset of the metaphorical vehicle, metaphorical meanings of most low-familiar and moderately apt metaphors were available. Thus, this study provides further evidence for the claim that there are no differences in the time it takes to understand metaphorically intended utterances compared to literally intended utterances, particularly if the metaphors are highly familiar and/or apt.

Further very interesting criticism of the three-stage model comes from event-related-potential (ERP) studies. ERP studies measure variations in brain electrical activity in temporal analogy to sensory, motor or cognitive tasks that participants fulfil. With this technique it is possible to average EEG data time-locked to particular events, such as the onset of a metaphorical word, and thereby gain hypotheses about language processing. Using this methodology, Kutas and Hillyard (1980) were able to show that when participants were reading a sentence ending with a word that is incongruous with the context at hand, about 400 ms after the onset of the incongruous word the EEG waveform reached a negative peak. This negative peak is labelled as the N400 component in the literature. Further research showed that on the one hand the N400 completely disappears after several repetitions of the sentence, and that on the other hand the N400 is particularly large for words with a low cloze probability, i.e. for words with very little probability to appear in that discourse situation. More generally, it is assumed that the N400 is a reliable index for the processing difficulty of a word.

One notable study using ERPs with the intention to study the time-course of metaphor comprehension is Pynte, Besson, Robichon and Poli (1996). Pynte et al.'s assumption was that if metaphor processing indeed occurs in three stages, then this should be reflected in the ERP components (positive and negative peaks of the EEG). More particularly, Pynte et al. (1996) hypothesized that if the three-stage model was correct, it should be possible to witness an effect on the N400 component reflecting literal processing and that moreover there should be an effect on a later component reflecting the metaphorical interpretation of the word. Furthermore, the N400 component should not be affected by the relevance of the context for a metaphoric reading of the sentence, because the literal meaning of the final word in the metaphorical sentences used in the experiments were literally wrong irrespective of whether the preceding context was relevant for a metaphorical understanding or not, and therefore the literal reading of such a word should always be incongruous with the context. Consequently, according to the three-stage model, the N400 amplitude of a metaphor should be the same across qualitatively different contexts. If however, it is true that literal meanings and metaphorical meanings can be accessed simultaneously, as is, for example, suggested by Glucksberg, Gildea and Booking (1982) and Keysar (1989), then waveform variations should occur in the same latency band and the amplitude of the N400 component should be linked to factors like the familiarity of the metaphor. Results that would support the direct access model, as suggested by Gibbs (1994), would have to show a more or less significant N400 effect depending on how well the metaphor is embedded in a preceding context. Gibbs' direct access model of metaphor comprehension claims that addressees of a metaphor do not necessarily analyse a literal meaning first, if metaphorical utterance are embedded 'in realistic social contexts' (Gibbs 2001: 318). Unfortunately, this proposal

often seems to be misunderstood, as numerous scholars seem to believe that Gibbs is of the opinion that the literal meanings of metaphors are generally not accessed and that metaphors will always be processed just as quickly as literal language. Gibbs, however, emphasizes that his direct access model does not entail that the individual words of a metaphor are not processed at all or that the processing of metaphorical utterances can never take longer than literal processing.

In experiment one, Pynte et al. (1996) found that the N400 components were indeed larger for final words of metaphors than for final words of literally intended sentences. On later ERP components there were no indications of metaphorical processing. This result provides initial evidence against the standard pragmatic model of metaphor processing. In experiment two, the effect of metaphor familiarity was examined. Pynte et al. (1996) were not able to track an effect of metaphor familiarity on either the N400 or later ERP components. If the standard pragmatic model was correct, then especially later ERP components would have been expected to be affected by metaphor familiarity. So experiment two does not support the standard model either. Furthermore, it fails to provide support for the parallel hypothesis, because according to the predictions of the parallel hypothesis, one would expect effects on the N400 component in accordance with varying degrees of familiarity of the metaphors. In experiment three, familiar metaphors were preceded by relevant contexts and unfamiliar metaphors were preceded by irrelevant contexts. This time both the N400 component and later components were affected. The standard model, however, would predict that only later components are affected, as the literal meanings were incongruous within both metaphorically relevant and irrelevant contexts, just as they were literally incongruous in familiar and unfamiliar metaphors. Experiment four shifted the focus even more on the importance of the preceding context by pairing unfamiliar metaphors with relevant contexts and familiar metaphors with irrelevant contexts. Again, it was shown that context played a significant role with respect to both the N400 and later components. This effect was especially significant for the N400 component. The results provided clearly suggest that context exerts a greater influence on processing difficulty than does familiarity. In conclusion, it can be noted that especially experiments three and four lend support to the direct access view. In rich contexts, metaphors can be understood directly without an initial interpretation and rejection of literal content.

Another compelling piece of evidence against the traditional pragmatic model of metaphor understanding is delivered by McElree and Nordlie (1999). By using the response signal, speed-accuracy trade-off procedure they also gathered evidence that comprehension speed for literal and figurative utterances is equal. In two similar experimental settings, participants had to decide whether figurative, literal or nonsense strings of words were either meaningful versus meaningless (experiment one) or true versus

false (experiment two). The words of those strings were presented one after the other and the string-final word determined whether the string was to be interpreted metaphorically, literally or nonsensically. After an acoustic signal, which occurred at varying times ranging between 28 and 2,500 ms after the onset of the crucial final word, the participants were supposed to make their judgement on the meaningfulness or truthfulness of the strings within a time interval between 100 and 300 ms after the signal. Adherents to the pragmatic model of metaphor interpretation would certainly predict that figurative strings should be judged at a slower rate. The data from both experiments, however, displayed that metaphorical and literal strings were computed in the same amount of time.

Giora (1997, 2002; Giora and Fein 1999) suggests a model of utterance interpretation that is based on a notion of salience. The essence of the graded salience hypothesis is represented by the claim that 'salient meanings should be processed initially before less salient meanings are activated' (Giora and Fein 1999: 1601). Giora considers linguistic meaning as being salient if it can be retrieved from the mental lexicon directly and without additional pragmatic inferences. With regard to metaphor processing, Giora posits that during the processing of familiar metaphors both the literal meaning of the expression and the figurative meaning are salient and are therefore simultaneously activated. However, when non-familiar metaphors are processed only the literal meaning is salient and will be activated before a potentially intended metaphoric meaning gets activated. Giora and Fein (1999) report results from a word fragment completion study. In this study the participants read story contexts which primed either a literal or a metaphorical interpretation of the story-final sentence. After this they were supposed to complete two fragmented test words. One of these words was always related to the literal meaning of the story-final sentence and the other word was related to the metaphorical meaning of the story-final sentence. Giora and Fein (1999) found that familiar metaphors activated metaphoric and literal meanings irrespective of the context (metaphorical/literal). On the contrary, less familiar metaphors hardly activated the metaphoric meaning in a literal context. However, in contrast to Giora and Fein's hypothesis, unfamiliar metaphors did activate the metaphoric meaning in the literal context. This result was explained as being due to an alleged ambiguity of some of the fragmented words. Notwithstanding this at least partly unexpected result, Giora and Fein argue that in literal contexts metaphorical meanings get suppressed (see also Swinney 1979; Gernsbacher 1990) and that literal meanings in metaphorical contexts are retained. Giora and Fein take this to support the graded salience hypothesis. In particular, it tackles the standard pragmatic model, because it claims that at least familiar metaphors have a salient figurative meaning that hearers can retrieve directly from their mental lexicon. However, the graded salience hypothesis also attacks the direct access and parallel processing hypotheses, because it claims that even in

supportive contexts, novel, unfamiliar metaphors always activate a literal meaning first.

What all these psycholinguistic studies have in common is the insight that the classic pragmatic three-stage model of metaphor interpretation cannot be entirely correct. The experimental results clearly show that the time-course of metaphor interpretation is not characterized by an initial and obligatory literal interpretation in advance of an optional figurative reinterpretation. Various variables, such as the length of a preceding context, the quality of a preceding context (relatedness to a metaphorical target or metaphoric vs. literal structure) or the familiarity and aptness of the metaphor, play a crucial role in how we process metaphors. Even though it still seems to be unclear whether we always process a literal meaning of utterances, it seems to be very clear that when a metaphoric interpretation is available, this interpretation is not optional and is derived at least in parallel to the literal interpretation. At any rate, it is safe to claim that metaphorical interpretations are not subservient to literal interpretations, provided that the metaphors are embedded in a cognitively rich context or that they are at least familiar metaphors. There is even much evidence that under ideal circumstances (rich context, high degree of familiarity) metaphorical interpretations can be derived without any literal interpretation at all.

In the next section, the relevance-theory approach to metaphor will be presented and critically discussed. Relevance theory is also a pragmatic theory of communication and therefore it shares many of the important insights of Grice and Searle. However, relevance theory has always tried to suggest a plausible theory from a psycholinguistic point of view and therefore it avoids many of the problems associated with the standard pragmatic account of metaphor.

### 2.3.3 The original relevance-theory approach to metaphor: descriptive and interpretive use

The relevance-theory approach to metaphor has gone largely unnoticed in the metaphor research community, although this approach certainly has many valuable contributions to make to a comprehensive theory of metaphor: for one, because the criticism that was levelled at the standard pragmatic model of metaphor processing in the preceding section cannot be transferred to the relevance-theory account of metaphor. This section will give a brief introduction into relevance theory's main ideas concerning metaphor. The relevance-theory account of metaphor has undergone some development from its first manifestation as presented in Sperber and Wilson (1986) to more recent work by Robyn Carston (1996, 2002), Wilson and Carston (2006) and Sperber and Wilson (2008). The following overview will respect this chronology.

An important notion in Sperber and Wilson's (1986) account of metaphor is that of *descriptive* and *interpretive representation*. It is assumed that any

representation with a propositional form can either *describe* states of affairs (including hypothetical states of affairs) or *interpret* another representation with a propositional form. A good example of interpretive representations are utterances. Sperber and Wilson claim that the relationship between an utterance and a speaker's thought is always one of interpretive resemblance between the propositional forms of the utterance and the thought. Consequently, in interpreting an utterance the hearer makes interpretive assumptions about the speaker's informative intention.

In line with the nowadays fairly uncontroversial rejection of a maxim of truthfulness, Sperber and Wilson do not believe that an utterance must generally be completely identical to the speaker's thought, i.e. usually not all of the utterance's implications need to coincide with those of the original thought. If they did, the utterance would be a literal utterance, according to Sperber and Wilson. However, in Section 2.3.1.3 it was already mentioned that Sperber and Wilson think that literalness is not an interesting concept anyway, because it says nothing about the processing of utterances. Thus, from a relevance-theoretic point of view literalness is not an interesting concept, because in most cases there is no necessity for literal truth. Often it is more relevant to use an utterance the implications of which are not exactly the same ones as those of the original thought. This case occurs, for instance, whenever we can obtain all the relevant information from a less than literal utterance at lower processing cost. Perhaps more often it may not even be possible to find a literal utterance for a complex thought that we want to communicate. Thus, we often do not speak literally but *loosely*. In relevance theory, the qualitative difference between literalness, i.e. total identity between the utterance's proposition and the thought's proposition, and only a very small resemblance between those two propositions is seen as a continuum. Metaphor as loose use is situated on this continuum. This view is compatible with the relevance-theory belief that there is no difference in kind between metaphor processing and the processing of non-metaphorical utterances. In both cases, the hearer does not assume that the speaker's utterance is identical with his thoughts. Following from the communicative principle of relevance, a hearer will only assume that the utterance is optimally relevant and this does not presuppose factual correctness of the communicated proposition. Consequently, a hearer interpreting a metaphoric utterance is entitled to employ the usual interpretation strategies in just the same way as he does with other, non-metaphorical utterances. He should stop processing when every further implication he could get is not worth the effort it takes to obtain these additional cognitive effects. This raises the question whether there is anything particular about metaphors then?

To answer this, a distinction between *strong* and *weak implicatures* is made in relevance theory. Strong implicatures are those implicatures which the speaker ostensibly intends the addressee to recover in order to make the utterance relevant in the intended way. Weak implicatures are those

implicatures which the addressee does not have to recover in order to confirm the relevance of the utterance. Weak implicatures may be recovered and may also contribute to the overall relevance of the utterance, but their recovery leaves a great share of responsibility to the addressee. That is to say, the addressee may feel encouraged to recover these weak implicatures, but the relevance of the utterance does not depend on any single weak implicature. The metaphoricality of an utterance is seen as being roughly proportional to its number of weak implicatures. Relevance theorists propose that conventional metaphors communicate at least one strong implicature and in addition to that several weak implicatures. To illustrate this point consider the following example (Sperber and Wilson 1986: 236):

(86) This room is a pigsty.

On hearing this metaphor, the speaker accesses his encyclopaedic entry for *pigsty*. Here he will probably find the stereotypical information that pigsties are filthy and untidy. A strong implicature of the utterance is therefore the assumption that *this room is very untidy*. This is a strong implicature as the speaker must assume that, unless a particular context prevents this, any addressee will recover this propositional form. The speaker, however, did not make a literal utterance, because the hearer can expect some extra cognitive effects in return for the extra processing cost which is incurred by the metaphorical utterance. Sperber and Wilson (1986: 236) suggest that the extra effects lie in several weak implicatures, for example the one that the room is untidy beyond some norm.

Very creative metaphors do not communicate a strong implicature, but only a whole array of weak implicatures. The relevance of the utterance depends solely on the recovery of at least some of these weakly communicated implicatures and the utterance thereby achieves a *poetic effect*. The following metaphor might illustrate this point (Sperber and Wilson 1986: 237):

(87) His ink is pale.

This comment by Flaubert on the poet Leconte de Lisle does not convey a single strong implicature. It only communicates several weak implicatures which the addressees are encouraged to look for. Sperber and Wilson (1991: 548) point out that 'the surprise or beauty of a successful creative metaphor lies in this extreme condensation, in the fact that a single expression which has itself been loosely used will determine a very wide range of acceptable weak implicatures'. Understanding this range of weak implicatures may require additional cognitive effort on the part of the listener, but this is offset, according to the principle of relevance, by extra effects not achievable by saying directly, 'His style of writing is boring and lacks creativity'. However, it is important to note that Sperber and Wilson (2008)



state that not only metaphors can create poetic effects – metaphors are only particularly well suited to create them.

In short, in the traditional relevance-theory account, metaphorical language is characterized by the notions of loose use and weak implicatures. Both of these notions are licensed by the idea that the propositional forms of utterances quite generally are only interpretations and not descriptions of speakers' thoughts. Nonetheless, relevance theory does not view metaphors as a separate category requiring specialized language processing. Sperber and Wilson (2008) state that 'relevance theory's account of metaphor is on the lean side, and is bound to disappoint those who feel that verbal metaphor deserves a full-fledged theory of its own, or should be at the centre of a wider theory of language, or even of thought'. I do not share this view, although I do agree with Sperber and Wilson (2008) and Wilson and Carston (2006) that metaphors are not an extraordinary phenomenon of language, at least not in the sense that metaphorical language is a rare and special kind of language.

#### 2.3.4 Recent developments in relevance theory: ad hoc concepts

The relevance-theory account of metaphor has been further elaborated predominantly by Robyn Carston (cf. 1996, 2002; Wilson and Carston 2006). In particular, the notion of loose use has been specified with respect to how we process concepts in metaphorical utterances. Resulting from these considerations, the idea that metaphors do not communicate explicatures, but only implicatures, has also been questioned.

According to traditional relevance theory, the only pragmatic processes that are allowed to enter an explicature are reference assignment, disambiguation and narrowings/strengthenings. In metaphor processing, the proposition that results from decoding plus these pragmatic processes, however, is not a proposition that can be considered to be communicated. For example, when Romeo in Act 2, Scene II says that *Juliet is the sun*, he probably does not intend to communicate that Juliet literally is the star around which the earth orbits, but he probably wants to communicate a predication of Juliet containing a loosened notion of *sun*. Quite generally, the traditional account of relevance theory posits that only propositions which are communicated can be explicatures, and propositions containing elements that have to be loosened are not communicated. Therefore, metaphors communicate implicatures, but never an explicature. In contrast to loosening, however, narrowings have always been treated as elements which may be part of an utterance's explicature. Carston removes this strange difference between loosening and narrowings compellingly and she argues that metaphorical utterances may also communicate explicatures. In order to see how she gets to this assumption, we need to take a look at a level below complete propositions. The origin of Carston's suggestions lies at the level of (atomic) concepts, which, by the way, makes her account also more interesting with

respect to our wish of having a model that can make predictions about the situational online processing of metaphors.

An important assumption in Carston's version of relevance theory's account of metaphor is the one that apart from certain lexical concepts which are simply decoded across contexts, there are conceptual elements we construct as *ad hoc concepts* (Carston 2002: 320–67; see also Barsalou 1987, 1992). Ad hoc concepts are loosening or narrowings that are constructed online via inferences from the lexical concepts figuring in the logical form of the utterance. We may inhibit some of the lexical concept's encyclopaedic and logical information to make the ad hoc concept's denotation larger (loosenings), we may add some constraining information to make their denotation smaller (narrowings), we may employ both of these techniques (simultaneous loosening and narrowing), or we may even create ad hoc concepts with a completely disjoint denotation from the lexical concepts. Carston (2002: 322) points out that 'the idea [of ad hoc concepts] is that speakers can use a lexically encoded concept to communicate a distinct non-lexicalized (atomic) concept, which resembles the encoded one in that it shares elements of its logical and encyclopaedic entries, and that hearers can pragmatically infer the intended concept on the basis of the encoded one'.

If it is now further assumed that ad hoc concepts replace lexical concepts in the proposition expressed, we see that metaphors may also communicate explicatures besides their implicatures. Consider the following standard example:

- (88) Oliver is a *bulldozer*.  
 (89) Oliver is a *bulldozer\**.

What we have in (88) is a fairly conventional nominal metaphor. According to the old relevance-theory account of metaphor, we would be forced to say that the utterance does express a proposition (after reference assignment, disambiguation and pragmatic enrichment), but that this proposition is not communicated by the speaker and that therefore (88) does not have a base-level explicature. In (89), however, the concept *bulldozer* has been replaced by the ad hoc concept *bulldozer\**. In order to make sense of the utterance we spontaneously construct this ad hoc concept on the basis of the lexical concept so that it may stand in a subject–predicate relationship with Oliver. Consequently, we can assume that the proposition expressed is also communicated. In addition, the metaphor may still communicate implicatures.

#### 2.3.4.1 *Ad hoc concepts and the literal–figurative distinction*

The modifications to the original account brought about by the notion of ad hoc concepts also influence the notions of interpretive representation and literalness. The proposition the speaker intends to express by (89) may now be taken to be largely identical to his thought. Therefore, a distinction between

the proposition expressed by the utterance and the speaker's thought may no longer be maintained. According to the old relevance-theoretic definition of literalness, which saw full literalness achieved when the proposition of the utterance and the proposition of the speaker's thought are identical, it was possible to have at least a theoretical difference between literal and figurative propositions. According to the more recent ad hoc concepts account, this distinction cannot be maintained on a level of propositions. Only on a constituent level it may still be possible to distinguish between literalness and figurativeness. At least this is the case from the viewpoint of the speaker. What the addressee understands might be different from what the speaker intended. Again, it becomes apparent that it is very difficult to formally distinguish between literal and figurative language. The dichotomy between literal and figurative language seems to be an intuitive notion which is (a) difficult to grasp in a theoretically sound way and (b) perhaps of only limited theoretical interest. It was already pointed out that Sperber and Wilson do not consider the notion of literalness important for an account of language processing. Nevertheless, there is certainly an intuitive distinction between literal language/thought and metaphor. However, in relevance theory it might be possible to break the propositional notion of literalness down into a local notion of literalness. In the new relevance-theory account of metaphor we may not be able to distinguish between propositional forms of the speaker and his thought, but on a constituent level we can draw a distinction between ad hoc concepts and lexical concepts. What we have here is an interpretive resemblance between the lexical concept and the ad hoc concept. It follows from this that literalness or nonliteralness of utterances might not be a feature of the relation between the proposition(s) expressed and the thought(s) of the speaker, but instead a relation between the encoded linguistic meaning of a sentence (i.e. an ordered string of lexical concepts) and the proposition expressed by an utterance of that sentence (i.e. an ordered string of ad hoc concepts).

#### 2.3.4.2 *Ad hoc concepts and the processing issue*

At this point it may be helpful to address a problem that has been avoided up to now. In the new relevance-theory account of (nominal) metaphor, the lexical concept of the vehicle is modified into an ad hoc concept. This alone, however, is not a complete account of metaphor processing. What remains to be explained is the crucial issue of how we construct the ad hoc concept. The general relevance-theoretic idea is that the particular context determines the order of accessibility of various pieces of information attached to the lexical concept. The hearer therefore just has to apply the usual relevance-theoretic interpretation strategies and process the concept until his expectations of relevance are satisfied. If the assumptions that we need for creating the ad hoc concepts are really part of the information attached to the lexical concept, this might be an acceptable explanation.

In fact, in metaphorical utterances which do not include what more traditional theories of metaphor have called category mistakes, this processing of metaphors without ad hoc concept construction is also deemed possible by Carston (cf. Carston 1996: 228–9). However, Carston rightly remarks that often at least some of the characteristics of the ad hoc concept do not appear in the encyclopaedic or logical entry of the lexical concept at all. The following two examples might illustrate this point (cf. Carston 2002).

- (90) Oliver is a bulldozer. (above as (88))
- (91) The fog comes on little cat feet. (quoted by Carston (2002: 352) from Carl Sandberg's poem *Fog*)

The particularity of examples (90) and (91) lies in the fact that the topic and the vehicle do not share any properties. Oliver is definitely not a bulldozer, literally speaking, and fog definitely does not have cat feet. If we just take an exemplary look at (90) again, we see that the implicatures this metaphorical utterance would typically communicate are along the lines of the following: *Oliver is persistent/obstinate/insensitive/etc.* Yet we would not find these characteristics in our lexical entry for *bulldozer*. Apparently, our typical digging for information in the encyclopaedic entry for *bulldozer* does not help us. It follows that the account has an explanatory gap between the lexical concept and the ad hoc concept and therefore also between the proposition expressed and the explicature. This characteristic, however, is not unique to metaphor processing. Ad hoc concept construction is a process that is typical of metaphorical interpretations, but it is not exclusive or special to metaphors. Hyperboles, for example, also make use of ad hoc concepts. It is only literal interpretations that do not involve concept broadening or narrowing. In contrast to Gricean pragmatics, however, literal interpretations of utterances are not in any way privileged in processing: 'They are not the first to be considered, and they are not necessarily easier to construct than non-literal ones' (Sperber and Wilson 2008). Still, relevance theory does accept that metaphors often 'stand out as particularly creative and powerful uses of language' (Sperber and Wilson 2008).

In the section on explicatures and implicatures it was pointed out that explicatures and implicatures are generated in parallel and that they are mutually adjusted. The problem we now have is that if our theory cannot explain how exactly we come to the explicature, it will be difficult to retain the idea of mutual adjustment. Carston remarks that she does not know of any online processing account of metaphor that does not have this problem; she guesses that accounts like Gentner's structure-mapping theory which sees metaphors as analogies (cf. Gentner 1983, 1989) or Lakoff and Johnson's theory of conceptual metaphor (cf. Gibbs 1994; Lakoff 1993; Lakoff and Johnson 1980) might offer a clue to this gap. Because I am convinced that there is a huge potential especially in taking the latter view into

account, I will examine to what degree conceptual metaphor theory is compatible with the relevance-theory model of metaphor in Chapters 4 and 5. Furthermore, another development within cognitive linguistics will also be considered: blending theory's treatment of metaphor (cf. Coulson 2001; Fauconnier and Turner 1998; Grady, Oakley and Coulson 1999).

A further issue that is also raised by Carston (2002: 356) is the observation that many metaphors have a strikingly imagistic quality and that an account of metaphor that only focuses on conceptual representations (e.g. explicatures and implicatures) might leave out an important feature of metaphor. I believe that Carston is right in assuming this and again I think that cognitive linguistics has something to contribute to this issue.

No matter whether one considers the more established relevance-theoretic account of metaphor or the more recent account of metaphor as purported by Robyn Carston, questions of processing effort and cognitive effects automatically come up when discussing metaphor from a relevance-theoretic perspective. The next section will present some viewpoints concerning this issue from relevance theorists.

### 2.3.5 The cognitive effort of processing metaphors

Many scholars of metaphor like to lump relevance theory together with the standard pragmatic approach to metaphor. Lakoff and Turner (1989: 217–18), for example, claim that Sperber and Wilson (1986) provide another version of the 'pragmatics position' which presupposes an initial decoding of literal meaning before the intended meaning can be established. Such an understanding of relevance theory is not too surprising. After all, relevance theory is a pragmatic theory of communication. Moreover, a classic, relevance-theory point of view regarding metaphor says that it can be worthwhile for a hearer to invest more cognitive effort in metaphor processing in view of extra cognitive benefits. In a brief critique of the traditional relevance-theory account of metaphor, Gibbs (1994: 231–2) observes that 'the metaphor-as-loose-talk view, therefore, may not see metaphors as violations of communication norms but still incorrectly assumes that metaphors, and other tropes such as irony, obligatorily demand additional cognitive effort to be understood'. Some but not all scholars working in the relevance-theory framework, have contributed to such a reading of relevance theory's approach to figurative language. In this section I want to evaluate the different positions of relevance theorists regarding the issue of processing effort.

Pilkington (2000) outlines a relevance-theoretic account of metaphor processing availing himself of both the more traditional and the more recent relevance-theory account of metaphor processing, although Pilkington sees theory-internal reasons to support the latter version of relevance theory. Notwithstanding which of the two accounts is considered, Pilkington (2000: 99) does not believe that metaphors require any special 'interpretation mechanism'. However, even if Pilkington believes that the processes

involved in interpreting literal and metaphorical utterances are basically the same, he does not believe that this automatically means that metaphorical and literal utterances require the same amount of processing effort. Quite to the contrary, Pilkington (2000: 100–1) remarks that ‘a greater amount of processing effort is required: but the rewards in terms of the contextual effects are correspondingly higher’. So, creative metaphors are seen as invitations to invest more time and cognitive effort. The large body of research from psycholinguistics showing that metaphor can be understood as quickly as non-metaphorical speech is due, according to Pilkington, to the possibility that ‘the examples of metaphor used in psycholinguistic experiments are conventional rather than poetic’ (Pilkington 2000: 111). In line with Gerrig (1989), Pilkington believes that when metaphors have been encountered several times, they become more conventionalized and require less processing effort. In particular, Pilkington (2000: 111) thinks that ‘the process of encyclopaedic exploration is speeded up’. Pilkington (2000: 111; italics in original) further speculates about why conventional metaphors require less time and processing effort: ‘In the case of more conventional metaphors the processing effort may be eased, I suggest, by the fact that a metarepresented set of assumptions is accessed *en bloc*.’ Thus, conventional metaphors may be processed faster than poetic metaphors, because the time-consuming activity of retrieving contextual assumptions and generating many implicatures is not necessary. The implications of conventional metaphors are assumed to be all ready-made.

Carston (2002) offers similar ideas concerning the requirements of metaphors with respect to processing effort. Like Pilkington, Carston notes that many psycholinguistic studies showing that metaphors can be quickly understood used standardized examples such as *Sally is a block of ice* or *My neighbour is a dragon*. It is quite possible, Carston suggests, that full understanding of truly creative metaphors may take more time and effort. Furthermore, she states that

...according to the relevance-theoretic account, the interpretation of literal and of loose (including metaphorical) utterances proceeds in the same way (implications are considered in their order of accessibility and the process stops once the expectation of relevance is fulfilled), so the account does not predict that loose (including metaphorical) uses will generally require more processing effort than literal uses. Indeed, it is to be expected on this account that, in appropriate contexts, a metaphorical interpretation of an utterance may be more easily derived than a literal one... (Carston 2002: 373)

Thus, Carston also distinguishes between conventional and creative metaphors and suggests that whereas conventional metaphors may be processed just as fast as literal language, the ‘full’ understanding of creative metaphors

may take more time. As a critical reader I would ask whether a full understanding of creative metaphors is possible at all, but being a sympathetic reader I know that Carston is well aware of the fact that hearers are usually not interested in a full understanding. In fact, this would even stand in contrast to the relevance-theoretic assumption that hearers stop processing when their expectations of relevance have been fulfilled, because these expectations are usually fulfilled before an utterance has been processed as deeply as possible.

The positions as put forward by Pilkington and Carston are certainly a progress compared to the simplistic notion that metaphors generally require more processing effort in exchange for more cognitive effects. Pilkington and Carston at least make it very explicit that some kinds of metaphors, most notably conventional metaphors, may be processed rapidly. However, both Pilkington and Carston still seem to believe that novel and creative metaphors do require more processing effort. This opinion ignores many experimental studies showing that people understand even novel metaphorical expressions as quickly as they do non-metaphorical equivalents in context (Allbritton, Gerrig and McKoon 1995; Gerrig 1989; Inhoff, Lima and Carroll 1984; Ortony, Schallert Reynolds and Antos 1978; see also Section 2.3.2.3 on psycholinguistic evidence against the standard pragmatic approach to metaphor). There is much evidence that even creative metaphors often do not take more effort to comprehend than non-metaphorical language. However, this does not mean that creative metaphors can always be processed just as quickly as conventional metaphors or even literal language. Of course, there are cases where novel, creative, poetic metaphors take a great deal of effort to understand (cf. Gibbs 1994, 2002: 460). This additional time may not be the result of people analysing and rejecting the literal meanings of metaphorical utterances, as claimed by the standard pragmatic view, but could be due to all sorts of hidden cognitive processes, such as the effort needed to integrate an easily understood metaphorical meaning with the context at hand (cf. Schraw 1995; Shinjo and Myers 1987), as well as the effort needed to infer complex metaphorical meanings, as suggested by some relevance theorists.

Although Pilkington's and Carston's theory-internal analyses concluded that at least conventional metaphors do not necessarily require more processing effort than literal language, the relevance-theory account of metaphor has inspired Noveck, Bianco and Castry (2001) to carry out experimental studies that were supposed to prove the simplistic relevance-theory position that metaphors generally require more processing effort. They report findings from two experiments examining both children's and adults' processing of referential metaphors (e.g. *All toads to the side of the pool*) and synonymous literal expressions (e.g. *All children to the side of the pool*) in neutral contexts. Understanding both metaphorical and literal referential sentences requires that readers draw a link between the referring expressions (e.g. *all toads* and *all children*) and a previously mentioned referent (e.g. *the second-grade pupils*).

Participants read stories, line by line, ending with either a metaphor or literal expression, and then answered a question about the story they had just read. The results of this reading-time study indicated that reading speed increased with age and that sentences containing metaphors were read more slowly than those containing the non-figurative control expressions.

These findings replicate the results from Gibbs (1990) on adults' understanding of both metaphoric and metonymic referential descriptions, and they are interpreted by Noveck, Bianco and Castry (2001) as demonstrating that there is an extra cost associated with processing metaphor. Noveck et al. did not clearly establish if additional benefits are really associated with the extra cost in understanding referential metaphors over the synonymous expressions, although the adults did appear to infer the referent somewhat more successfully having read the metaphorical expressions. As was mentioned above, many earlier studies on metaphor processing have shown that metaphors may even be processed faster than literal control sentences if they are embedded in rich story contexts priming the readers' understanding of metaphoric phrases. Noveck et al. (2001: 119) summarize their own results by saying 'the work reported here shows that metaphors can be seen to be costly in contexts that are arguably neutral otherwise'.

This claim contains the problematic notion of a neutral context. Contrary to Noveck et al. (2001), most experimental studies comparing figurative and non-figurative language processing explicitly look to ensure that metaphoric and literal expressions are roughly equally appropriate in the contexts in which they are seen (cf. Gibbs 1994). Earlier studies have tried to control the possibility that metaphors and literal expressions may radically differ in their contextual appropriateness. This makes sense, because in naturally occurring communicative situations, the contexts in which metaphors appear are not neutral, but include many related metaphorical words and concepts which prime the processing of metaphorical utterances. Several studies show that people use their metaphorical understanding of texts in their immediate processing of metaphors presented in these texts (Allbritton, McKoon and Gerrig 1995; Pfaff, Gibbs and Johnson 1997). Gibbs and Tendahl (2006) point out that these findings, which are often used to support the importance of conceptual metaphors in processing verbal metaphors, are also perfectly consistent with the general claims of relevance theory. I would even argue that it should be an essential part of relevance theory that underlying conceptual metaphors as particular procedural discourse devices guide and facilitate the hearer's processing endeavours (cf. Blakemore 1987, 1989, 1990, 1992, 2000, 2002). Therefore, it does not come as a surprise to see that the processing of metaphorical utterances is facilitated by prior use of related conceptual metaphors. After all, the metaphorical concepts that have been recently activated when reading texts set up expectations as to what kinds of utterances will be seen as most relevant in a discourse situation. These expectations should clearly enhance people's



immediate processing of appropriate verbal metaphors. In fact, experimental studies have found evidence that there is a cost associated with reading verbal metaphors that differ from the metaphorical concepts previously activated (Langston 2002; Pfaff, Gibbs and Johnson 1997).

Furthermore, Noveck et al.'s interpretations of their experimental results are problematic with respect to another issue. Similar to Gibbs (1990), they only compared non-metaphorical referring expressions (e.g. *All children to the side of the pool*) against metaphorical referring expressions (e.g. *All toads to the side of the pool*). An important question here seems to be whether *all children* and *all toads* are really identical in that they merely pick out the identical referent. Gibbs and Tendahl (2006) argue that they are not identical. The metaphorical referents communicate more cognitive effects, because the metaphorical referring expressions do not only fix referents, but also attribute a property to the referents. This seems to be optimally relevant and, in particular, effort-saving. In using a metaphorical referring expression it is possible to characterize the referent while determining it. Therefore, it may be the case that the metaphorical referring expressions cost more time to process, but then again they are not really comparable to the neutral referring expressions. Roughly stated, the goal of communication is the exchange of cognitive effects and if one wanted to communicate the cognitive effects of the metaphorical referring expressions in any other way, it would probably turn out that the processing effort for this would be much higher. Thus, it might be the case that the metaphorical referring expressions require more processing time, but it is not really possible to compare the neutral with the metaphorical referring expressions. It is probably even the case that the metaphorical referring expressions achieve more with less processing effort than would usually be necessary.

### 2.3.5.1 *Ad hoc concepts and processing effort*

Another topic that is certainly interesting for a discussion of processing effort in a relevance-theoretic framework has been totally ignored so far in the literature on relevance theory and figurative language. In this section I want to consider whether the notion of ad hoc concepts, as put forward by Robyn Carston, has any implications for the presumed trade-off between cognitive effort and effects in metaphor understanding. In order to examine this issue I want to distinguish between two types of nominal *A is B* metaphors and ad hoc concepts.

The first type I suggest to call *category modifications* and it can be illustrated by the following expression:

(92) Nicole is a little princess.

When this utterance is intended in a metaphoric sense, then the speaker and listener usually both know that Nicole is not really a member of any

royal family. According to the ad hoc account of metaphor, the listener must loosen the lexical concept *princess* to form the ad hoc concept *princess\**. *Princess\** is a category modification of the lexical concept *princess*, because it is not necessary to attribute remote properties to *princess*. Instead, it is merely necessary to modify the existing list of properties of the lexical concept *princess*. Thus, the hearer only has to drop some properties that are typically associated with the encyclopaedic entry for *princess*. In particular, the hearer will not assume that Nicole is the daughter of a king or queen. Other properties, however, may be predicated of Nicole, for example that she comes from a wealthy family, that she is spoiled, that she is very idle and lazy, etc.

It is interesting to point out that the necessary modifications of the lexical concept *princess* are changes on a basic conceptual level. Most generally, the particular context determines the order of accessibility of various properties attached to the lexical concept and all the hearer has to do is to apply the usual relevance-theoretic interpretation strategies. So, the hearer accesses various properties in order of accessibility, and once the hearer has accessed the properties that are necessary to understand the metaphor and he has dropped the properties which have to be inhibited, he stops processing. In this way he has construed a concept that he can integrate into the propositions communicated by the utterance such that his expectations of relevance are satisfied (cf. Carston 1996: 228–9, 2002: 351–3). Thus, in this kind of metaphor, the ad hoc concept is merely an adjustment of the encoded concept.

The second type of metaphor is not characterized by category modifications, but by *category crossings* such as seen in the following familiar example:

(93) Oliver is a bulldozer. (above as (88) and (90))

Metaphors of this kind were briefly mentioned in the preceding section on ad hoc concepts, because it is predominantly this type of metaphor where relevance theory, like many other approaches to metaphor, struggles at describing how the gap between an ordinary lexical concept and an ad hoc concept is closed. In our example *Oliver is a bulldozer* the question is how we come to understand that Oliver's character may be described as being single-minded, persistent, insensitive and so on. These characteristics are not characteristics that we can derive from our knowledge of the concept *bulldozer*. Bulldozers simply are not single-minded, persistent, insensitive and so on. Moreover, whereas Nicole, as a human being, could at least in theory be a princess, Oliver could never be a bulldozer. As Carston (2002: 351) explained, 'according to our (naïve) metaphysical understanding of the universe, the entity denoted by the subject just isn't eligible, in any situation, for the property denoted by the predicate'.

We said that in the *Nicole is a little princess* example we are encouraged to modify the lexical concept *princess* on a basic level. This can be illustrated by the following observation: If Nicole is not a real princess and we were not encouraged to modify the lexical concept, the speaker could be accused of being a liar. This is different in the *Oliver is a bulldozer* example. Here, we basically have to create an ad hoc concept. If, for some reason, we were not encouraged to create this particular ad hoc concept, the speaker would probably not be called a liar, but everyone would assume that the speaker is mentally ill. This is so because the modifications to the original lexical concept *bulldozer* are not based on changes on a basic level, but on changes on a generic level. It appears, then, that there is a gap between the ordinary lexical concept and the ad hoc concept and consequently there is a gap between the proposition expressed and the explicature. The two different kinds of metaphors and ad hoc concepts may have important implications for the amount of processing effort that is necessary to comprehend such metaphors.

Of course, it is possible that the processing effort needed in cases of category crossings is higher than the processing effort required in cases of loosening or strengthening. In the latter case one can start with the long-term knowledge we store about a lexical concept and then drop or add certain features. In the former case it is necessary to determine a ground without very much support from the lexical concept. The context of the situation will be much more important in these cases and therefore it is conceivable that at least when the context is not given, or not rich enough, novel category-crossing metaphors may be more difficult to process than novel category-modification metaphors. But until there is a firmer account of how ad hoc concepts like *bulldozer\** are constructed, making predictions about the trade-off between cognitive effort and effects is difficult. Chapters 3 and 4 will introduce important ideas from cognitive linguistics and in Chapter 5 a suggestion about how we close the gap between lexical and ad hoc concepts can be attempted. Ultimately, further empirical research on different processing strategies and time-courses of category-modification and category-crossing metaphors will be necessary.

Alternatively, we can ask what can be expected, if we do not distinguish between category modifications and category crossings and instead treat metaphorical ad hoc concepts as a unitary phenomenon. Unless we gain a more detailed picture of the full implications of the ad hoc account of metaphor, it cannot be presumed that an account of metaphorical meanings being expressed as part of both explicatures and implicatures (i.e. the ad hoc account) versus an account of metaphorical meanings being expressed only in the form of implicatures should result in different predictions for the amount of processing required. This is so because ad hoc concept formation is not a process that is reserved for metaphorical utterances. Ad hoc concepts which may enter explicatures are constructed all the time, not just in metaphorical utterances. Relevance theory has, for example, always viewed

narrowings of encoded concepts as a part of explicatures. The pragmatic construction of conceptual meaning is not only typical of metaphors; it is part of utterance comprehension in general. Furthermore, the ad hoc account of metaphor does not exclude the possibility of communicating implicatures. Conceptual content that is being communicated by a metaphorical utterance and that on the traditional implicature-only account would be categorized as implicatures may not be considered as implicatures on the new account, because this conceptual content may be part of the explicature. However, metaphorical utterances will usually still communicate a number of strong and weak implicatures which are fully inferential. Ad hoc concepts are always directly connected to a constituent of the logical form of the utterance. Implicatures, however, are functionally independent from the logical form and the propositional forms. Thus, the construction of ad hoc concepts perhaps does not predict more processing effort compared to the more traditional implicature-only account of metaphor processing. This can be assumed because the ad hoc concepts based on loosening were formerly treated as implicatures and it is not clear, to say the least, what costs more processing effort – the generation of implicatures or the generation of an ad hoc concept containing the same conceptual content.

In the first part of this section it was shown that relevance theorists have not found a clear and unique standpoint on whether metaphorical utterances require extra processing effort. This is no surprise, given the fact that metaphorical language is so enormously diverse. However, the lowest common denominator of relevance theorists with respect to this issue seems to be that at least in neutral contexts creative metaphors generally require more processing effort than literal utterances. My point of view is represented by the following claims:

- (a) The notion of a neutral context is not a realistic notion.
- (b) Most of the time metaphorical utterances cannot be compared with potential literal paraphrases.
- (c) In appropriate contexts even creative metaphors may be processed just as fast as literal language, while possibly communicating more cognitive effects.

Thus, often metaphorical language just is the most relevant way to communicate. It was also argued that the predictions concerning the processing effort required by metaphors are probably the same in both the implicature-only and the ad hoc account of metaphor. The ad hoc account of metaphor, however, is at least able to make more detailed predictions concerning the processing effort of category-crossing and category-modification metaphors once we know how ad hoc concepts are formed. In the next section I would like to show how problematic any simplistic view concerning the cost–benefit trade-off may be.

### 2.3.6 Interactions between cognitive effects and effort

In the last section the focus was on cognitive effort. This section will deal with possible interactions between cognitive effects and cognitive effort. The idea that optimal relevance means to successfully maximize cognitive effects while minimizing cognitive effort in accordance with one's abilities and preferences is one of the most central assumptions in relevance theory. Relevance theory does not suggest that it is possible to quantify the notion of relevance or its constituent notions of cognitive effects or effort. Wilson and Sperber (2004: 626), for example, claim that there cannot be any absolute measure for either mental effort or cognitive effects, given the difficulties with quantifying 'the spontaneous workings of the mind'. Instead, relevance theory assumes that the 'actual or expected relevance of two inputs can quite often be compared' (Wilson and Sperber 2004: 626). The general relevance theory idea is that investing more cognitive effort necessarily results in more cognitive benefit. In Gibbs and Tendahl (2006) the relation between cognitive effects and cognitive effort is examined in greater detail and four possible relations between cognitive effects and effort are suggested: (1). More cognitive effort resulting in more cognitive effects; (2). More cognitive effort not resulting in additional cognitive effects; (3). Less cognitive effort resulting in more cognitive effects and (4). Less cognitive effort resulting in fewer cognitive effects. What should be noted before I will proceed to cast doubt on any generalized relationship between cognitive effects and effort is that relevance theory has to be credited for bringing this important interaction to our attention, because for the most part, the psycholinguistic literature has focused more on processing effort and ignored meanings, or cognitive effects, people infer when understanding verbal metaphors.

The first, and probably most expectable, situation that I will discuss is that investing more cognitive effort in interpreting a metaphor results in more cognitive effects.

#### 2.3.6.1 *More cognitive effort results in more cognitive effects*

An apt metaphor for metaphors is provided by Empson (1953), when he says that metaphors are 'pregnant with meaning'. The complex metaphorical statement *The soul is a rope that binds heaven and earth*, for example, suggests endless entailments and hearers could spend hours and days on interpreting this metaphor. As mentioned before, Sperber and Wilson (1986) claim that the genre plays a decisive part in determining how much processing effort a hearer is willing to invest. Certainly poetry is a genre that invites the hearer to spend a lot of time and effort on processing metaphorical entailments. Simpler metaphors like *Juliet is the sun* may require less processing effort than utterly creative and novel metaphors, but still we have the impression that more processing effort has the potential to result in more cognitive effects. Gibbs and Tendahl (2006) do acknowledge that metaphorical

language can establish cognitive effects which could not be achieved by literal paraphrases, if such a thing as a literal paraphrase is at all possible. More particularly, when hearers do invest more processing effort in interpreting metaphors, they will certainly do this in order to achieve more cognitive effects. However, as the following sections will show, this relationship between cognitive effort and cognitive effects is not an automatism.

A problem that relevance theory has to face concerning their more-cognitive-effort-results-in-more-cognitive-effects hypothesis is the fact that there is no psycholinguistic evidence for the truth of this hypothesis. There are many experimental studies on the processing times of metaphors, but there is no psycholinguistic work on diverse cognitive effects of metaphors. Most scholars agree that metaphor may communicate complex meanings, but no study has examined when such meanings arise or even how many meanings arise. The only modest exception is provided by psycholinguistic work inspired by cognitive linguistic analyses of metaphors, because of their analyses of the probable meanings, or sets of entailments, arising from well known conceptual metaphors (cf. Gibbs 1992, 1994). The reason for this lack of experimental evidence is possibly due to the fact that it is not even clear how to individuate metaphorical meanings. Consider the following common metaphor:

(94) Some jobs are jails.

In the metaphor literature this example has been discussed quite frequently and typical meanings that are listed are that some jobs are poorly paid, confining, stifling, unpleasant, demoralizing and so on. It seems to be very difficult to exactly distinguish between these entailments and to decide which of them lead to cognitive effects which are independent from one another. Furthermore, even if it was possible to clearly state which of these metaphorical meanings lead to independent cognitive effects, these effects will differ enormously between different hearers. Sperber and Wilson (1986: 224), for example, claim that metaphors may communicate affective effects via a number of weak implicatures and Carston (2002: 356) suggests that metaphors may communicate non-propositional representations with an imagistic quality. In short, the concept of cognitive effects is very difficult to investigate in psycholinguistic experiments and therefore there simply are no experiments studying the relationship between cognitive effort and cognitive effects.

### 2.3.6.2 *More cognitive effort does not result in additional cognitive effects*

In this section I want to argue that even though relevance theorists have certainly not focused on the case that more cognitive effort does not result in more cognitive effects, this situation is perfectly consistent with more general relevance-theoretic assumptions.

It can be accepted without doubt that we sometimes invest a lot of effort in the interpretation of an utterance without gaining appropriate cognitive effects. For example, listeners may simply fail to understand the grounds of an *A is B* metaphor (e.g. *My job is a jail*), or the metaphor presumes to be relevant, although, in fact, it is not.

The latter phenomenon was studied by Gibbs, Kushner and Mills (1991). In this investigation three experiments were carried out with the goal of investigating the role of authorial intentions. The participants were supposed to read literal, anomalous and metaphoric comparisons. In experiment one the task was to rate the degree of meaningfulness of these comparisons. Experiment two required the participants to quickly decide whether the presented comparisons were meaningful or not and in experiment three the participants were asked to write down interpretations of each comparison. In each experiment the participants were told that the comparison statements were either written by famous twentieth-century poets or by a computer programme lacking intentional agency.

In experiment one the participants judged both metaphoric and literal comparisons as being more meaningful when they thought these comparisons were written by a poet. The anomalous comparisons were not found to be more meaningful in the poet condition. Experiment two showed that the subjects spent less time on the meaningfulness-decision when they were told that the comparison was generated by a computer. Experiment three displayed that the participants found it more difficult to find interpretations for comparisons which were supposedly generated by a computer. Obviously, the participants assumed that poets have specific intentions and that computers are not intentional agents. The consequence is that the participants were much more willing to invest cognitive effort in comparisons from the poets condition, and that they were therefore able to come up with more meanings for the poets' comparisons.

Gibbs, Kushner and Mills (1991) provide empirical evidence for the assumption that cognitive effort does not automatically lead to more cognitive effects. It was, for example, shown that subjects were slower in rejecting anomalous comparisons when they were supposedly written by poets. Thus, although the statements were anomalous, the subjects were indeed willing to invest much processing effort without having any cognitive benefits in the end. The latter claim was proven in experiment three where it was shown that participants produced far fewer meanings for the anomalous comparisons than for the metaphorical statements. The point is that when speakers presume that an utterance was produced by an intentional agent, they will be willing to invest as much cognitive effort as is necessary to obtain enough cognitive effects. This is the case even when it turns out that the utterance does not communicate significant cognitive effects. Obviously, this situation, which is often neglected by relevance theorists, can be explained perfectly well within the relevance-theory framework.

The communicative principle of relevance states that 'every act of ostensive communication communicates a presumption of its own optimal relevance' (Sperber and Wilson 1995: 260). It is very obvious that the participants in the Gibbs, Kushner and Mills study were guided by this principle when reading comparisons from allegedly famous poets, but not when reading statements in the computer programme condition (i.e. where the presumption of optimal relevance does not hold). The important difference between the poets and the computer conditions is the fact that poets as intentional agents engage in ostensive-inferential communication, whereas computers cannot engage in ostensive-inferential communication. In such a situation the communicative principle of relevance does not hold and people are not willing to invest much processing effort, because the risk is too high that this effort does not pay off in terms of effects.

We can see that in ostensive-inferential communication it is not necessarily the case that more processing effort results in more cognitive effects. A more defensive claim, however, is supported by Gibbs and Tendahl (2006). We absolutely agree with relevance theorists that in cases in which optimal relevance can be achieved, more processing effort usually leads to more cognitive effects. At the same time I want to recall that extra processing effort may decrease relevance, if the extra effort is too high for the additional cognitive effects. The next case that I want to discuss may be striking at first sight. Sometimes it can even be observed that less cognitive effort results in more cognitive effects.

### 2.3.6.3 *Less cognitive effort results in more cognitive effects*

Less cognitive effort here does not mean that it is possible to obtain more cognitive effects if one processes a particular utterance less. Less cognitive effort resulting in more cognitive effects refers to the following situation: It is very common that one utterance requiring only little processing effort on the part of the hearer may contribute more cognitive effects than another utterance that requires more processing effort. More specifically, many metaphors can be processed very quickly and communicate a range of cognitive effects while potential literal paraphrases would require more processing effort resulting in fewer cognitive effects. This is in line with the arguments put forward in Section 2.3.5. Especially conventional metaphors may be processed quickly, but even complex novel metaphors may be processed quickly in an appropriate context. If one takes a look at the speaker-intended cognitive effects that a particular metaphor is meant to communicate, then it will often be obvious that the same amount of cognitive effects as the result of literal language would need much more cognitive effort.

There are several empirical findings from studies on metaphor and idioms that are consistent with this latter possibility. Gibbs (1992), especially, showed that conventional metaphors and idioms may be processed more quickly and more specifically than literal paraphrases of these expressions.



Gibbs and Tendahl (2006) claim that these results from research on idioms are probably also valid for more complex and novel metaphors, because psycholinguistic research has clearly shown that many idioms are based on conceptual metaphors and that idioms are not just noncompositional, lexicalized phrases. Gibbs (1992) does not make any claims about whether the set of cognitive effects which are so quickly communicated by idioms and conventional metaphors are processed online. In accordance with Pilkington (2000: 111) these results could also be explained by arguing that idioms make available a set of cognitive effects 'en bloc'.

Thus, it is often possible that a metaphor can be understood more quickly than a potential paraphrase while communicating more cognitive effects. Notwithstanding, the same metaphor could provide even more cognitive effects if it was processed still further. However, in normal fast-paced conversation people usually stop processing once their expectations of relevance are satisfied and this is the reason that often a metaphor in a rich context is processed fairly quickly.

Relevance theorists usually only discuss two out of the four cases that Gibbs and Tendahl (2006) discuss: The case in which more cognitive effort results in more cognitive effects and the case in which less cognitive effort results in fewer cognitive effects. The latter case at least seems to be quite self-evident.

#### *2.3.6.4 Less cognitive effort results in fewer cognitive effects*

This last possible relation is that investing less cognitive effort results in fewer cognitive effects. This is a case that does not need much discussion, although there are to our knowledge no experimental studies giving evidence for this. In Gibbs and Tendahl (2006) we suggest that a possible way of designing an experimental study would be to give the participants only a very short amount of time to read and understand different metaphorical and non-metaphorical utterances and then measure their ability to find interpretations for those utterances. Again, of course, a problem would be to measure the cognitive effects.

#### *2.3.6.5 Summary*

The bottom line of this review of possible relations between cognitive effort and cognitive effects in metaphor comprehension is that it is generally impossible to predict the processing effort needed, given the cognitive effects that one can achieve by processing the metaphor. Still, in Gibbs and Tendahl (2006) we make it very clear that hearers will probably reach additional cognitive effects, if they keep on processing a creative metaphor with the potential to communicate many cognitive effects. However, continued processing may render the utterance less than optimally relevant and therefore hearers usually stop processing once their expectation of relevance has been fulfilled. In appropriate contexts which facilitate metaphor

processing, hearers do not necessarily process metaphors any more deeply than other types of utterances. It might be the case, as Noveck, Bianco and Castry (2001) argue, that some kinds of metaphors, perhaps novel, creative expressions, may take longer to process than synonymous non-metaphorical expressions if these are encountered in neutral contexts. However, as I mentioned above, the problem is the notion of a neutral context. In real-life discourse a neutral context just does not exist. Therefore, experiments based on a notion of neutral context lose much of their initial appeal. The seemingly cogent idea that more processing effort automatically leads to more cognitive effects might be true, but it is difficult to prove this, because it is difficult to study the notion of cognitive effects empirically. How do we individuate and count cognitive effects? Apparently, the relevance-theory notion that some forms of language, like metaphors, invite more processing effort in exchange for more cognitive effects is problematic as a general statement and is difficult to prove. However, in those cases in which hearers are willing to invest much processing effort, they will probably do this in their quest for more relevance through additional cognitive effects, although this is probably not the standard case.

### **2.3.7 Cognitive effects and metaphor processing: a study**

The preceding sections have shown that relevance theorists do not share a consistent view on the very important topic of processing effort. In this section I want to present some preliminary, yet telling results of a study by Gibbs and Tendahl (forthcoming) on the cognitive effects communicated by metaphorical utterances. The study is based on the assumption that among the most important and valuable contributions that relevance theory has made in the field of metaphor research are the notion of cognitive effects and the general position that metaphors serve pragmatic goals.

It was mentioned before that the idea of cognitive effects is difficult to grasp for experimental testing. Accordingly, nobody has yet succeeded in developing a sophisticated methodology for testing cognitive effects. In the following a study will be presented that goes at least some way towards understanding the interplay between contextual factors and cognitive effects. The notions of cognitive effects and pragmatic uses deserve to be established in research on metaphor, because they tackle the traditional question of why we use metaphor from a very specific direction. Many scholars have studied the general question of why we use metaphor, but only a few have done this from a cognitively oriented pragmatic perspective.

The traditional pragmatics position à la Grice and Searle does acknowledge that working out the meaning of figurative utterances requires pragmatic competence. However, the standard pragmatic model has not paid attention to the ordinary, pragmatic effects associated with using metaphor. Furthermore, in Section 2.3.2.3 it was shown extensively that the general ideas of the standard pragmatic approach to metaphor are based on

impossible assumptions concerning the processing of metaphors. Moreover, the standard pragmatic approach presupposes that metaphors are always used for particular reasons. In a relevance-theoretic framework, however, it is possible to argue that metaphors may also be used for quite ordinary purposes. Admittedly, a common relevance-theory opinion is that metaphors are used to achieve extra cognitive effects in comparison with potential literal paraphrases. In the following it will be argued that even novel metaphors are not exclusively used for particular purposes. They are also used for quite ordinary purposes if a metaphor represents the seemingly best option in terms of the cost–benefit trade-off.

Cognitive linguists have studied the question of why we use metaphors very extensively. However, they have only addressed this question from a general cognitive perspective and not so much from a discourse perspective, as will become obvious in Chapter 4. Surprisingly, metaphor scholars have paid little attention to how context shapes cognitive effects during metaphor understanding. There is a huge body of literature examining how the context may lead people to draw literal as opposed to metaphorical interpretations of verbal expressions, but apparently there are no published studies which have specifically investigated how different contexts give rise to different cognitive effects when reading or listening to linguistic metaphors. The substantial context dependency of metaphor, however, implies that different contexts can also lead to different cognitive effects. Relevance theory has to be credited for providing a framework that can accommodate such differences and explain them. Of course, like any other current theory of metaphor, relevance theory is severely limited in its potential to predict particular interpretations, but it is surely an important step to include these classic pragmatic issues in a cognitive theory of metaphor.

According to relevance theory, cognitive effects are usually achieved either by contextual implications (new information as the product of the interaction between existing assumptions and the processing of a new stimulus), by strengthenings (of existing assumptions) or by contradictions (and subsequent elimination of existing assumptions). In Gibbs and Tendahl (forthcoming) we investigate how these different kinds of cognitive effects may be manifested with metaphor. In particular, we wanted to find out to what degree the context may influence the cognitive effects of metaphorical utterances. Moreover, we were interested in showing that metaphors are used in discourse for the same kinds of pragmatic purposes as ‘ordinary’ language. This view also entails that people do not necessarily process a metaphor with a lot of depth. Sperber and Wilson (1982: 76–7) make the important point that the genre determines to a large extent how much processing effort hearers will be ready to invest. Metaphors, both novel and creative ones, appearing in ordinary conversations therefore do not necessarily require more processing effort than literal language, and hearers will stop processing them once they have derived enough cognitive effects. A

fuller processing of poetic metaphors may be the case when reading a poem, because this genre comes with the promise that investing a lot of processing effort will result in an appropriate number of cognitive effects. However, even this does not mean that metaphors in poems necessarily require more processing effort. It just means that the threshold for hearers/readers might be higher before they stop processing, because the expectations of cognitive effects are higher. Notwithstanding, once hearers/readers of a poem have gained enough cognitive effects, they will stop processing and this point can be reached fairly quickly. In Gibbs and Tendahl (forthcoming) we focus on the pragmatic effects of metaphors appearing in ordinary discourse situations.

### 2.3.7.1 Method

*Participants:* 24 University of California, Santa Cruz, undergraduate students participated in this experiment. They received course credit for their service.

*Materials and Design:* 24 seven-line scenarios were written that depicted two people speaking to one another about some topic (e.g. teachers, fast food, parents, holidays). These scenarios began with one speaker voicing an opinion about the topic by making three statements. The first speaker then asked the second *Do you have anything to add?* to which the second speaker replied by uttering a metaphor. There were three types of context which preceded the metaphorical utterances in the scenarios. The contexts were created with respect to the relevance-theoretic categorization of cognitive effects. Accordingly, the first kind of context is called *strengthening context*. In the strengthening contexts the first speaker voiced an opinion about some topic and the second speaker's metaphorical utterance agreed with this statement. Thus, the implications of what the first speaker had said were strengthened. The second kind of context was simply called *new context*. In the new contexts the first speaker made a series of factual statements about some topic, with the second speaker's metaphorical utterance adding new information beyond what was conveyed by the first speaker. The third type of context was called *contradictory context*. In these contexts, the first speaker voiced an opinion about some topic and the second speaker's metaphorical utterance disagreed with or contradicted what was conveyed by the first speaker. The metaphorical utterances of the second speaker were either positive in their valence (e.g. *Parents are also diamonds*) or negative (e.g. *Surgeons are also butchers*). Overall, then, the study incorporated a 3 (types of context)  $\times$  2 (types of metaphor) completely within-subjects design.

The experimental materials were divided into three booklets. Each booklet contained 24 scenarios, such that if a specific scenario (e.g. about marriage) ended with the second speaker making a strengthening remark in booklet A, it presented a new remark in booklet B, and a contradictory remark in booklet C. The metaphorical utterances were the same in the three booklets,

but the preceding contexts differed so that one metaphor achieved different cognitive effects in the different contexts and booklets. Thus, in each booklet there were eight stories ending with strengthening remarks, eight with new remarks, and eight with contradictory remarks. Each booklet contained 12 positive metaphors and 12 negative metaphors equally distributed across the three kinds of contexts. Therefore, each booklet had four positive strengthening metaphors, four positive new metaphors, four positive contradictory metaphors, four negative strengthening metaphors, four negative new metaphors, and four negative contradictory metaphors.

Following each scenario, ending with the second speaker's metaphorical utterance, participants were presented with a series of four statements, to which they were to rate their degree of agreement using a 7-point rating scale, ranging from 1, meaning *strongly disagree*, to 7, meaning *strongly agree*. The first statement examined the degree to which the participants believed that the speaker's metaphorical utterance indicated that he or she thought positively about the topic (e.g. *Peter thinks positively about marriage*). The second statement examined whether participants believed that the speaker's metaphorical utterance indicated that he/she believed that the first speaker thought positively about the topic (e.g. *Peter thinks that Tom thinks positively about marriage*). The third statement examined whether the participant perceived the second speaker to be trying to convince the first speaker of something about the topic that he/she does not already believe (e.g. *Peter is trying to convince Tom of something about teachers that Tom does not already believe*). The final statement examined whether participants believe that the speaker's metaphorical utterance expressed complex meaning (e.g. *Peter's remark expresses complex meanings*).

The entire experiment was completely counterbalanced in the assignment of the different stimuli materials across the three booklets. The orders of stimuli were randomly distributed within each booklet. Examples of the different scenarios are presented in Tables 2.1 and 2.2. Table 2.3 lists all the positive metaphors and Table 2.4 lists all negative metaphors.

*Procedure:* Participants were randomly assigned to receive one of the three booklets that contained the instructions and all experimental materials. The instructions read: 'This experiment examines your interpretation of speakers' utterances in different contexts. You will be reading a series of stories, each of which ends in someone saying something, followed by a series of statements regarding YOUR interpretation of what that speaker had meant to communicate. Your task is to closely read each story context, and the final utterance. You are to then give your ratings of agreement with each of the four statements that follow. You are to give your ratings of agreement along a 7-point scale, where 1 indicates "No, I don't agree with this statement" and 7 indicates "Yes, I very much agree with this statement". You are encouraged to use all portions of the rating scale, so that in some cases you may sort of agree with one of the statements, in which case you could give a

Table 2.1 Examples of scenarios: positive metaphors

Strengthening	New	Contradiction
Tom said to Peter, 'Parents are important. They support you throughout life. They can be your best friends. Do you have anything to add, Peter?'	Tom said to Peter, 'Parents are the legal guardians to minors. They are responsible for their children. They may have adopted their children. Do you have anything to add, Peter?'	Tom said to Peter, 'Parents are a nag. They take control of your life. They never understand you. Do you have anything to add, Peter?'
Peter replied, 'Parents are also diamonds.'	Peter replied, 'Parents are also diamonds.'	Peter replied, 'Parents are also diamonds.'

Table 2.2 Examples of scenarios: negative metaphors

Strengthening	New	Contradiction
Tom said to Peter, 'Congress is a collection of rude people. It is very disorganized It is too chaotic to be productive. Do you have anything to add, Peter?'	Tom said to Peter, 'Congress is an assembly of state representatives. It consists of two parts. It is involved in creating and passing laws. Do you have anything to add, Peter?'	Tom said to Peter, 'Congress is an assembly of clever professionals. It is an important part of democracy. It is an efficient government institution. Do you have anything to add, Peter?'
Peter replied, 'Congress is also a zoo.'	Peter replied, 'Congress is also a zoo.'	Peter replied, 'Congress is also a zoo.'

Table 2.3 Positive metaphors

**Positive metaphors**

Diplomas are also money.  
Holidays are also a breath of fresh air.  
A conference is also a party.  
Parents are also diamonds.  
French food is also a symphony.  
Lifeguards are also angels.  
Operas are also feasts.  
Pets are also babies.  
Weddings are also sunshine.  
Friends are also flowers.  
A promotion is also a home-run.  
Cars are also gold.

*Table 2.4* Negative metaphors**Negative metaphors**


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Marriages are also iceboxes.  
 Congress is also a zoo.  
 Salesmen are also bulldozers.  
 Shirts are also tents.  
 Surgeons are also butchers.  
 Desks are also junkyards.  
 Fast food is also poison.  
 Lawyers are also sharks.  
 Cigarettes are also time bombs.  
 Arizona is also an oven.  
 The Government is also a thief.  
 Jobs are also jails.

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3, 4, 5 rating.' Participants then read and gave their agreement ratings to the different questions for two practice stories. When they had completed this, and had no questions about their task, they began the experiment which took about 25 minutes to finish.

### 2.3.7.2 *Results and discussion*

The mean ratings for each statement were computed for the three types of context and the two types of metaphor. These mean ratings are presented in the following tables. In the original booklets the statements contained the names of the speakers and the topic was named as well. The statements are generalized and therefore do not contain specific names. Recall that the higher the rating, the more participants agree with the statement. Separate  $2 \times 3$  analyses of variance were conducted on the data for each statement. Table 2.5 presents the mean ratings for statement 1.

Concerning statement 1, the participants overall agreed very clearly that the speaker was thinking positively about the topic when he used a positive metaphor and that he was not thinking positively about the topic when he used a negative metaphor,  $F(1, 23) = 14.67, p < .001$ . The main effect of context was not close to being significant,  $F < 1$ , and the interaction between type of metaphor (i.e. positive vs. negative) and type of context (i.e. strengthening, new or contradictory) was not reliable either,  $F < 1$ . The individual cell means were further examined using protected t-tests and it was shown, not surprisingly, that people gave higher ratings for the positive metaphors than for the negative metaphors in each of the three contexts,  $p < .01$ , for each comparison respectively. The results of the first statement's analysis basically indicate that the participants were sensitive to whether the metaphorical utterance in each story was intended to convey something positive or negative about the topic. This also means that the participants

Table 2.5 Mean ratings for statement 1

*Statement 1: Speaker 2 thinks positively about the topic.*

Context	Metaphor positive	Metaphor negative
Strengthening	5.75	2.51
New	5.67	2.39
Contradictory	5.90	2.05

Table 2.6 Mean ratings for statement 2

*Statement 2: Speaker 2 thinks that speaker 1 thinks positively about the topic.*

Context	Metaphor positive	Metaphor negative
Strengthening	5.90	2.44
New	4.75	4.23
Contradictory	2.22	5.67

perceived the gist of the metaphorical meanings. In Table 2.6 we see the results for statement 2.

For statement 2, the main effects of type of metaphor and type of context were not statistically significant, both  $F$ s < 1. However, the interaction of these two variables was highly significant,  $F(2, 23) = 21.55$ ,  $p < .001$ . Examination of the individual cell means showed that participants agreed more that the positive metaphors indicated that the speaker thought that the addressee (i.e. the first speaker) thought positively about the topic in the strengthening context,  $p < .01$ , with the reverse happening in the contradictory contexts,  $p < .01$ . The agreement ratings did not differ significantly for the positive and negative metaphors in the new contexts. This pattern of findings generally shows that people see the metaphors as being appropriately strengthening or contradicting some assumption depending on whether the metaphor is positive or negative.

Table 2.7 shows the mean ratings for statement 3. For statement 3, the effect of metaphor type was, as expected, not reliable,  $F < 1$ , but there was a significant main effect of context,  $F(2, 23) = 15.02$ ,  $p < .001$ , and the interaction between metaphor and context was reliable,  $F(2, 23) = 12.43$ ,  $p < .01$ . Further analysis of the individual means indicated that participants thought the positive metaphors were aimed to convince the addressee of something he/she did not already believe, more so than was the case for the negative metaphors in the strengthening contexts,  $p < .05$ . The reverse happened in the new contexts, although this difference was only marginally reliable,  $p < .10$ . The difference between the two types of metaphor in the contradictory



Table 2.7 Mean ratings for statement 3

*Statement 3: Speaker 2 is trying to convince speaker 1 of something about the topic that speaker 1 does not already believe.*

Context	Metaphor positive	Metaphor negative
Strengthening	3.22	2.34
New	3.67	4.34
Contradictory	5.60	5.44

Table 2.8 Mean ratings for statement 4

*Statement 4: Speaker 2's remark expresses complex meanings.*

Context	Metaphor positive	Metaphor negative
Strengthening	4.22	3.81
New	4.31	4.23
Contradictory	4.84	4.46

context was not close to being significant. Thus, the participants see both the positive and negative metaphors as trying to convince the addressee of something he does not already believe when these are presented in contradictory context. Overall, people really see that the metaphors are aimed at contradicting the addressee in the contradictory contexts. Finally, Table 2.8 illustrates the results concerning statement 4.

Finally, for statement 4, participants saw the positive metaphors as expressing marginally more complex meanings than they did for the negative metaphors,  $F(1, 23) = 3.80$ ,  $p < .10$ . The main effect of context type was not significant, nor was the interaction between metaphor type and context statistically reliable, both  $F_s < 1$ . Despite the main effect of metaphor type, none of the specific comparisons between the positive and negative metaphors for the three types of context were significant. Thus, the different kinds of context, which were all related to the final metaphorical utterance, did not cause a difference in the participant's judgements of complexity. The level of complexity as such was not judged to be very high anyway, being at about 4, midway between 1 and 7.

In general, the results of this study imply that people understand not only the rough metaphorical meanings of the final statements, but also that these convey additional implications that differ in the three contexts. The different contexts evoke different readings of the metaphorical utterances and, of course, each of these meanings is related to the basic metaphorical understanding. However, the cognitive effects one draws from reading the metaphorical utterances in the three contexts nevertheless differ quite a bit.

What these results clearly show is that the context of a metaphorical utterance exerts a huge influence on metaphor processing and interpretation and in particular on the cognitive effects of a metaphorical utterance. Relevance theory provides a framework that acknowledges this. Most other theories of metaphor have ignored the pragmatic effects of metaphor. Psychological studies have usually focused on issues of metaphor processing, but they have not studied the uses to which metaphors are put in ordinary discourse. The results from Gibbs and Tendahl (forthcoming) convincingly show that metaphors do not have meanings per se. Metaphors will always have to be considered in a particular context and the cognitive effects will vary accordingly.

The rating task concerning statement 4 does not provide information on the actual processing effort needed; however, the results do give us an idea about how complex the participants thought the metaphors were. High ratings for the level of complexity probably would have meant that the participants thought the metaphors are difficult to understand or that the metaphors convey a variety of meanings. But the average ratings for statement 4 were in the middle of the range and therefore the participants obviously thought that the metaphors were neither very simple nor very complex. This at least suggests that these metaphors, although they were certainly not fully conventionalized, were not too difficult to understand and that the participants did not create many weak implicatures. Thus, if this interpretation of the result concerning statement 4 is correct, then it could be of interest to relevance theorists. The point is that metaphors do not have to communicate their whole possible range of implicatures and that metaphors, if they occur in an appropriate context, are not necessarily very complex to understand. The major cognitive effects achieved by the metaphorical utterances in the study were either strengthenings, contextual implications or contradictions, depending on the preceding context. It can be assumed that the participants did not process the metaphor long enough to understand a wealth of implicatures. Rather they processed the metaphors with no greater depth than was necessary to obtain one of the three cognitive effects. Once such a cognitive effect had been achieved, they probably stopped processing, because the discourse situation did not warrant further processing.

Altogether, this study provides some first results concerning the interplay between cognitive effects and effort that should be both interesting and important for metaphor scholars across all camps. Metaphor scholars in a psychology or cognitive linguistics tradition should be inspired to pay more attention to studying the pragmatic effects of metaphors and metaphor scholars in the relevance-theory framework may be well advised to take a more precise and coherent stand concerning the effort–effect trade-off. Moreover, metaphor scholars should think about how rewarding studying metaphor, or any form of language, in ‘neutral’ contexts can really be.

I believe that results from studies of metaphor in neutral contexts are (a) not possible, because there is always a real context, and (b) not necessarily desirable, because such studies depict situations which do not occur in real-life conversation. Relevance theory offers the only theoretical framework that has the potential to explain these aspects of metaphor comprehension.

The section on relevance theory and metaphor began with the observation that metaphor theorists have not paid much attention to what the relevance-theory community has to contribute to the study of metaphor. I hope that this portrayal of relevance theory's approach to metaphor has convinced many metaphor scholars to take a closer look at relevance theory.

## 2.4 Pragmatics and the implicit: a conclusion

The aim of this chapter has been to present the most influential pragmatic ideas with respect to implicit and figurative language and, even more importantly, to critically assess these ideas and suggest novel and promising directions for the study of implicit and metaphorical language.

Section 2.1 briefly introduced the groundbreaking ideas of Paul Grice, which gave an impetus to the until then insignificant research agenda of linguistic pragmatics.

In Section 2.2 it was argued that relevance theory is the most promising successor of Gricean thinking. Before the major parts of relevance theory were presented, the nature of shared knowledge that is necessary for successful communication was discussed. This topic is widely held to be of utmost importance in a pragmatic theory of communication; however, so far no thoroughly satisfying model has been proposed. In Section 2.2.1 a model of shared knowledge was developed that integrates ideas predominantly issued by Herbert Clark and colleagues on the one hand and Dan Sperber and Deirdre Wilson on the other hand. The notion of lopsided mutual manifestness (mutual manifestness<sup>L</sup>) was introduced and it was argued that mutual manifestness<sup>L</sup> is based on our general theory-of-mind abilities rather than on a theory-of-mind module which has specialized on communication purposes. Mutual manifestness<sup>L</sup> is a notion that is not vulnerable to criticism levelled at the notion of mutual knowledge, but it nevertheless poses conditions strict enough for communication to succeed, which has not been achieved by the original relevance-theoretic concept of mutual manifestness.

After having provided a critical assessment of Gricean pragmatics and relevance theory, in Section 2.3 I dealt with explicitness and implicitness in pragmatic theories of verbal communication. Important ideas concerning this topic by François Recanati, Kent Bach and relevance theorists were reviewed and it was maintained that the relevance-theoretic ideas concerning explicatures and implicatures offer the best approximation to this highly complex question. It was also pointed out that even though it may

be possible to define explicit and implicit language and to make predictions concerning different processing strategies for these forms of language, it is very difficult to suggest a satisfactory definition for literal vs. figurative language. In spite of this, the term figurative was not discarded, as it captures an intuitive distinction that covers a range of phenomena such as metaphor.

The subsequent two sections were concerned with how pragmaticists approach the challenging question of metaphor processing. Section 2.3.2 focused on what has come to be known as the standard pragmatic approach to metaphor. Central claims by Paul Grice and John Searle were presented and many of their suggestions were subsequently invalidated due to theory-internal inconsistencies and, even more compellingly, due to psycholinguistic evidence that undeniably contradicts many of the predictions of this model.

The relevance-theory approach to metaphor was presented and critically discussed in Section 2.3.3. It was emphasized that the most recent version characterized by the notion of ad hoc concepts offers a very promising model to account for the processing and the pragmatic effects of metaphorical utterances. Central claims of this approach were questioned and alternative suggestions were made, but the important outcome of this section was that given the suggested modifications, which are all compatible with more basic relevance-theoretic assumptions, the theory proposes a fascinating model for the study of metaphor.

The major drawback that relevance theory has not been able to resolve yet is that it has not been able to explain why we have the metaphors we have. The issue of metaphor motivation has been disregarded and the systematic nature of metaphor has been ignored. The unfortunate result of this is the inability to explain how we can understand category-crossing metaphors and imagistic metaphors. Relevance theorists like to emphasize that their model is not just a theory of communication, but also a theory of cognition; however, I firmly believe that in order to achieve a more explanatory and predictive theory of communication, the different sources that feed our cognition have to be studied as well. General cognitive processes are not just informed by our brains and there is most definitely not a specialized language module governing language and communicative skills. Our everyday interaction with the world, including our bodily interaction with the world, informs our general cognitive processes and these general cognitive processes inform the production and understanding of language.

In the following chapter I will present the approach to figurative language as purported in cognitive linguistics. In my opinion, cognitive linguistics offers solutions to many of the problems that relevance theory has not yet managed to solve.

# 3

## Cognitive Linguistics and Metaphor

Modern cognitive linguistics has become a vigorous discipline in linguistics since its first steps in the 1970s. All the major levels of linguistic description, such as phonology, syntax, morphology and semantics, have been tackled from a cognitive linguistic viewpoint and cognitive linguistics has become an influential theoretical framework to discover the subtle workings of language.

Due to its basic prerequisites, cognitive linguistics is often presented as the big opponent to other contemporary and perhaps even more established approaches to language study as, for instance, generative grammar and truth-conditional semantics. Indeed, the major tenets of cognitive linguistics stand in harsh contrast to some of the major tenets of generative linguistics. However, in the spirit of the present work, some of these differences will be touched upon and a *prima facie* denial of or dogmatic approach to either of the two big theoretical frameworks will be eschewed.

Over the years, many brilliant minds who have dedicated themselves to a cognitive view of language have not only added valuable insights to the field, but unfortunately also a wealth of terminology that is often difficult to delineate. I am not going to delve into the myriad ways of using technical terminology. Instead, I will rather use the terminology that has evolved in cognitive semantic research on figurative language and has largely been used by scholars such as George Lakoff, Mark Johnson, Gilles Fauconnier, Mark Turner and Raymond W. Gibbs.

These scholars are responsible for the major approaches to implicit and figurative language from a cognitive point of view, and their ideas will be discussed in greater detail in the following sections of this chapter. However, at first I want to give a very brief presentation of those assumptions that are shared by all linguists working in the wide area of cognitive linguistics.

### 3.1 General assumptions of cognitive linguistics

The big question here is: Why do cognitive linguists emphasize that their approach to language and thought is cognitive? After all, every respectable

generative grammarian would also emphasize that his or her view of language is a cognitive view. Therefore, a major problem in answering this question is that not only cognitive linguistics claims to be cognitive, but generative linguistics also claims to be cognitive. On the one hand, both frameworks are 'cognitive', because the fact that language is rooted in the mind is taken for granted by both theories. On the other hand, there are some big differences between cognitive linguistics and generative linguistics.

In generative linguistics, language is located in the language faculty, an encapsulated module with its own rules and computations. Most generative linguists would probably not doubt that language as it is used by its speakers interacts with other modules of the mind, for example with representations gained through the senses, emotions, memory, etc. Notwithstanding, generative linguistics studies language in isolation from these modules. The basic assumption here is that we might use these other sources of information in order to make sense of language, but that language itself works according to its own computations isolated from other mental systems or modules. Moreover, it is not only assumed that language as a whole is autonomous, but that the language faculty even has submodules which are dedicated to phonology, syntax or semantics. Thus it is often even held that these submodules do not interact, but deliver their own domain-specific outputs as a response to their own domain-specific inputs.

In contrast, cognitive linguists are quite sceptical about the existence of encapsulated modules. As a consequence, cognitive linguists do not regard language as an isolated system, i.e. as a system that can be studied in total ignorance of the rest of the human mind and body. Instead, cognitive linguists posit that language is (only) one very elaborated and important instantiation of our general cognitive abilities. Furthermore, our cognitive abilities are not independent of our bodies, and therefore cognitive linguists pay attention to how our mind, our body and language work together. It is assumed that much of our knowledge is based on our sensorimotor interactions with the world. For instance, we use our understanding of containers to perform abstract inferences, we conceptualize abstract ideas and thoughts as objects that we can hold, inspect and manipulate, we conceptualize our life as a journey, etc. If one accepts this view, then studying language is only one focused discipline in studying human cognition. The knowledge and insights that we have acquired about various parts of the human mind all help us in understanding language, they may be refined by studying language, and last but not least they have to be compatible with the results of studying language. Langacker makes a similar point:

Perhaps the most fundamental methodological principle I follow is to look for *converging evidence* from multiple sources. This is especially important considering the diversity of the cognitive-functional enterprise. An essential source of guidance and empirical support for work in

any one area is its broad compatibility, and hopefully its convergence in specific details, with the findings of others. (Langacker 1999: 26)

To put this into one sentence: Studying language is studying human cognition and can consequently not be accomplished in isolation. In fact, according to a cognitive linguistic point of view, this would not just be an unsuccessful track, but the very notion of studying language in isolation is illogical. Language is pervaded with the totality of our human experience.

An important question that has been worked on, but has not yet been resolved, is whether conceptual thought influences language only diachronically over significant periods of time, whether it only motivates linguistic meanings of language communities without exercising significant influence on the online moment-to-moment understanding and production of language, whether it motivates the individual speaker's use and understanding of language or whether it even plays a crucial role in the online understanding of individual speakers in communication (cf. Gibbs 1996: 35–6).

On the one hand, these ideas are also the basis for the treatment of metaphor in cognitive linguistics. On the other hand, many of the defining assumptions of the cognitive linguistics programme result from research on metaphor.

### 3.2 Metaphor as conceptualization: conceptual metaphor theory

Modern theories of metaphor have refuted the notion that metaphor comprehension requires special processes which are only triggered off when a defect has been found in the standard literal processing mechanism. Nowadays, metaphor is regarded to be a central aspect in theories of human communication and cognition. Lakoff and Johnson (1980: 3) observe that 'metaphor is pervasive in everyday life, not just in language but in thought and action'. Many abstract or complex concepts that we encounter every day, like time, love, states, changes, war, etc., are mentally represented, understood and constituted by metaphor. The importance of metaphor for cognition, as opposed to language, becomes apparent when Lakoff and Johnson (1980: 153) say that 'metaphor is primarily a matter of thought and action and only derivatively a matter of language'. Thus, the total significance of metaphors only unveils itself when metaphors are not regarded as defective parts of language, but rather as tools to conceptualize one mental domain in terms of another. Metaphor is fundamentally a kind of mental mapping and neural coactivation from which certain patterns of conventional and novel metaphorical language arise and which influences how people think, reason and imagine in everyday life (Lakoff 2008; Lakoff and Johnson 1999).

Conceptual metaphor theory distinguishes between the words *metaphor* and *metaphorical expression*. The term metaphor is defined as 'a cross-domain mapping in the conceptual system' (Lakoff 1993: 203). The term *mapping*

comes from the nomenclature of mathematics. Its application in metaphor research basically means that features from a source domain (e.g. OBJECTS) are mapped onto a target domain (e.g. IDEAS). The term metaphorical expression refers to 'the surface realization of such a cross-domain-mapping' which is virtually what the term metaphor used to refer to (Lakoff 1993: 203).

Lakoff and Johnson (1980: 4ff) use, for example, the ARGUMENT IS WAR metaphor to illustrate why metaphor is a conceptual and conventional phenomenon and part of our ordinary system of language, thought, and action. The following utterances are possible surface realizations of this conceptual metaphor (cf. Lakoff and Johnson 1980: 4; italics in original):

- (1) Your claims are *indefensible*.
- (2) He attacked every weak point in my argument.
- (3) His criticisms were *right on target*.
- (4) I *demolished* his argument.

Obviously, the metaphor ARGUMENT IS WAR is not just exploited linguistically. The structure of the concept *war* is imposed (at least in parts) on the structure of the concept *argument*. This means that our conceptualization of arguments is determined by our understanding of war. In order to understand an event as an argument, we have to be able to detect a certain structure in this event which fits our concept *war*. The basic structural units involved in a war – attack, defence, counterattack – are carried over to arguments. To illustrate how important this conceptualization for our understanding of the concept *argument* is, Lakoff and Johnson (cf. 1980: 5) propose to imagine a culture in which arguments are conceptualized as a dance. The participants of the argument would be viewed as dancers and the goal of the argument would be to perform a balanced and aesthetically pleasing argument. Although this would be a theoretically sound conceptualization of an argument, we would certainly not be willing to accept labelling this event an argument. Thus, the ARGUMENT IS WAR metaphor does not only provide a way to express ideas about the notion of ARGUMENT through language, it also constitutes what arguments mean to us and therefore how we behave in arguments.

The first conceptual metaphor that was discovered and has been studied extensively is the CONDUIT metaphor. Michael J. Reddy (1979/1993) noticed that about 70 per cent of our metalanguage consists of metaphorical expressions which can be allocated to the three related metaphors IDEAS (OR MEANINGS) ARE OBJECTS, LINGUISTIC EXPRESSIONS ARE CONTAINERS and COMMUNICATION IS SENDING. Examples (5) to (7) are surface realizations belonging to these metaphors.

- (5) *Give me an idea!*
- (6) Noel's *words* were not really *packed* with *thoughts*.
- (7) Liam's writing doesn't transfer any feelings.



The process of communication is regarded as putting ideas into a container that is sent to the addressee afterwards. Hence, these metaphors clearly contribute to a notion of the code model of communication where a speaker encodes meaning into a sentence, sends it over to the hearer and the hearer then decodes the sentence. Obviously, the CONDUIT metaphor system does not reveal the total truth about the nature of communication. This is typical of conceptual metaphors, as it is an unavoidable side effect that not all aspects of the source domain are mapped to the target domain. The metaphorical projection of elements from one domain onto another domain necessarily implies that there are certain aspects that remain hidden and that there are other aspects that are highlighted.<sup>19</sup> In the case of the CONDUIT metaphor, the effects of hiding certain characteristics of communication and highlighting other characteristics are subtle but existent. Of course, the subtle nature of these effects contributes even more to a one-sided image of communication.

An important lesson to learn from these observations is that inference patterns from one conceptual domain can be inherited and applied to another conceptual domain via metaphor. The next section will investigate this feature in greater detail.

### 3.2.1 A modified invariance hypothesis

In most cases of metaphorical language, abstract or complex concepts are structured and understood by more concrete and tangible concepts through fixed patterns of conceptual correspondences. In fact, it is particularly interesting that most of the abstract concepts that we have are metaphorically conceptualized. 'Concepts like time, quantity, state, change, action, cause, purpose, means, modality and even the concept of a category' are understood metaphorically (Lakoff 1993: 212).

A common type of metaphor that facilitates our understanding of events, emotions, ideas, etc. are so-called *ontological* metaphors (cf. Lakoff and Johnson 1980: 25–32). These metaphors impose characteristics of physical objects and substances on our experiences and thereby help us to grasp them.

Once we can identify our experiences as entities or substances, we can refer to them, categorize them, group them, and quantify them – and, by this means, reason about them. (Lakoff and Johnson 1980: 25)

Ontological metaphors like INFLATION IS AN ENTITY (e.g. *We need to stop inflation*) or THE MIND IS AN ENTITY with its specifications THE MIND IS A MACHINE (e.g. *He has a screw loose*) or THE MIND IS A BRITTLE OBJECT (e.g. *He broke down under the pressure*) allow us to handle abstract concepts like inflation or the mind and to deal with our experiences. The following examples of metaphorical

expressions further demonstrate that such ontological metaphors are really pervasive in our conceptual system:

- (8) *Inflation* is the *enemy* of our economy.
- (9) My *brain* doesn't *work* anymore.
- (10) His words smashed her self-confidence.

With the help of metaphors like these, we can highlight different aspects of mental experience and we are in a position to reason about inflation or our mind.

A substantial ontological metaphor is the CONTAINER metaphor, which often makes us construe things as closed and bounded even though they are not. Categories are, for example, often metaphorically understood as containers. We project in-out orientations onto categories, which is manifest in utterances like *He is in the team*, *Gary is out of sight* or *Liam is in deep trouble*. It is interesting to realize that even the logic of classical categories is derived from the topology of containers. The topological properties of containers *A*, *B* and *C* entail the following inclusion relation:  $(A \subset B) \wedge (B \subset C) \Rightarrow A \subset C$ . This inclusion relation, for example, helps us to understand the classical syllogism as applied in the following example:

- (11) (Robbie is a pop star.)  $\wedge$  (All pop stars are addicted to drugs.)  
 $\Rightarrow$  (Robbie is addicted to drugs.)

We can clearly induce (12) from (11):

- (12) If *x* is in category *A* and category *A* is in category *B*, then *x* is in category *B*.

And this is obviously equivalent to the inclusion relation of containers mentioned above.

Another interesting metaphor that is often used in order to make metaphorical inferences about a target domain is the LINEAR SCALES ARE PATHS metaphor (cf. Lakoff 1993: 214). Expressions like in (13) and (14) are instances of this metaphor.

- (13) Noel has *far* more money than Robbie has.
- (14) Robbie's performance is *way ahead of* Noel's and Liam's.

What makes this metaphor particularly interesting is the fact that the logic of paths is mapped onto the logic of linear scales. Therefore, the inference patterns of paths are transferred to concepts of linear scales. If I know that someone went from point *A* to *B* on a path, then I can infer that this person

passed all points between *A* and *B*, but none behind *B*. Analogically, if I know that someone is 25 years old, then I know that he has passed the ages of 15 or 20, but not that of 30.

The observations concerning the LINEAR SCALES ARE PATHS and the CLASSICAL CATEGORIES ARE CONTAINERS metaphors strengthen the hypothesis that inferential processes are supported by metaphorical thinking. A fundamental condition for this hypothesis is what Lakoff (1990: 54) called the *invariance hypothesis*: 'Metaphorical mappings preserve the cognitive topology (this is, the image-schema structure) of the source domain.' Lakoff (1993: 215) adds that these projections have to be consistent with the inherent structure of the target domain. The practical significance of this principle lies in the assumption that the CONTAINER metaphor, for example, exactly maps exteriors onto exteriors, interiors onto interiors and boundaries onto boundaries. Under PATH schemas, sources are mapped onto sources, goals onto goals, trajectories onto trajectories, etc. (cf. Lakoff 1993: 215). Thus, the correspondences between two different concepts are restricted. This means that such correspondences are not arbitrary but systematic. It is this non-arbitrariness of correspondences that enables us to reason and infer in abstract and complex ways in terms of very conventional image schemas that we are all familiar with. It should be mentioned, however, that the invariance hypothesis does not claim that whole domains are copied onto each other. It merely suggests that correspondences are systematic regarding their cognitive topology.

Evidently, abstract inferences about categories and linear scales are only transferred versions of inferences about containers and paths. If the invariance hypothesis holds, the image-schematic structure of a source domain is always projected onto a target domain. Therefore, we are entitled to assume that not only inferences about categories and scales are basically metaphorical, but perhaps even all kinds of abstract inferences. Lakoff (1993), however, does not prove this assumption. He only provides evidence that many of our basic concepts are understood via metaphor. In fact, he proposes that 'abstract reasoning is a special case of image-based reasoning' and that therefore 'image-based reasoning is fundamental and abstract reasoning is image-based reasoning under metaphorical projections to abstract domains' (Lakoff 1993: 229).

However, the invariance hypothesis is not entirely unproblematic. Let us consider what Grady, Taub and Morgan (1996: 177) call the 'poverty of mappings' problem, which can be illustrated by the THEORIES ARE BUILDINGS metaphor. According to this metaphorical mapping, *theories* can have a *framework*, but not *windows*. More generally, it often seems to be the case that only a very restricted set of elements from a source domain really gets mapped onto the target domain. With respect to the invariance hypothesis, the problem seems to be that the possible metaphorical entailment that a theory can have windows is not blocked by target domain topology and yet it is not projected. Apparently, the invariance hypothesis sometimes cannot

explain why particular entailments are not instantiated, although they are not blocked by target domain structure. It would be possible to claim that the invariance hypothesis is overgenerative; however, as I mentioned above, the invariance hypothesis should perhaps not be understood as making predictions about which elements are involved in the mapping. I suggest that it should only be taken to make predictions about the structure a metaphorical mapping generates in the target domain.

It was mentioned that it has become an entrenched part of the THEORIES ARE BUILDINGS metaphor that theories have *frameworks*, but not *windows*. However, in Section 4.4 it will be shown that conceptual metaphors can be extended to novel uses of the metaphor. As such, it seems perfectly natural to speak of the windows of a theory. Consider the following example:

(15) His theory has many windows.

It is easily conceivable that such a theory is open to influences from outside, that some fresh air can blow through the theory, that the theory has an emergency exit, etc. All these statements again are metaphorical extensions of the THEORIES AS BUILDINGS metaphor and we do not seem to have difficulties in understanding them. According to the invariance hypothesis, these metaphorical entailments would be licensed, but in line with the poverty-of-mapping position, these entailments are usually not being made. In my opinion, the important clue here is the question of whether particular entailments which are licensed by source domain structure are relevant in the target domain. If they are, then they are mapped. If not, then they are not mapped. It all depends on expectations of relevance. An addressee will incorporate those entailments into his interpretive hypotheses which satisfy his expectations of relevance. Thus, relevance theory is obviously an important addition to the theoretical machinery provided by cognitive linguists in order to solve the riddle of which elements are mapped and which are not.

Relevance theory could also help with another problem caused by the invariance hypothesis. An issue that the invariance hypothesis has not yet managed to deal with is its notion that only source domain knowledge that does not contradict target domain knowledge is mapped. Note that the invariance hypothesis is particularly useful in cases where abstract domains are structured via recourse to a more tangible source domain. These are cases where we often would not be able to conceptualize the target domain without structure provided by a more concrete source domain at all. However, if we have to consider that the knowledge we map from source domains onto target domains is supposed to fit target domain structures, this implies that we already have some grasp of the target domain. Thus, this version of the invariance hypothesis seems to be circular at least for those conceptual metaphors where we do not have

an independent conceptualization of the target domain. How can source domain structures violate target domain structures, if exactly these source domain structures are supposed to structure the target domain in the first place? Thus, in those cases where our only conceptualization of a target domain is via the metaphor itself, the invariance hypothesis cannot constrain possible projections; it can only make a prediction about the target domain topology. In other cases where a direct conceptualization of the target domain already exists independently of possible metaphorical mappings, the invariance hypothesis could theoretically constrain candidate projections from a source to the target. However, I will now develop my claim that even in these cases the invariance hypothesis should not make the prediction that target domain topology has to be respected. I claim that the invariance hypothesis has to be restricted to Lakoff's original formulation, which states that metaphorical mappings preserve source-domain topology. Lakoff's amendment that they have to respect target domain topology cannot be supported.

I assume that sometimes entailments from a source to a target are made even if this leads to a contradiction in the target domain, which is a problem for a strict version of the invariance hypothesis. In my opinion, however, it should not be regarded as a problem of conceptual metaphor theory. Just take into account that in relevance theory a contradiction of existing assumptions is even considered to be one of the three standard types of cognitive effects. A prime example of contradictions in the target domain is the case of multiple metaphors structuring one target domain. This phenomenon has been singled out by Murphy (1996: 187) in his criticism of conceptual metaphor theory: 'If a concept is structured metaphorically, the presence of multiple, conflicting metaphors is a serious problem.' However, from a relevance-theoretic point of view, the well-known phenomenon that some target domains are metaphorically structured by a many-to-one relation, i.e. a relation of several source domains structuring the same target domain, makes sense. This is not a logical fault in the theory of conceptual metaphors, but a typical feature of our cognitive system. Moreover, it is very rare that one target domain element is conceptualized by mappings from various source domains. Usually, different conceptual metaphors are used for different aspects of the target domain.

Altogether at least two different cases of conceptual clashes in the target domain could possibly arise: (1) Two different conceptual metaphors are conventionally used to conceptualize the same target domain, or (2) only one conceptual metaphor is used, but the target domain already has its own image-schematic structure.

In case one, the invariance hypothesis can still hold with a minor restriction. The point is that the invariance hypothesis constrains the mappings of conceptual metaphor number one and determines part of the target domain topology (invariance<sub>1</sub>). In addition, the mappings of conceptual metaphor

number two are also constrained and part of the target domain topology is determined by metaphor two (invariance<sub>2</sub>). When both conceptual metaphors are activated at the same time, then this can lead to contradictions in the target domain, although this does not necessarily happen. However, irrespective of whether there is a contradiction or not, it can be noted that for each individual metaphor, the invariance hypothesis might still work correctly. Thus, if the invariance hypothesis is understood as a principle that only applies to single metaphors and not simultaneously to all metaphors with the same target domain, then the invariance hypothesis still holds.

In case two, the invariance hypothesis can still hold with an even bigger restriction. In order for the invariance hypothesis to be viable, we must now reduce the invariance hypothesis to its original definition only and ignore the amendment to the definition which says that the inferences must be consistent with the target domain. What then remains is the important idea that metaphorical mappings preserve source-domain topology. Now, however, it is not ruled out that these inferences violate target domain structure. Metaphors may even override target domain structures.

I think that such a modification of the invariance hypothesis is legitimate, given that cognitive dissonance is just as common a phenomenon of our minds as is metaphor. Relevance theory accounts for this fact by acknowledging that the overruling of existing assumption by new assumptions is a positively relevant modification of our cognitive environment. It even is a theoretical necessity, if one considers that metaphors are often applied to conceptualize a target domain in a new way.

In my opinion, the first part of the invariance hypothesis, which says that knowledge which is mapped from a source keeps its structure in the target domain, is a very useful and correct insight. However, the invariance hypothesis should not and cannot make claims regarding the particular knowledge which, in fact, gets mapped. The invariance hypothesis is to be seen as a frame which guides entailments from a source domain to a target domain – even if this frame violates some preconceived notion of the target and even if the frame is not filled as much as it could be. So the situation is that source domain topology is maintained under a metaphorical mapping, but some sort of preconceived target domain topology can indeed be violated. The principle of relevance determines the elements which are mapped from source to target and the invariance hypothesis determines the metaphorically induced topology of the target domain.

An advantage that conceptual metaphor theory has in comparison with other theories of metaphor is its focus on the motivation for metaphors. Only conceptual metaphor theory has tried to provide answers to the question of why we have the metaphors we have. It is particularly this research which can add to the general relevance-theoretic insights in making predictions about metaphorical mappings.

### 3.2.2 Why do we have the metaphoric concepts we have?

Conceptual metaphor theory is unique among theories of metaphor in at least two respects: First, it achieves a degree of descriptiveness of our metaphorical system that is unrivalled. In fact, there is no other theory of metaphor that talks about a system of metaphors at all. And secondly, it is the theory that has spent the most effort on questions regarding the emergence of metaphor or metaphorical grounding. Thus, cognitive linguistics is probably the most elaborate framework with respect to the question of why we have the metaphors we have. It has to be noted, though, that relevance theorists have at least worked on the development of human communicative competences in a more general fashion. Most notably, Dan Sperber (cf. 1994a, 2005) has written on this topic from an evolutionary perspective. Hence, relevance theory has taken a more general, phylogenetic stance, whereas cognitive linguistics has taken a more individually based, ontogenetic stance.

In cognitive linguistics the keywords for the grounding of metaphor are *experience* and *embodiment*. The general idea is that through recurrent experiences that we make with our own bodies we can build structured mappings to other domains and thereby form conceptual metaphors. The experiential patterns we derive from perception, bodily action and the manipulation of objects are non-propositional image schemas. Gibbs, Lima and Francozo (2004: 1192) point out that image schemas are 'imaginative and non-propositional in nature and operate as organizing structures of experience at the level of bodily perception and movement'. Some scholars cooperating with George Lakoff even try to track this down to the level of neural computations in our brains. From this perspective the question is 'can rational inferences be computed by the same neural architecture used in perception or bodily movement' (Lakoff and Johnson 1999: 16)? The answer Lakoff and colleagues give is, of course, positive. On this background, Lakoff and Johnson (1999: 20) define an embodied concept as follows: 'An embodied concept is a neural structure that is actually part of, or makes use of, the sensorimotor system of our brains. Much of conceptual inference is, therefore, sensorimotor inference.' Thus, the answer to the question about the motivation for metaphor lies in our bodies, and more particularly, in the neural structures of our brains.

The origins of research on the grounding of metaphor date back to Lakoff and Johnson (1980). *Oriental metaphors* based on the concept UP are classic examples supporting ideas about metaphorical grounding. The metaphor HAPPY IS UP, for instance, is grounded in our spatial experiences. We project up-down orientations onto states (e.g. standing, lying), actions (e.g. lifting, pushing), objects (e.g. skyscrapers, holes in the ground) and we have a very precise notion of what it means to be UP. This notion derives from our proprioceptors and our kinaesthetic abilities as well as from other senses such as sight and touch. The concept of HAPPINESS is, of course, just as

basic as our concept UP, but Lakoff and Johnson (1980: 58) argue that 'our emotional experiences are much less sharply delineated in terms of what we do with our body'. Conceptual metaphors help us structure our basic experience of happiness. 'Since there are *systematic correlates* between our emotions (like happiness) and our sensorimotor experiences (like erect posture), these form the basis of orientational metaphorical concepts (such as HAPPY IS UP)' (Lakoff and Johnson 1980: 58; italics in original). It is conceivable that the correlates derive from general experiences like the following: When we are happy we hold our heads high; when we are happy we cannot sit down, but want to move (maybe even jump up and down); when we are sad we hang our heads; when we are sad we break down and fall on our knees; and so on.

A simpler example involving the concept UP is the MORE IS UP metaphor, which is realized in utterances like the following (Lakoff and Johnson 1980: 16):

- (16) My income rose last year.  
 (17) The number of errors he made is incredibly low.

Here the argument is that from our earliest childhood days we experience piles of objects or the levels of fluids rising, if more of the same kind is added.

The CONTAINER metaphor is another example of an orientational metaphor, i.e. of a metaphor based on an image schema (cf. Lakoff and Johnson 1980: 58–60). The experiential basis of this metaphor is our perception of ourselves as containers. Human beings have an inside and an outside. Our bodies are entities that contain organs, fluids, muscles, bones, etc. and our skin is our bodies' boundary to the outside. This very basic experience is assumed to be made use of in the following metaphors: THE VISUAL FIELD IS A CONTAINER (e.g. *The church is in sight*), SOCIAL GROUPS ARE CONTAINERS (e.g. *They kicked him out of the team*), etc.

Other early examples of metaphorical grounding come from the more complex category of *structural metaphors*. Consider the ARGUMENT AS WAR metaphor (cf. Lakoff and Johnson 1980: 61–5). Here the assumption is that fights and war are a very natural part of our experiences. Through direct and indirect, recurrent experiences of fights and wars in order to maintain one's interests, humans usually have a very clear idea of the structure of a fight/war. However, next to physical conflicts, human beings also have the option to settle a conflict in other ways. After all, we have developed verbal abilities that enable us to maintain our interests verbally. Thus, in a sense physical conflicts and verbal conflicts share the goal of maintaining one's own interests. In order to further understand the cultural achievement of verbal arguments, we draw on systematic correspondences to the natural domain of a physical conflict/war.



A stimulating and systematic approach to the motivation for conceptual metaphors comes from Grady (1997, 1999; see also Grady, Taub and Morgan 1996). His approach both shows that the experiential basis is not equally immediate for all conceptual metaphors and it provides an answer regarding the grounding of metaphors which do not seem to be directly rooted in our experience. According to Grady, conceptual metaphors can be categorized as *primary metaphors* motivated via correlations of experiences, as *resemblance metaphors*, as instantiations of the GENERIC IS SPECIFIC metaphor and as complex *blends* of basic metaphors. Thus, conceptual metaphors can be motivated in different ways.

The general idea of Grady's theory of primary metaphor is that there are metaphors which are basic and that there are other metaphors which are compositions of basic metaphors. In detail, Grady, Taub and Morgan (1996: 181) distinguish between the notion of a primary metaphor, or primitive, which they define as 'a metaphorical mapping for which there is an independent and direct experiential basis and independent linguistic evidence' and the notion of a compound, which they define as 'a self-consistent metaphorical complex composed of more than one primitive'. Primary metaphors are usually not just partial mappings between two domains, but generally fairly complete mappings, so that not just a few concepts from the source domain get mapped to the target domain. Furthermore, for primary metaphors it is typically relatively easy to identify an experiential basis for the metaphor, a so-called *primary scene*. This experiential basis is usually a *correlation* of one experience in one domain with another experience in another domain. The MORE IS UP metaphor is an appropriate example of this. When we experience that the quantity of a substance increases, we also experience that the vertical scope of this substance rises. Another example of primary metaphors is the AFFECTION IS WARMTH metaphor, which is instantiated by metaphorical expressions of the following kind:

- (18) She has a warm heart.
- (19) They received me with a cold welcome.

Here, the primary scene where two kinds of experience are correlated is assumed to be based on a baby's experience of warmth while being held affectionately by the mother. Thus, in contrast to conceptual metaphors in general, primary metaphors always have some kind of direct experiential motivation. The following conceptual metaphors are further examples of primary metaphors (cf. Lakoff and Johnson 1999: 50–4): AFFECTION IS WARMTH, IMPORTANT IS BIG, INTIMACY IS CLOSENESS, DIFFICULTIES ARE BURDENS, SIMILARITY IS CLOSENESS, ORGANIZATION IS PHYSICAL STRUCTURE, STATES ARE LOCATIONS, CHANGE IS MOTION, CAUSES ARE PHYSICAL FORCES, KNOWING IS SEEING, UNDERSTANDING IS GRASPING.

Lakoff and Johnson (1999: 45–59) describe a four-part system for the development of conceptual metaphors. The first part is a conflation period (cf. Johnson 1997a,b) where a correlation of early experiences of young children leads to a conflation of different domains. Later, children learn to differentiate between the different domains, but still associate those domains with one another. Lakoff and Johnson see in these associations the basis for the development of Grady's primary metaphors. The biological foundation for this process is described by Narayanan's (1997a,b) neural theory of metaphor. Narayanan argues that domain knowledge is biologically represented by neural networks and he argues that when we represent a conceptual domain, we activate the appropriate neural network. Narayanan posits that in the period of conflation two separate neural networks (e.g. WARMTH and AFFECTION) are repeatedly coactivated and thereby a permanent association between these neural networks is established.

We now have two views of primary metaphors: a conceptual view and a neural view. Lakoff and Johnson summarize this as follows:

Primary metaphors, from a neural perspective, are neural connections learned by coactivation. They extend across parts of the brain between areas dedicated to sensorimotor experience and areas dedicated to subjective experience. ... From a conceptual point of view, primary metaphors are cross-domain mappings, from a *source domain* (the sensorimotor domain) to a *target domain* (the domain of subjective experience), preserving inference and sometimes preserving lexical representation. (Lakoff and Johnson 1999: 57–8; italics in original)

Another class of conceptual metaphors falls into a category called *resemblance* metaphors. At closer inspection it seems as if many conceptual metaphors which appear to be very basic cannot be explained by a correlation of experiences. The clue to these metaphors is sometimes a resemblance between source and target. Grady makes it very obvious that he does not want to reanimate earlier theories of metaphor which were solely based on similarity. These theories were discredited by cognitive linguists for the fact that many metaphors simply do not rely on similarity. In the conceptual metaphor HAPPY IS UP, for example, it is very difficult to see in which ways the concept *happiness* is similar to the concept *up*. Nevertheless, there are many conceptual metaphors which are based on resemblances in the sense that we may *perceive* and represent resemblances between different entities. Grady (1999: 89) emphasizes that this is not a claim about facts in the world, but just about our conceptualization of the world. In a similar fashion, Kövecses (2002: 71–2) points out that pre-existing similarities of events are not necessary for conceptual metaphors, but that conceptual metaphors may be based on the perception of non-objective similarity like

in the example LIFE IS A GAMBLING GAME. *Life* and *gambling games* are strictly speaking not similar, but Kövecses argues that as a result of the conceptual metaphor we at least perceive structural similarities, which can be expressed by the following mappings:

- (20) a gamble → an action in life  
 winning or losing → consequences of the action

Unfortunately, Kövecses does not tell us what motivates the conceptual metaphor between the two domains GAMBLING GAME and LIFE in the first place. Grady is a little bit more precise in this respect when he mentions that resemblances can, for instance, be rooted in physical similarities of entities or in behavioural similarities, even if these similarities should not be understood as facts of the world. This view implies that resemblance metaphors do not belong to those conceptual metaphors which fill out blanks in our conceptual system. One of the major insights of conceptual metaphor theory is that we can use conceptual metaphors in order to grasp one, often abstract, domain by using our understanding of a source domain, which is often a very concrete domain structured by perceptual input. If our perception of resemblances between two domains motivates the existence of a conceptual metaphor, then this can possibly shed new light on the target domain and thereby perhaps even alter our understanding of the target domain. However, a basic understanding of the target domain must exist even before we have such a conceptual metaphor available. If this is not the case we could not notice resemblances.

A modern account of metaphor that approaches the role of comparisons in metaphor interpretation in a more systematic way is Gentner's (1983, 1989) *structure-mapping theory*. Gentner and Bowdle (2001) claim that novel metaphors and conventional similes are understood by comparison, whereas novel similes and conventional metaphors are understood by categorization. Gentner's account seems to nicely combine all the major approaches in one metaphor theory; however, the general problems associated with the notion of similarity are not avoided in this account either. Structure-mapping theory posits that the interpretation of metaphors happens in two steps (Gentner and Bowdle 2001: 226): First, matching predicates from two ontologically different domains are structurally aligned, and then so-called candidate inferences, which are connected to 'the common system', can be mapped as emergent structure from the base to the target. Apparently, this theory always presupposes pre-existing similarity and is sceptical of the meaning-generating potential of metaphors (as supported by Schön 1979/1993; Lakoff 1992; Lakoff and Johnson 1980; for a critique see Murphy 1996). When Grady and Kövecses make statements with similar implications this is not as problematic, because Grady and Kövecses realize that only a special subclass of conceptual metaphors is motivated

by resemblances and that there is another class of conceptual metaphors which indeed can be used in order to create an understanding of an abstract domain. What is problematic in Gentner's account, however, is the assumption that novel metaphors are always interpreted as a comparison in which target and base concepts are structurally aligned. On such an assumption it is not possible to claim that we could ever use metaphor to conceptualize a domain that we cannot conceptualize directly. A more defensive claim would yet be possible though. According to structure-mapping theory it is possible to say that a domain might not be conceptualized exclusively via metaphor, but that a domain might be conceptualized partly by metaphor. If we use particular metaphoric expressions about a domain repeatedly, it should be possible that this influences our general conceptualization of this domain. Such a claim would be compatible with Murphy's (1996) favoured interpretation of conceptual metaphor theory.

Gentner's structure-mapping theory certainly has its own merits and it offers a degree of descriptiveness that Grady's discussion of resemblance metaphors does not. However, it seems as if Gentner's theory is also seriously flawed, and therefore I would like to make the following suggestion: Some metaphors are indeed motivated by resemblances. These metaphors lack the generative potential of other metaphors, for example, that of correlation metaphors. Nevertheless, resemblance metaphors have the potential of at least influencing our conceptualizations. Considering this, Grady's suggestion seems to be very satisfying, because in Grady's system of conceptual metaphors there is room for both correlation and resemblance metaphors. I will now continue discussing the third type of motivation for conceptual metaphors that Grady proposes.

In addition to correlation and resemblance metaphors, Grady discusses metaphors of the *GENERIC IS SPECIFIC* type, which were first presented by Lakoff and Turner (1989). The idea is that several specific-level schemas all share one generic-level schema. Grady (1999) gives the *RISK-TAKING IS GAMBLING* and the *COOPERATIVE ACTIVITY IS MUSICAL HARMONIZING* metaphors as examples of this type of conceptual metaphor. It seems to be the case that often prototypes of a generic category represent the whole category, a relationship that other scholars would probably classify as metonymy. This shows that humans have the cognitive capacity to construct metaphors where the source is a special instance of the target. In this way many specific instances which all share the same generic supercategory can be mapped onto each other. This is fairly similar to the way in which resemblance metaphors operate. Both types of metaphor include the construal of a situation in which source and target share the 'same conceptual relationship, differentiated from each other only with respect to which link is profiled' (Grady 1999: 95).

What still has to be studied is how such a process is constrained. After all, we could probably find supercategories for endless numbers of concepts with the same level of specificity without seeing metaphorical mappings

between these concepts. Obviously, the generic supercategory might license the metaphor, but something else must be the driving force in the creation of each of the GENERIC IS SPECIFIC metaphors. I suppose that theories encompassing notions of relevance and salience could provide a clue to this problem.

Until now we have almost ignored a large class of metaphors which do not fit in either of the categories we have discussed so far (primary/correlation metaphors, resemblance metaphors, GENERIC IS SPECIFIC metaphors). Many conceptual metaphors cannot be traced back directly to correlations of experience, to a resemblance between concepts or to the GENERIC IS SPECIFIC pattern. Sometimes conceptual metaphors are complex constructs which derive from a composition of these more basic types of metaphors. Grady claims that the process by which we can combine basic metaphors to receive complex metaphors is conceptual integration, also called blending (Fauconnier and Turner 1998, 2002). The general idea is that we can use our knowledge from different domains (or mental spaces) in order to create a *generic space*, in which we have structure available that is shared by each of the input domains, and, even more importantly, that we can use our input knowledge in order to create a *blended space*, in which we combine elements from the input spaces and where we may also add new conceptual elements.

A typical example of this process is provided by the conceptual metaphor THEORIES ARE BUILDINGS which is often expressed by utterances like the following:

- (21) The theory broke down.
- (22) They constructed the theory from the ground up.
- (23) The theory was torn down brick by brick.

Grady, Taub and Morgan (1996) demonstrate that the THEORIES ARE BUILDINGS metaphor is a blend of the primary metaphors PERSISTING IS REMAINING ERECT and LOGICAL STRUCTURE IS PHYSICAL STRUCTURE. These two primary metaphors, for instance, license the following metaphorical inferences: theories can be supported, theories have a foundation, theories can break down, theories can sway, etc. Above it was already mentioned that theories usually do not have windows and they neither have escalators. According to Grady's theory of primary and complex metaphors, these would be inferences which are not licensed by the primary metaphors that build the basis for the THEORIES ARE BUILDINGS metaphor. This shows that when conceptual metaphors can be broken down into atomic primary metaphors, we also get some constraints on the mappings between source and target, which is something the invariance hypothesis was not able to achieve.

Thus, in addition to the invariance hypothesis, which suffered from a lack of constraints, cognitive linguistics offers a second principle that makes predictions about target domain structure. Grady's ideas on primary and

complex metaphors help us in finding out about which elements can be mapped from a source to a target, and the invariance hypothesis constrains the arrangement of those elements which have got mapped from a source to a target. In addition to these principles, important means determining which elements are mapped in a conceptual metaphor are offered by relevance theory. Together these suggestions build a strong and unified picture about how many conceptual metaphors are motivated by embodied processes.

The most recent development within cognitive linguistics elaborating on the idea of embodiment is the *neural theory of language* (Dodge and Lakoff 2006; Lakoff 2008). A general assumption of this work, based on much emerging evidence from neuroscience, is that there are not specialized areas of the brain for language. The same neurons can function in many different neuronal groups or *nodes*. Computational modelling of cognitive and linguistic processes is done over networks of nodes, connections, degree of synaptic strengths, and time lapses at synapses. These features provide the tools necessary to explain various aspects of enduring metaphorical thought and language use.

Embodied simulation is the key feature of the neural theory of metaphor. Embodied experience has always been recognized as playing a primary role in structuring metaphorical concepts such that many source domains in conceptual metaphors appear to have image-schematic structure (i.e. are rooted in recurring patterns of bodily experience, such as CONTAINMENT, SOURCE-PATH-GOAL, BALANCE, etc.) (Johnson 1987). In recent years, work incorporating computational techniques from neural modelling has led to the development of complex systems in which 'conceptual metaphors are computed neurally via neural maps – neural circuitry linking the sensorimotor system with higher cortical areas' (Lakoff and Johnson 2003: 255). Metaphorical mappings are physical neural maps that bind sensorimotor information to more abstract ideas as part of the neural ensembles existing in different regions of the brain. Many aspects of metaphorical thought are now understood as 'metaphorical enactments' that occur in real-time as dynamic brain functions.

Consider, for instance, the complex expression *I've fallen in love, but we seem to be going in different directions* (Lakoff and Johnson 2003: 255). Several conceptual metaphors structure the neural, imaginative enactment that enable us to understand this statement, including LOSS OF CONTROL IS DOWN (e.g. *I've fallen*), STATES ARE LOCATIONS (e.g. *in love*), CHANGE IS MOTION (e.g. *fallen in love* is a change to a new state), and LOVE IS A JOURNEY (e.g. *going in different directions*). The particular metaphorical inferences derived from the above statement are carried out not from the simple projection of different source domain knowledge into the target domain of love and love relationships. Instead, the inferences arise from source domain enactments that are carried over to the target domain via neural links. This is a significant

constraint on the type of metaphorical projections that occur in that there is no need to have a special mechanism that overrides certain metaphorical mappings.

In cases of metaphorical expressions, such as *John finally grasped the concept of infinite numbers*, there is activation of neural circuitry associated with actual grasping (i.e. the source domain), which together with activation of the target domain from context (i.e. the abstract concept related to infinite numbers) creates a mapping circuit. Recent developments in cognitive neuroscience has shown the existence of *mirror neurons* in the pre-motor cortex that are activated when people merely see specific actions, imagine doing those actions, and even hear language referring to those actions. For instance, mirror neurons associated with grasping become active when people see others grasping objects, when they imagine grasping objects, or when they hear the verb *grasp*. A significant feature of this account, then, is that the totality of a source domain does not need to be processed before target domain inferences are determined. This immediate creation of an integrated circuit, in which both source and target domain are processed at once, is consistent with behavioural evidence that people can as easily understand metaphorical expressions as non-metaphorical ones, and with neuroscience evidence on the spread of activation in neural circuits.

The neural theory of metaphor offers additional motivation for why conceptual metaphors arise in the ways they do, endure in thought, and are widely evident in language. Metaphor is a natural development of the way that neural systems work with recurring mappings, predictable inference patterns and emergent properties. Although the work on a neural theory primarily rests on existence proofs based on computational modelling, with little empirical work devoted to the neural structures involved in actual metaphor use and understanding, this theory provides a further example of how cognitive linguistic theories of metaphor often seek deeper connections between brains, minds, and language.

In the next section, I will present Fauconnier and Turner's blending theory in greater detail. It will be shown that blending theory is an important addition to conceptual metaphor theory, because it provides the theoretical framework which is needed to see how primary metaphors can be combined into complex metaphors. Furthermore, blending theory is well equipped to deal with novel metaphors and online processes in metaphor understanding.

### 3.3 Metaphor and creative thinking: blending theory

Compared to conceptual metaphor theory, conceptual integration, i.e. blending theory, is a fairly young member of the family of theories approaching figurative language within the framework of cognitive linguistics. Blending theory's beginnings lie in Gilles Fauconnier's work on mental

spaces (Fauconnier 1985). In contrast to the notion of a domain, which is characterized by a fairly context-independent, long-term knowledge structure, a mental space is a construct which is created ad hoc and for a local purpose:

Mental spaces are small conceptual packets constructed as we think and talk, for purposes of local understanding and action. Mental spaces are very partial assemblies containing elements, and structured by frames and cognitive models. They are interconnected, and can be modified as thought and discourse unfold. Mental spaces can be used generally to model dynamical mappings in thought and language. (Fauconnier and Turner 1998: 137)

In blending theory, cognitive operations are described and explained by a network model of mental spaces. These networks typically consist of two input spaces, a generic space containing structure that both input spaces share and a blended space which contains structure from the two input spaces as well as emergent structure.<sup>20</sup> This emergent structure does not derive from any of the input spaces alone, but is the outcome of the interaction between the two input spaces.

Similar to conceptual metaphor theory, where we have mappings from one domain to another domain, in blending theory we often have counterpart connections between the two input spaces. These counterparts may be connections between frames and roles, between identical elements, between transformed elements or between metaphorically linked elements (cf. Fauconnier and Turner 1998: 142). Such counterparts are projected to the generic space and are represented there as one abstract element. To illustrate this let us consider the following often cited example which Grady, Oakley and Coulson (1999: 103–6) discuss from a blending-theory perspective:

(24) This surgeon is a butcher.

This utterance prompts a conceptual integration network with two input spaces. In one input space we have a surgeon and a patient. The surgeon operates on the patient in an operating room and uses special instruments such as a scalpel. The goal of the operation is to heal the patient. In the other input space we have a butcher and some animal that is being killed and further processed in order to be consumed as food. Thus the animal is a commodity and the goals of the butcher are to slaughter the animal and to sever its flesh for which he possibly uses a cleaver. The instruments are very different from the surgeon's instruments. A surgeon, for example, would not use a cleaver. Still, we can identify many counterpart relations in these two inputs. The surgeon corresponds to the butcher, the patient corresponds to the animal, the scalpel corresponds to the cleaver, etc. In



the generic space we find these counterpart relations as abstract and single entities. For example, we have an agent (surgeon – butcher), an undergoer (patient – animal), a sharp instrument (scalpel – cleaver), etc. In the blend some of these counterparts are fused and others keep their individual status. Figure 3.1 is a graphic representation of this network (cf. Grady, Oakley and Coulson 1999: 105).

A question that has troubled scholars working with various theories of metaphor concerns the central understanding of (24) that the surgeon is incompetent. After all, it is certainly not a general feature of butchers that they are incompetent at what they do. A simple mapping from the source domain of butchery to the target domain of surgery cannot account for the notion of incompetence. Accordingly, conceptual metaphor theory has problems with utterances like (24).

In conceptual metaphor theory the invariance hypothesis regulates the transfer of information and structure from source to target. The emergence of new information and structure, however, cannot be explained by the invariance hypothesis.

Relevance theory would likewise run into trouble. According to relevance theory, we should assume that for *butcher* we create an ad hoc concept *butcher\** the denotation of which should encompass surgeons. However, we still do not know how we can extend the denotation of 'butcher' in a way that surgeons are captured and the notion of incompetence is included. In Section 2.3.4 it was pointed out that often the gap between a lexical concept and an ad hoc concept cannot be accounted for theory-internally in relevance theory.

Only blending theory seems to be able to provide a theoretical explanation of why the notion of incompetence is so dominant in our interpretation of this utterance. In Figure 3.1 it becomes obvious that the blend is characterized by an incompatibility of the means-to-end relation. More particularly, we see that with the means of butchery (e.g. using a cleaver) the goal of surgery (i.e. to heal a patient) is pursued. This is a relation that calls up the notion of incompetence, because a surgeon who works with a butcher's tools certainly is incompetent at what he is doing.

This displays a major advantage of blending theory. It shows that blending theory offers a model to account for emergent structure which cannot be found in any of the input spaces. No other theory of metaphor is capable of describing the interaction of input spaces to such a degree. The only other theory of metaphor that can accomplish this in a less far-reaching, and therefore less descriptive way, is Max Black's *interaction view of metaphor* (Black 1962, 1979/1993).

Black argues that a metaphor has two subjects: a primary and a secondary subject, where the primary subject is comparable to the target or topic of a metaphor and the secondary subject is comparable to the source or vehicle of a metaphor. He further assumes that the two subjects interact.

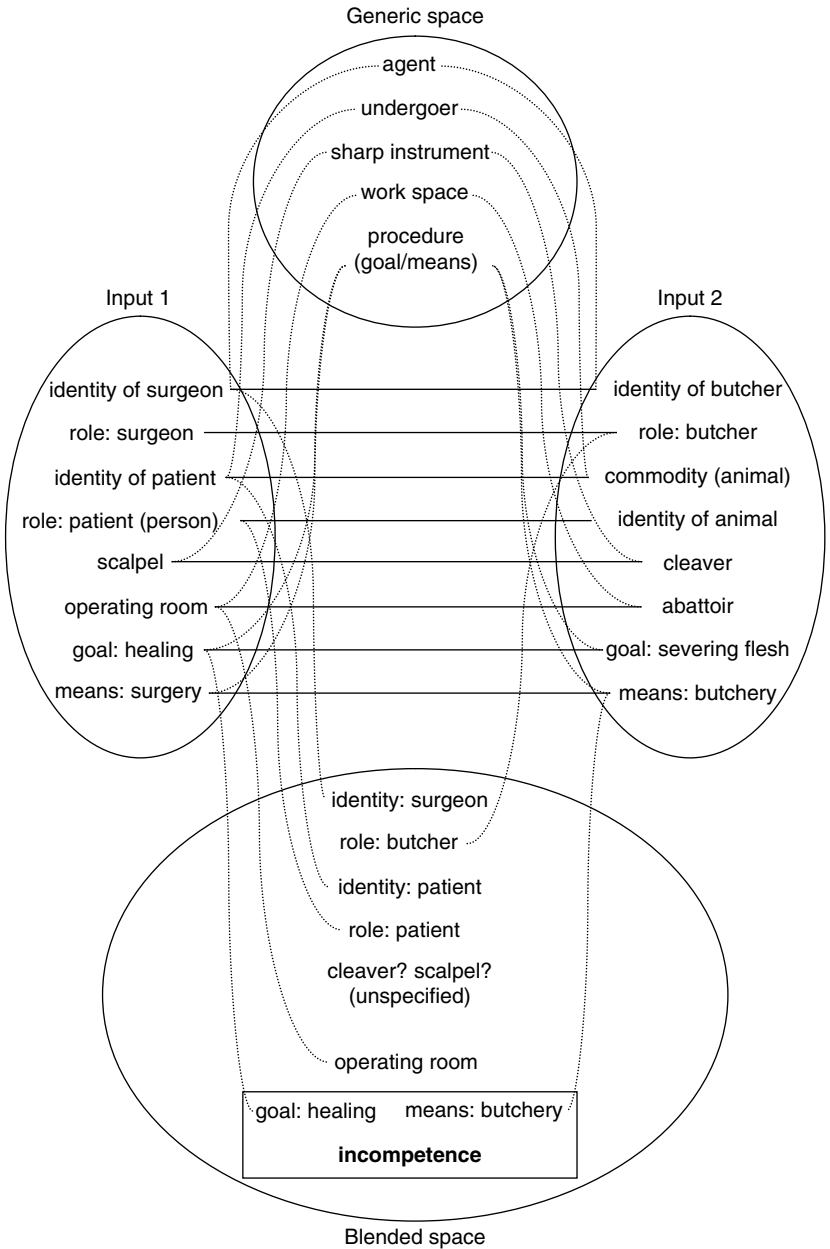


Figure 3.1 Conceptual integration network: *This surgeon is a butcher*

Particular features of the primary subject are selected, emphasized and/or suppressed so that isomorphic features of the secondary subject can be projected onto the primary subject. The change taking place in the primary subject can then lead to structural changes in the secondary subject, because in parallel to the changes of the primary subject, features of the primary subject are projected back to the secondary subject. Consequently, not only the primary subject (the target) is made to seem more like the secondary subject (the source), but the secondary subject is also made to seem more like the primary subject. It might be debatable whether this is generally the case. When, for example, we conceptualize IDEAS AS FOOD (e.g. *It was difficult for me to digest his latest ideas*) the concept *food* is not made more similar to our abstract notion of *ideas*. In our SURGEON AS BUTCHER metaphor, however, it really seems to be the case that the concept *butcher* is assimilated a bit to the concept *surgeon*. So, if the notion of interaction is perhaps a little too generalized in Black's theory, it seems to be under-represented in conceptual metaphor theory. Remember that in our discussion of conceptual metaphor theory it was pointed out that the invariance hypothesis only predicts the transfer of inferences from the source to the target domain. Notwithstanding, Black does not go as far as blending theory does. He explicitly allows the understanding of a metaphor as something in between our separate understandings of each subject on its own and he is also aware of the similarity-creating potential of metaphor, i.e. he does not take a pre-existing similarity between the two subjects for granted, but claims that often both subjects are made alike by the metaphor. However, Black's interaction theory does not really account for the possibility that both inputs (primary and secondary subject) interact in a way resulting in emergent structure that is neither present in the primary nor in the secondary subject. Thus, the interaction between different sources in blending theory is neither unidirectional only (as is the case in conceptual metaphor theory), nor is it restricted to mere modifications of the input spaces (as it is the case in Black's theory). It allows for a new dimension into which inferences can be projected from each input and in which new knowledge not present in either of the input spaces can be generated.

Two claims could be made regarding the relationship between conceptual metaphor theory and blending theory. First, blending theory could be viewed as an extension of conceptual metaphor theory; and secondly, the study of conceptual metaphors is nevertheless still essential. Blending theory and conceptual metaphor theory are not to be seen as opposite theories with the same goals, but rather as complementary perspectives. Let us briefly discuss these claims.

*Claim 1:* Blending theory could be viewed as an extension of conceptual metaphor theory.

In conceptual metaphor theory we have cross-domain mappings. In blending theory we have input spaces with counterparts in each space, a generic space in which the counterparts come together as single entities and a blended space with selective projection from the input spaces, fusion or separation of counterparts, as well as emergent structure. The counterparts in the two input spaces are to be understood in analogy to the cross-domain mappings in conceptual metaphor theory. However, a mental space is not just a more specific subset of an encompassing domain. A mental space can receive structure from various domains and it is built ad hoc. In contrast, domains are usually understood as more stable conceptualizations of knowledge structures. Our mental space for *surgeon*, for example, receives partial structure from the domain HEALTH. It probably also receives structure from a domain like PROFESSION. In addition, personal experiences with surgeons can also be incorporated and the very special knowledge of the surgeon in question also plays a major role in the topology of the mental space for SURGEON. Therefore, in one sense mental spaces are broader in scope than domains, but with respect to the particular situation in which they are constructed, they are more context-specific.

That conceptual metaphors are always connections between only two domains is a further difference between conceptual metaphor theory and blending theory. In a conceptual integration network we can have several input spaces and even multiple blends with former blends becoming input spaces for new blends. These resulting blends are then so-called *megablends* (Fauconnier and Turner 2002).

Another major difference that has been mentioned before concerns the possibility of interaction between those spaces. Whereas a cross-domain mapping is always unidirectional without interaction, elements in a blended space can project back to the inputs and they can be emergent in the sense that they may be a product of the interplay between input spaces.

Thus, blending theory keeps some of the ideas of conceptual metaphor theory, but adds its own extensions. These extensions are of special interest for the understanding of novel metaphors.

*Claim 2:* The study of conceptual metaphors is essential and has not been replaced by conceptual blending.

As has been mentioned before, metaphorical blends often have counterparts in the different input spaces. These counterparts in a metaphorical blend are the cross-domain mappings studied in conceptual metaphor theory. Thus, a metaphorical blend has the general mapping scheme as presented in Figure 3.2. It has to be noted again that the two input spaces cannot be equated with the source domain and the target domain respectively, but the counterpart elements from the two input spaces are profiled against the source and target domain of a conceptual metaphor and are

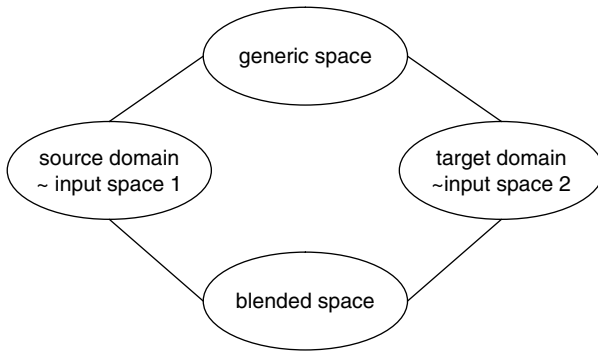


Figure 3.2 General mapping scheme of metaphorical blends

equivalent to the cross-domain mappings. Thus, any work on conceptual metaphor theory immediately has a bearing on blending theory's treatment of metaphor. Especially the systematic study of many conceptual metaphors can build a useful background for studies within the framework of blending theory.

There is another argument for the absolute necessity of conceptual metaphor theory. Often we conceptualize an abstract target domain in terms of a more tangible source domain, when the target domain has no, or only very skeletal, structure on its own. In these cases, a blending process would basically boil down to traditional conceptual metaphor theory, because there can hardly be interaction or emergent structure in a blended space, if the target domain is completely framed by the source domain. The major advance of blending theory would break away and the methods of conceptual metaphor theory become essential in studying these metaphors and target domains. Only careful linguistic analyses of the kind typically done in conceptual metaphor theory can shed light on how we understand such abstract target domains.

Supporting claim number 2, Lakoff (2008) states that even examples like (24) (*This surgeon is a butcher*) can be explained by conceptual metaphor theory and that moreover explanations completely based on blending processes create wrong inferences. In particular, Lakoff suggests that the example *My surgeon is a butcher* is understood via the conventional metaphor A PERSON WHO PERFORMS ACTIONS WITH CERTAIN CHARACTERISTICS IS A MEMBER OF A PROFESSION KNOWN FOR THOSE CHARACTERISTICS. Thus, the source domain of the metaphor is a frame containing stereotypical information (e.g. a surgeon works with precision that leads to beneficial results; a butcher is known for working with more force than care with messy results). On the basis of this frame we can understand and produce metaphorical utterances like *My lawyer presented my case with surgical skill* and *My lawyer butchered my case*, as well as

more novel expressions such as *Ichiro slices singles through the infield like a surgeon* and *Frank Thomas hacks at the ball like a butcher*.

Lakoff (2008) believes that such metaphorical concepts are necessary in order to constrain possible inferences. Without such constraints an utterance like *My surgeon is a Russian* would be understood in the same way as *My surgeon is a butcher*; i.e. this utterance would not convey that the surgeon is Russian by nationality, but common stereotypes of Russians, such as being very emotional and sentimental, would be predicated of the subject and therefore the interpretation of this utterance would be that the particular surgeon carries out his duties in a very sentimental and emotional way. The neural theory of metaphor posits that we use pre-established neural circuits, for example the conceptual metaphor A PERSON WHO PERFORMS ACTIONS WITH CERTAIN CHARACTERISTICS IS A MEMBER OF A PROFESSION KNOWN FOR THOSE CHARACTERISTICS, in our understanding of *My surgeon is a butcher*, but we use different inference patterns in examples like *My surgeon is Russian*, because being Russian does not fit the source domain of the conceptual metaphor A PERSON WHO PERFORMS ACTIONS WITH CERTAIN CHARACTERISTICS IS A MEMBER OF A PROFESSION KNOWN FOR THOSE CHARACTERISTICS. Lakoff believes that a pure blending account would not be able to consider these different inference patterns. Furthermore, these ideas suggest that the application of conceptual metaphor is critical to understanding even classic resemblance type metaphors, such as *Man is wolf* and *Harry's a pig*, that express human characteristics in terms of animal stereotypes. The neural theory of metaphor, with its emphasis on enduring neural circuits, provides a good motivation for the conceptual metaphor account.

Thus, a combination of blending theory and conceptual metaphor theory seems to be valuable. Furthermore, it has become obvious that both relevance theory and cognitive linguistics have their respective advantages and disadvantages in the analysis and description of metaphorical language. In the next chapter these two major frameworks will be compared in greater detail and the basis will be constructed for the hybrid theory of metaphor, which will be outlined in Chapter 5.

# 4

## Relevance Theory versus Cognitive Linguistics

In the preceding chapters I gave a detailed and critical overview of contemporary theories of metaphor. I showed that whereas traditional pragmatic approaches to metaphor see metaphor as a form of language that is characterized by deviance from a literal standard, both relevance theory and cognitive linguistics do not support this position and view metaphor as a ubiquitous part of both ordinary language use and everyday cognition.

Cognitive linguistic perspectives on metaphor have had an enormous, but still controversial, influence on the study of metaphor. Contemporary research within cognitive linguistics even suggests that metaphor has its foundation in neural and bodily processes, and is not, as the traditional view argues, primarily a specific linguistic device (Gibbs 2003, 2006; Lakoff and Johnson 1999).

A different perspective on metaphor is offered by relevance theory (Carston 2002; Sperber and Wilson 1986). Relevance theory also presents a cognitive orientation to thought and communication in its primary claim that human cognition is geared to the maximization of relevance, such that each act of ostensive communication indicates a presumption of its own optimal relevance (Sperber and Wilson 1995: 260). Under this view, speaking metaphorically is an example of *loose talk*, which often is the best way to achieve optimal relevance. It is assumed that even though verbal metaphors do not represent a completely accurate state of affairs, listeners are able to efficiently infer the appropriate contextual meanings of metaphors by following the interpretation strategies based on the communicative principle of relevance. Recent research within the relevance theory perspective has focused on the pragmatic processes involved that listeners employ to infer novel categorical assertions when hearing metaphorical language.

Many metaphor scholars, including those who embrace cognitive linguistic and relevance theory perspectives, see these alternative theories as being radically different. At first glance, this may seem to be the case. After all, cognitive linguistics and relevance theory adhere to very different theoretical goals and methodological assumptions, despite the fact that both

positions aim to present a cognitive theory of metaphor. These differences are so substantial, in fact, that few metaphor scholars have even tried to systematically compare these two theories to specifically understand how and why they differ. A major contribution of my work, however, is to show that cognitive linguistic and relevance theory perspectives on metaphor may be complementary.

In this chapter, cognitive linguistic and relevance-theoretical views on metaphor will be compared and contrasted along various essential topics that a full theory of metaphor encompasses. In order to start comparing the two frameworks in greater detail, the following section will be devoted to the types of metaphor that relevance theory and cognitive linguistics cover.

#### **4.1 Metaphor generality**

The question that will be raised in this section is how much of metaphorical language is addressed by both relevance theory and cognitive linguistics. Many discussions about the phenomenon of metaphorical language and thought are restricted to particular types of metaphor. Thus, metaphorical language and metaphorical thought, conventionalized metaphorical expressions and novel expressions, nominal or verbal metaphors, etc. are often treated as if they were all of the same kind. This observation might be due to the fact that different perspectives often focus on some kinds of metaphor and ignore others, i.e. they only have a particular kind of metaphor in mind and make generalized statements about metaphor as a whole. In this section, I first want to compare the ways in which relevance theory and cognitive linguistics deal with metaphor in thought as opposed to metaphorical instantiations in language, and then I want to focus on the differences between novel and conventional metaphors.

As Forceville (1996: 95) rightly remarks, it seems as if according to Sperber and Wilson (1986) thoughts are literal and utterances may be literal or metaphorical. According to Sperber and Wilson (1986: 231–7), an utterance is taken to be metaphorical when it is an instance of loose use and a significant part of the utterance's meaning is communicated via a set of weak implicatures. Utterances are said to be loosely used when their propositional form is different from the speaker's thought. In contrast to this, an utterance is taken to be literal when the propositional form of the utterance and the speaker's thought are identical. However, taking a look at Sperber and Wilson's idea of the interpretive and descriptive use of language, we see that the kinds of resemblances between different propositional forms are even more complex. As we said, in metaphorical utterances we have an interpretive relation between the propositional form of an utterance and the speaker's mental representation, i.e. the speaker's thought (Sperber and Wilson 1986: 224–32). The speaker's thought can also be an interpretation of another representation (an actual or a desirable representation) or a description of a



state of affairs (either an actual or a desirable state of affairs). Thus, it should theoretically be possible to argue that a mental representation of the speaker is loosely used, that it stands in an interpretive relation to another representation, and that it could consequently stand in a metaphorical relation to another representation. Pushing Sperber and Wilson's original conception of relevance theory that far would beg the question why a thought has to be literal. Apparently, there is no reason in the theoretical framework as presented in Sperber and Wilson (1986) that should prevent us from accepting the notion of metaphorical thought.

Although there do not seem to be any theoretical boundaries to accepting metaphorical thought, relevance theorists have certainly not focused on this issue. The focus in relevance theory is clearly on how we understand utterances and less on how we reason and conceptualize everyday events in metaphorical terms. Nevertheless, the theory does cater for the possibility of metaphorical thought and, in fact, relevance theory should even welcome the idea of metaphorical thought. The cognitive principle of relevance clearly is a statement about cognition in general and not just about utterance understanding. Furthermore, the notions of loose use and ad hoc concepts are not necessarily restricted to lexical semantics. It would be odd to assume that only words, perhaps even only a particular subclass of words (e.g. non-natural kind nouns), trigger ad hoc concepts. It rather seems to be the case that many of the concepts we entertain are non-lexicalized and are built in an ad hoc fashion. Therefore, it is possible to argue that the existence of metaphorical thought can be an essential ingredient of a relevance-theoretic approach to cognition.

In cognitive linguistics the existence of metaphorical thought is even taken to be a prerequisite for the existence of metaphorical language. Cognitive linguists believe that metaphor in language is only a reflection of our general ability to think metaphorically, i.e. to conceptualize one cognitive domain in terms of another one. The wealth of linguistic examples is seen as major evidence that we conceptualize much of our environment in metaphorical ways. Lakoff and Johnson (1980: 4) summarize this as follows: 'Primarily on the basis of linguistic evidence, we have found that most of our ordinary conceptual system is metaphorical in nature.' Based on these assumptions, cognitive linguists frequently distinguish between the terms metaphor and metaphorical expression, where the former refers to cross-domain mappings in the conceptual system and the latter to linguistic expressions (e.g. words, phrases or sentences) which are the surface realizations of conceptual metaphors. This refers to the distinction between metaphors of the 'TARGET DOMAIN IS SOURCE DOMAIN' kind (e.g. ARGUMENT IS WAR) and metaphorical expressions instantiating these metaphors (e.g. *He attacked my arguments; His criticism was right on target*).

In addition to emphasizing either metaphor in thought or metaphor in language, theories of metaphor vary with respect to the metaphoricality of

the metaphors which are studied. The most common and rough distinction in terms of the metaphoricality of metaphorical concepts and expressions is made between conventionalized and entrenched metaphors at one pole of metaphoricality and poetic and novel metaphors at the other pole.

Above it was argued that relevance theorists pay less attention to metaphorical thought. Thus, it is no surprise that relevance theorists have not paid much attention to conventional metaphors either. Relevance theory clearly aims to describe how unconventional metaphorical meanings are understood. In order to accomplish this, relevance theory does not offer particular processing mechanisms that are unique to metaphor understanding. Instead, the description of metaphor understanding is embedded within the larger relevance theory framework and is thus embedded in a full-blown model of communication.

It is not clear whether this account can be extended to deal with conventional metaphorical expressions like *It's been a long, bumpy road* (referring to a romantic relationship). Would this expression, and others like it, be understood via the construction of ad hoc categories? And if so, how do we form these ad hoc categories? What relevance theory obviously lacks is an element that takes into account systems of metaphor. Much psycholinguistic research (for an overview see Gibbs 1994) and linguistic work has shown that the metaphorical utterances we use are arranged in a complex system of metaphor that can be traced back to conceptual metaphors.

Moreover, it is unclear how relevance theory would explain the understanding of metaphors which do not have the *X is Y* structure, where both *X* and *Y* are noun phrases. For example, in a relevance theory framework it would be difficult to analyse metaphorical uses of prepositions or sentential metaphors.

In contrast, research in the conceptual metaphor theory framework has historically focused on conventional metaphors and the system of metaphors underlying many metaphorical expressions. A major problem of conceptual metaphor theory, however, is that it has not yet offered a model that describes the online processing of novel metaphor. Furthermore, the pragmatics of metaphor has been very much neglected. Although conceptual metaphor theorists suggest ways in which certain novel metaphors (i.e. those that are elaborations upon conventional conceptual metaphors and image metaphors) come into being and are understood, the focus has always been on conventional metaphors.

This gap in conceptual metaphor theory has been filled to some extent by recent developments in conceptual blending theory, which specifically aims to deal with a wide variety of novel metaphors, as well as different forms of non-metaphorical language. Blending theory is explicitly geared towards the online understanding of utterances in general and metaphors in particular (Coulson 2001; Coulson and Matlock 2001; Fauconnier and Turner 2002; Grady, Oakley and Coulson 1999; Turner and Fauconnier 1999, 2003).

Apparently, relevance theory, as a theory from the area of cognitive pragmatics, is very anxious to offer a theory that explains the online use of metaphor, whereas cognitive linguistics is traditionally more concerned with the systematic aspects of metaphor.

The next section will raise the important issue of metaphor motivation, i.e. it will deal with the question of why we have metaphors in the first place and why we have the metaphors we have.

## 4.2 Metaphor motivation

The mere distinction between literal and metaphorical language, which is not an easy distinction, implies that there are phenomenological differences between these two kinds of forming and conveying thoughts. This naturally raises the question of why we have these differences, or more specifically, why we think and communicate metaphorically. Moreover, a complete theory of metaphor should also attempt to delineate not only the motivation for metaphor in general, but it should also provide explanations regarding the origin of particular metaphors. In this section, I will examine the topic of metaphor motivation with regard to the questions of why we speak and think metaphorically at all, and why we have the metaphors we have.

Relevance theory and cognitive linguistics offer very different responses to these questions. In the section on relevance theory and metaphor it was pointed out that the suggestion that metaphor expresses a form of loose talk is grounded in the distinction between descriptive and interpretive representations. Sperber and Wilson (1986) claim that the relationship between an utterance and a speaker's thought is always one of interpretive resemblance between the propositional forms of the utterance and the thought. Therefore, an utterance does not have to be fully identical with the speaker's thought, and in most cases it may not even be possible to find a literal utterance for a complex thought that we want to communicate. Consequently, language is replete with loose uses of linguistic expressions. Thus, sometimes we are forced to speak loosely in order to convey our informative and communicative intentions. In relevance theory, the qualitative difference between literalness, (i.e. identity between the utterance's proposition and the thought's proposition), and only a very small resemblance between those two propositions is seen as a continuum. Metaphor as loose use is situated on this continuum and there is no difference in kind between metaphor processing and the processing of non-metaphorical utterances. In both cases, the listener does not assume that the speaker's utterance is literal. In accordance with the communicative principle of relevance, a listener will assume that the utterance is optimally relevant. Thus, the general motivation for metaphor is the presumed fact that often a metaphorical utterance is more relevant than any literal alternative(s). This means that often the cognitive effects the speaker intends his addressee to

gain could not be achieved in any other way with less processing effort for the hearer.

The same line of argument basically also applies to metaphorical thought. In the preceding section I argued that there is no reason available in the theory which prevents us from accepting metaphorical thought in a relevance-theoretic framework. Therefore, it can again be argued that we sometimes conceptualize the world metaphorically, because it is the most relevant option.

Whereas relevance theory does offer answers regarding the motivation for the existence of metaphor in general, it has not established more detailed accounts regarding the motivation for particular metaphors. In contrast, to find motivations for particular forms of language is one of the central goals of cognitive linguistics. Accordingly, it is no surprise that conceptual metaphor theory has devoted a lot of attention to metaphor motivation. In Section 3.2.2 it was argued at length that regular patterns of metaphorical thought arise from the co-activation of two domains resulting in the recruitment of neural circuitry linking them. Thus, the motivation for metaphorical language is found in recurring sensorimotor patterns of experience that are continually enacted as neural processes in the moment of thinking, speaking and understanding. Once more, these recurring sensorimotor patterns may motivate the existence and continued use of many conventional metaphors and some novel extensions or elaborations of them in creative metaphorical language. Cognitive linguistics gives explanations concerning the novel and creative use of metaphors by claiming that novel metaphors are crafted extensions, elaborations and/or compositions of conceptual metaphors. This way of explaining the workings of novel metaphor, however, has not proved to be apt in every instance, because not every novel metaphor can be related to an underlying conceptual metaphor. This problem has been solved to some extent, because another direction in cognitive linguistics, blending theory, has offered very valuable ideas which are partly based on the findings of conceptual metaphor theory.

Blending theory sees the existence of many novel metaphorical expressions as arising from complex blending processes that reflect ad hoc, creative thought processes. These forms of thinking and speaking are again not considered to be ornamental in any respect, but sometimes indispensable in order to achieve a well-integrated blend. This position obviously sounds very similar to relevance-theoretic reasoning.

So it can be noted that cognitive linguistics is well equipped to make claims on the general motivation for metaphor. In contrast to relevance theory, however, cognitive linguistics has also studied the background of many individual metaphors. Conceptual metaphors are assumed to be either complex compounds or basic metaphors (cf. Grady, Taub and Morgan 1996: 181). Complex metaphors can be divided up into basic metaphors, which in turn have independent motivations. A common kind of metaphor

motivation is described in Grady's model of primary metaphors. The study of primary metaphors is a perfect example of the cognitive linguistic urge to find experiential motivations for linguistic forms, because it looks for primary experiences which explain particular metaphors.

Summing up, it can be noted that both theoretical frameworks are well equipped to make statements about why we speak and think metaphorically, but only cognitive linguistics studies the motivation for individual metaphors. Furthermore, relevance theory focuses slightly more on the role of metaphor for communication, whereas cognitive linguistics focuses more on the role of metaphor for our conceptual system.

### 4.3 Representation of metaphorical meaning

A central issue in a cognitive theory of metaphor is to formulate a hypothesis about how metaphorical meaning is represented in the mind. Both relevance theory and cognitive linguistic views of metaphor offer suggestions for this.

In the section on relevance theory, a great deal of attention was paid to an explanation of explicatures and implicatures. Both are propositional forms which together make-up the communicated meaning(s) of an utterance. It was pointed out at some length that the kinds of processes involved in understanding literal utterances and metaphorical utterances are not different in kind; consequently, metaphorical meaning should also be represented in the form of explicatures and implicatures.

The traditional relevance theory view made the claim that metaphorical utterances are instances of the loose use of language and are therefore prime examples of an interpretive relation between the propositional forms of utterances and the thoughts they represent. Thus, as opposed to literal language, the gap between the utterance and the speaker's thought is fairly obvious. Therefore, in the traditional relevance theory framework metaphors do not communicate explicatures, but only a set of implicatures with varying strengths. More particularly, conventional metaphors are represented by at least one strong implicature without which the utterance would not be accepted as being relevant and an array of weak implicatures the derivation of which lies in the responsibility of the hearer. More figurative metaphors may only communicate several weak implicatures and the web of implicatures creates a so-called poetic effect.

The account as supported by Robyn Carston (1996, 2002) introduces the notion of ad hoc concepts into relevance theory. As a consequence of this move, metaphorical utterances are assumed to communicate both explicatures and implicatures. It was mentioned above that many questions about how an ad hoc concept is actually created and, even more fundamentally, about which types of words (e.g. natural kind terms, abstract terms, function words, content words, etc.) trigger the creation of an ad hoc concept

remain unresolved. Nevertheless, there is much evidence in favour of such a dynamic view of word meanings and concepts.

What the more traditional view of relevance theory and the more recent relevance-theoretic view have in common is the conviction that communicated meanings, be they literal or metaphorical, are represented in the form of propositions.

Apart from these established relevance-theoretic notions, some refreshingly new reflections concerning the role of metaphor are uttered in Carston (2002: 354–6). Especially in so-called cross-category cases of metaphor (e.g. *Oliver is a bulldozer*) it is unclear how ad hoc concepts for the vehicle terms are created. Driven by these problems, Carston acknowledges that it is an issue

... whether an approach in terms of propositional *conceptual representations* (explicatures and implicatures) can ever do full justice to the processes and results of comprehending a metaphor. From a phenomenological perspective, what is striking about so many metaphors is their imagistic quality. (Carston 2002: 356; italics in original)

Apparently, the move from a fairly static view of what constitutes a concept to the dynamic view of ad hoc concepts is not enough to account for the full complexities of the nature of metaphors.

Consider, for example, the problem of understanding cross-category cases of metaphor, as for example *Oliver is a bulldozer*. It is unclear how ad hoc concepts for the vehicle terms are created. Carston (2002) does not really have an answer to the question of how to close the gap between an encoded concept and an ad hoc concept in cross-category metaphors.

Wilson and Carston (2006), however, claim that this *emergent property issue* is something that relevance theory can cope with and they suggest a thoroughly inferential account of metaphor interpretation. In fact, they provide two inferential models. The first option they give is that attributes typically associated with bulldozers like ‘“powerful”, “obstacle”, etc. have both a basic physical sense and a broader, superordinate sense (*powerful\**; *obstacle\**, etc.) whose denotation includes both physical and psychological instances.’ Of course, it might be the case that these attributes are lexicalized with both a physical and a psychological sense; however, this does not answer the question why a physical attribute can acquire a psychological sense. Cognitive linguists would say that the existence of the MIND AS MACHINE metaphor is the reason. According to the second inferential model attributes like *powerful* have two distinct senses, one physical (*powerful*) and one psychological sense (*powerful\*\**). Understanding an utterance like *Oliver is a bulldozer* then includes the creation of a superordinate ad hoc concept *powerful\** covering both *powerful\** and *powerful\*\**, a proposal that is similar to the interactive property attribution model of

Glucksberg (2001). An important question here is why a hearer should construct a more abstract concept (*powerful\**) after having accessed a more specific concept (*powerful* or *powerful\*\**). Usually, it is specific concepts from which we can gain more cognitive effects and at the same time it costs processing effort to construct an abstract concept on the basis of a specific concept. Thus, creating an abstract concept does not appear to be a relevant move.

In their concluding remarks, Wilson and Carston (2006: 429) argue that mappings between cognitive domains may only alter 'the accessibility of contextual assumptions and implications, but the resulting overall interpretation will only be accepted as the speaker's intended meaning if it satisfies the hearer's expectations of relevance and is warranted by the inferential comprehension heuristic'. In Tendahl and Gibbs (2008) the authors support the ideas that mappings play a significant role in accessing contextual assumptions and that metaphor interpretation works according to expectations of relevance. However, Tendahl and Gibbs go a step further and claim that mappings do not just modify the accessibility of assumptions and thereby the processing effort of interpreting metaphors, they rather believe that mappings are responsible for the connection between, for example, physical and psychological senses of concept attributes like *powerful*.

In cognitive linguistics, propositional knowledge plays a much less significant role, to say the least. Instead, it is assumed that most metaphors are based on non-propositional image schemas. Image schemas are simple and basic cognitive representations of spatial relations and movements in space. They are derived from our everyday interaction with the world. Gibbs, Lima and Francozo (2004: 1192) say that image schemas are 'imaginative and nonpropositional in nature and operate as organizing structures of experience at the level of bodily perception and movement'. Common examples of image schemas are the CONTAINMENT schema, the UP-DOWN schema or the BALANCE schema (cf. Johnson 1987). Let us briefly take a look at Johnson's discussion of the BALANCE schema. Johnson (1987: 74) says that the idea of balance is something that is learned 'with our bodies and not by grasping a set of rules'. Balancing is such a pervasive part of our bodily experience that we are seldom aware of its presence in everyday life. Our BALANCE image schema emerges through our experiences of bodily equilibrium and disequilibrium and of maintaining our bodily systems and functions in states of equilibrium. Thus, we can say that we have very direct, primary experiences of the image schema BALANCE. Cognitive linguists assume that these primary experiences support our understanding of literal expressions such as *He balanced the weight on his shoulder*. The BALANCE schema is metaphorically elaborated in a large number of abstract domains of experience (e.g. psychological states, legal relationships, formal systems) (cf. Johnson 1987). Image schemas have internal logic or structure that determines the roles these schemas can play in structuring various concepts and in patterns of

reasoning. Johnson (1987) argues that it is not the case that a large number of unrelated concepts (for the systematic, psychological, moral, legal and mathematical domains) all just happen to make use of the same word *balance* and related terms (Johnson 1987). Rather, we use the same word for all these domains because they are structurally related by the same sort of underlying image schemas, and are metaphorically elaborated from them. In this way, many aspects of metaphorical meaning are image-schematic in nature.

The theory of primary metaphors is consistent with this characterization of metaphorical meaning, and blending theorists, although they recognize that the representation of information in mental spaces may be propositional, also assume that significant parts of metaphor are image-schematic.

However, cognitive linguists do not claim that metaphoric meaning is only represented in the form of image schemas. Ruiz de Mendoza Ibáñez and Díez Velasco (2003: 507) investigate different patterns of interaction in conceptual projection and they distinguish between four major patterns of interaction: '(i) interaction based on (at least) an image schema; (ii) interaction between propositional models in metaphoric settings; (iii) interaction between two metonymies; (iv) interaction between metaphor and metonymy.' Ruiz de Mendoza Ibáñez and Díez Velasco (2003) do not exclusively focus on metaphorical projections, but in (i), (ii) and (iv) metaphor at least plays a significant role.

Image schema-based metaphors involve the mapping of image-schematic structure of domains like CONTAINER, PATH, CONTACT, BODILY ORIENTATION (front-back, up-down, centre-periphery). Ruiz de Mendoza Ibáñez and Díez Velasco (2003: 506-7), for example, discuss the metaphorical utterance *Plans are moving ahead*. A path schema in the source domain input space is mapped onto the target input space.<sup>21</sup> The generic space contains abstractions from the two input spaces that relate, in this case, to the structure and logic of a business deal (i.e. a source, a destination, and various phases of the business deal in between). In the projection, or blend, the plans are seen as travellers and the progress as movement towards the destination. As can be seen in this example, the major inferential structure that we use when we understand this utterance is supplied by the image schema PATH.

In contrast to many other cognitive linguists, however, Ruiz de Mendoza Ibáñez and Díez Velasco also acknowledge the possibility of interaction between propositional cognitive models. Sometimes, conceptual projection works by linking the propositional contents of two or more domains or idealized cognitive models (cf. Lakoff 1987). They offer the example *Judge Griffith is a deciding machine*. This metaphor involves the conceptual metaphor PEOPLE ARE OBJECTS in which the features of machines are mapped onto human beings. In the conceptual integration network, one input space contains propositional information about machines (e.g. they do a lot of work, they do this work unreflectively, etc.), another input space contains



propositional information about judges (e.g. judges decide cases, they work in a court, etc.), and a third input space is the metaphorical target, which contains information about the 'specific situation to which the expression applies (a certain judge who does his work in a certain way)' (Ruiz de Mendoza Ibáñez and Díez Velasco 2003: 510–11). Furthermore, the authors suggest that the blended space and the generic space are also structured by propositional information.

The third kind of conceptual projection that is being discussed in Ruiz de Mendoza Ibáñez and Díez Velasco (2003) refers to the phenomenon of double metonymy, and the fourth kind that the authors mention is interaction between metaphor and metonymy, which is also known as metaphonymy (Goossens 1990). When metaphor and metonymy interact this means that part of the source or the target domain of the metaphor is structured by metonymical projections.

These conceptual projections rely on different forms of conceptual representations (e.g. image schemas vs. propositions). In fact, many cognitive scientists now contend that the complexity of human behaviour requires that different kinds of representations be used to handle the complexity of human experience. Thus, people's varied abilities, from perception and motor control to language and problem-solving, may not all rest on the same representational base (e.g. featural representations, propositional representations, image schemas). Conceptual projections of the sorts described above, using different representational formats, may be needed to explain the diversity of metaphorical language. Therefore, advances in relevance theory, like Robyn Carston's (2002: 356) ideas on the imagistic quality of many metaphors, and advances in cognitive linguistics, like Ruiz de Mendoza Ibáñez and Díez Velasco's insights about different formats of representation in conceptual projection, are very promising.

I believe that this section has presented further evidence that the differing views of cognitive linguistics and relevance theory on metaphorical meaning are complementary, because both go beyond their respective emphases on image-schematic and propositional views of meaning. These two perspectives contribute different ways of looking at how metaphorical language expresses meaning. Cognitive linguistics, with its interest in metaphorical thought, studies entrenched metaphorical mappings, and has done extensive work illustrating the range of meaning correspondences that arise in the source to target domain mappings within conceptual metaphors, for instance. Relevance theory, on the other hand, explores the meanings that arise in specific contexts, and aims to demonstrate how these cognitive effects are constrained by the principle of optimal relevance. Further below I will display in greater detail that there is surely a mixture of conceptually entrenched metaphorical knowledge with immediate contextual information, all of which is constrained by a principle of optimal relevance, which determines the particular meanings that listeners and readers typically infer

during online metaphor interpretation. Thus, we again see how cognitive linguistic and relevance theory views provide important, complementary information within a broader cognitive theory of metaphor use.

Another central issue in a psycholinguistically oriented, cognitive theory of metaphor is the issue of how we process metaphors in real-time conditions. The next section will deal with this topic.

#### **4.4 The online processing of metaphorical utterances**

A central demand on any theory of metaphor use and understanding is to describe the mostly rapid, unconscious mental processes that people engage in when they produce and understand metaphor. As a logical consequence of the fact that both relevance theory and cognitive linguistics are interested in how metaphors are processed online in a psychologically realistic way, theorists from both frameworks assert that the standard pragmatic model of metaphor interpretation (see Section 2.3.2; Grice 1967; Searle 1979/1993) cannot hold true. In Section 2.3.2.3 I presented a large body of evidence from psycholinguistics which supports this contention. It is argued that hearers do not have to go through a stage of literal interpretation in which they find that what the speaker really wanted to say is something else. More specifically, both relevance theorists and cognitive linguists put forward the belief that metaphor interpretation is a fundamental part of human communication and that it does not need any specialized, particular processes of interpretation.

A frequent criticism of both cognitive linguistic and relevance theory perspectives is that they only provide motivated explanations for linguistic behaviour, but are not able to predict specific linguistic behaviour in advance according to the hypothetico-deductive method of scientific inference. Psychologists, for example, seek empirical, objective evidence (i.e. not based on a scholar's own private intuitions) on why people think and speak metaphorically and how they interpret metaphorical language. Even if linguists, or philosophers, usually do not obtain such evidence themselves, a theory will most likely be seen as psychological to the extent that it explicitly states hypotheses and predictions that are capable of being potentially falsified. Of course, both cognitive linguistics and relevance theory are not specific theories, but are broad frameworks that address an incredible range of linguistic and conceptual phenomena. For this reason, there will never be a single test that is capable of falsifying either of these theoretical perspectives. Nonetheless, each theory makes various claims about metaphor processing that individually may be examined within a falsification framework. This section is concerned with the descriptions of the online processing of metaphorical expressions as suggested by relevance theory and cognitive linguistics.

The relevance theory model of metaphor is a direct product of the larger relevance-theoretic framework, and it is in many respects more explicit

than that of cognitive linguistics, particularly because relevance theory has focused exclusively on the understanding of ostensive-inferential communication. The processing steps that relevance theory suggests are the ones I described in Section 2.2.4. Roughly speaking, the overall interpretation process can be divided into two main parts, each having several subparts. One part encompasses the creation of the logical form(s) of an utterance. In order to accomplish this we supposedly bring together our knowledge of the phonology, morphology, syntax and semantics of the language. Thus, the logical form is gained by grammatical operations and the result is an abstract frame that is not propositional. In order to achieve full propositionality, we must look at the second part where pragmatics enters. On the basis of the utterance and our cognitive environment we derive explicatures and implicatures, which are the bearers of communicated meaning. This portrayal has often been interpreted as if there were two chronologically ordered steps: first a logical form is created and then the communicated propositions are generated, i.e. explicatures and/or implicatures. Wilson and Sperber (2004: 615), however, remark that these different processes do not happen consecutively. Utterance interpretation is seen as an online process during which many operations are happening simultaneously. Therefore, the hearer starts working on the linguistic input as it is coming in and thereby successively creates the logical form, but at the same time he already starts using his pragmatic abilities in order to create explicatures and implicatures. There is no reason to assume that a hearer *first* creates a complete logical form and *then* thinks about what the speaker really wanted to communicate. In Section 4.9 I will even argue that the logical form is not a representation that plays a role in online processing at all. Wilson and Sperber (2004: 615) further explain that ‘comprehension is an online process, and hypotheses about explicatures, implicated premises, and implicated conclusions are developed in parallel against a background of expectations which may be revised or elaborated as the utterance unfolds’. Thus, relevance theory does acknowledge different activities in interpreting an utterance, but it does not posit that they happen one after the other. In the following chapter, I will even argue that on a local level of concepts, i.e. on a level below the level of complete propositions, pragmatics directly exerts its influence and that even atomic concepts are not just decoded, but immediately accommodated to the context of the situation.

Metaphor interpretation works in accordance with the principles just outlined. The only differences between metaphorical utterances and less figurative utterances lie in the quality of the ad hoc concepts that are formed. However, this is a difference that has no impact on the steps which are needed to process an utterance, irrespective of whether it is a literal or a metaphorical utterance. In metaphor interpretation, we build ad hoc concepts which we get by processes such as loosening and narrowing, but because we probably also use the same processes for concepts which are

used in a non-metaphorical way, the difference cannot be a difference in kind but rather one of degree. To illustrate this point consider the following two examples:

- (1) The room is empty.
- (2) My head is empty.

Whereas the utterance in (1) is not metaphorical, the utterance in (2) is arguably metaphorical and metonymical. This is the case although the same lexeme *empty* is used as subject complement in both examples and furthermore, in both examples the lexeme *empty* has to be narrowed.

Let us assume that (1) is being uttered in a situation in which the speaker of (1) has expected that there are students in the room. In that situation, the denotation of *empty*<sub>1</sub> is loosened to the extent that the lexeme *empty*<sub>1</sub> can be predicated of subjects which are not purely empty. The subject complement *empty* can be predicated of rooms which are, in fact, fully equipped with furniture, if what the lexeme modifies is a loosened version of the subject *room*, for example *a room in which students should be found at the time of utterance*. Thus, it is conceivable that a loosening of the lexical concept *room* to the ad hoc concept *room\** (a room in which students should be found at the time of utterance) goes hand in hand with a loosening of the subject complement *empty*<sub>1</sub> to *empty*<sub>1</sub>\* (empty of students). The process of loosening is clearly guided by expectations of relevance which derive from the context.

The utterance in (2) contains the same subject complement, this time predicated of a different subject. Just as in (1), the subject complement *empty*<sub>2</sub> has to be loosened. Here it is loosened to *empty*<sub>2</sub>\* (empty of thoughts), because the speaker's head is (hopefully) not empty in a strict sense. Again the subject concept is created ad hoc. This ad hoc concept formation is at least partly based on a metonymic process. *Head* is modified into *head\**, so that *head\** does not only refer to the top part of the human body. *Head* is first of all metonymically related to the brain, which is a part of the head, and furthermore the brain is metonymically related to the mind. Therefore, we have a double metonymy at work where *head* stands in a metonymical relationship with *brain* and *brain* stands in a metonymical relationship with *the mind*. The complete utterance is furthermore structured by the MIND AS CONTAINER metaphor, which provides the relevant inferences in this example. If the container, which in this case metonymically relates to the mind, is empty, then what the speaker of (2) wants to communicate is that he feels unable to think and not that his head does not contain brain tissue, blood vessels, etc. Altogether, we can note that in (2) the subject and the subject complement are created as ad hoc concepts. These two processes of ad hoc concept formation are mutually adjusted to one another and are guided by expectations of relevance. Hence, at least in terms of ad hoc concept construction the basic processes in (1) and (2) are very much alike, despite the

fact that (1) would probably be considered literal and (2) would probably be considered metaphorical.

Relevance theory certainly suggests a very interesting model of utterance interpretation. Especially recent work by Robyn Carston (2002) on ad hoc concepts furnishes relevance theory with a psychologically realistic model of lexical semantics and pragmatics, which is important for an online theory of metaphor. However, there are still two weak spots in the theory which may even be interrelated. The first one concerns the question of how we form ad hoc concepts; in other words, which information determines the way in which we loosen or narrow lexical concepts into ad hoc concepts? The second weak spot concerns the ignorance of a wider network of metaphorical expressions and conceptual metaphors. My not purely relevance-theoretic discussion of example (2) illustrates this problem. In my discussion of (2) I made use of notions such as conceptual metonymy and metaphor in order to show that from a relevance-theoretic point of view, the processing steps in (1) and (2) are the same. Thus, it becomes obvious once more that a combination of relevance theory and cognitive linguistics would be very beneficial.

To say something about processing steps in a cognitive linguistics framework is fairly difficult, because scholars working in this framework are not very explicit about what happens in metaphor processing on a moment-by-moment basis. This is clearly a drawback that needs to be worked on in future research. In the following paragraphs I want to start thinking about this from the perspective of conceptual metaphor theory and then take a brief look at blending theory.

The conceptual metaphor view is keen on pointing out that metaphor is not only a phenomenon of language, but foremost it is a phenomenon of our mind. It is this generalized and cognitive view of metaphor that cognitive linguists seem to be more interested in than in metaphorical expressions as they occur in natural languages. The importance of metaphor for cognition as opposed to language becomes apparent when Lakoff and Johnson (1980: 153) say that 'metaphor is primarily a matter of thought and action and only derivatively a matter of language'. Thus, metaphor imposes a fundamental structure on our mind. Conceptual metaphor theorists usually rely on this constant presence of metaphor, when they want to explain the use of metaphorical expressions. In other words: metaphorical expressions are in most cases considered to be instantiations of conceptual metaphors.

To go into a little more detail, let us consider the distinction that cognitive linguists draw between conventional and novel metaphoric expressions. Most metaphoric expressions we encounter in ordinary discourse are understood to be conventional metaphors. Conceptual metaphor theory claims that these are linguistic manifestations of conventional conceptual metaphors. But how do we get from particular words in discourse to a conceptual metaphor? If we want to answer this question we have to

consider the role of lexical semantics in cognitive linguistics. Lakoff and Turner (1989: 109) claim that 'words are sound sequences that conventionally express concepts that are within conceptual schemas'. Part of our knowledge of concepts concerns the domain they conventionally belong to. In the network of conceptual knowledge, we also get information about the conceptual metaphors that this domain is involved in. Thus, a particular word can evoke a conceptual metaphor which gives us a mapping between two domains. Not every element of the source domain is mapped to the target domain, but at least this mapping restricts possible interpretations of a conventional metaphorical expression (see the discussion of the invariance hypothesis in Section 3.2.1).

Cognitive linguists have traditionally explained the understanding of novel metaphors in two ways. First, many novel metaphors are crafted extensions or elaborations of conceptual metaphors. In these cases, the partial mapping from source to target domain is extended beyond the standard mapping as it is found in conventional mappings. An example of an extension of the THEORIES ARE BUILDINGS metaphor would be the utterance: 'His theory has thousands of little rooms and long, winding corridors' (Lakoff and Johnson 1980: 53). Such an extension of the THEORIES ARE BUILDINGS metaphor can contribute to our perception of whether a metaphorical utterance is conventional or novel, because rooms and corridors are usually not mapped to the domain of theories.

Secondly, cognitive linguists recognize that the understanding of particular novel metaphors does not involve the mapping of concepts from one domain to another, but the mapping of mental images (Lakoff and Turner 1989). These 'image metaphors' include expressions such as the opening line of the poem by Andre Breton titled *Free Union* in which he writes 'My wife whose hair is brush fire'. We understand this metaphor by mapping our mental image of a brush fire onto the domain of Breton's wife's hair, which gives rise to various concrete images in regard to the colour, texture and shape of her hair. Experimental evidence has shown that readers draw different mappings, which are imagistic, when they read and aesthetically appreciate the meanings of these metaphorical expressions, even if they do not draw cross-domain conceptual mappings (Gibbs and Bogdonovich 1999).

Among the most important insights of conceptual metaphor theory is the observation that metaphors do not just map single elements from a source to a target, but relational structures and inferences. According to the (modified) invariance hypothesis, which was discussed in Section 3.2.1, source domain topology is retained in the source domain. More particularly, keywords from a source domain may activate a conceptual metaphor and thereby an inference pattern for a related target domain.

As we have seen, the process roughly seems to work like this: particular words in a metaphorical utterance have extended meanings which are parts

of schematic knowledge involving conceptual metaphors. These conceptual metaphors are static and fixed correspondences between a source and a target domain. In particular, inference patterns are mapped from a source to a target domain and thereby we can gain an understanding of the target domain via a metaphor. Cognitive linguistics makes the rather general claim that conceptual metaphors are used automatically during people's production and understanding of conventional expressions and novel metaphorical language. Gibbs argues that this general idea may be fruitfully broken down into a number of more specific hypotheses:

1. Figurative thought plays some role in changing the meanings of words and expressions over time but does not motivate contemporary speakers' use and understanding of language.
2. Figurative thought motivates the linguistic meanings that have currency within linguistic communities or may have some role in an idealized speakers'/hearers' understanding of language. But figurative thought does not actually play any part in an individual speaker's ability to make sense of or process language.
3. Figurative thought motivates an individual speaker's use and understanding of why various words and expressions mean what they do but does not play any role in people's ordinary online production or comprehension of everyday language.
4. Figurative thought functions automatically and interactively in people's online use and understanding of linguistic meaning. (Gibbs 1994: 18)

Unfortunately, it is not a settled issue how many of these hypotheses about the interaction between metaphoric patterns of thought and different aspects of language use and understanding are correct. However, what can be assumed is that these hypotheses are not mutually exclusive of one another, but reflect a hierarchy of possibilities. Several kinds of empirical evidence from cognitive linguistics and psycholinguistics support some of these ideas.

In her study on the role of metaphor in semantic change, Sweetser (1990) impressively supports hypothesis (1). Research on the systematic nature of different linguistic expressions demonstrates a tight link between conceptual metaphors and idealized speakers' understanding of various verbal expressions as suggested by hypotheses (2) and (3) (Lakoff 1987; Lakoff and Johnson 1980). Many psycholinguistic experiments support the claim in hypothesis (3) that metaphoric thought motivates why many words and expressions mean what they do to contemporary speakers and also influences people's learning of different linguistic meanings (Gibbs 1994). Finally, psycholinguistic studies suggest that hypothesis (4) might be true to some extent (Gibbs et al. 1997). This work includes studies investigating people's mental imagery for conventional metaphors, idioms and proverbs

(Gibbs and O'Brien 1990; Gibbs et al. 1997), people's context-sensitive judgements about the figurative meanings of idioms in context (Nayak and Gibbs 1990), people's immediate processing of idioms (Gibbs et al. 1997), people's responses to questions about time (Boroditsky and Ramscar 2002; Gentner, Imai and Boroditsky 2002), readers' understanding of metaphorical time expressions (McGlone and Harding 1998) and studies looking at the embodied foundation for figurative meanings. These latter studies support the idea that some aspects of conceptual metaphor theory have psychological reality. More recent work suggests that people's tacit understandings of primary metaphors play a role in their understanding of why conventional expressions, such as those relating to the metaphor *DESIRE IS HUNGER* (e.g. *I hunger for fame*) have the particular metaphorical meanings they do (Gibbs, Lima and Francozo 2004). At the same time, Coulson (2001) describes several neuropsychological studies whose results are consistent with some of the claims of blending theory, particularly the idea that understanding metaphors demands various blending processes which require cognitive effort.

In contrast to relevance theory, conceptual metaphor theory very much focuses on the system of metaphors and comes to the conclusion that metaphor is first of all a phenomenon of the mind. It is therefore well prepared to say something about the cognitive environment which speakers and/or hearers entertain when they process metaphorical utterances. However, the theory remains very vague when it is supposed to say something about moment-to-moment processing. Cognitive linguistic theories generally tend to suffer from a lack of precision as to exactly how metaphorical thought is recruited during linguistic interpretation. Despite the strong empirical support for aspects of cognitive linguistic approaches to metaphor as it occurs in language and thought, a number of significant questions remain about the validity of this perspective. For example, are conventional expressions, such as *It's been a long, bumpy road* (in reference to a romantic relationship) only understood because of the activation of the *LIFE IS A JOURNEY* metaphor, or might this conceptual metaphor arise as a product of understanding the conventional expression? Similarly, does the activation of a conceptual metaphor during metaphor processing carry with it all the established correspondences normally assumed by cognitive linguists, or might these be generated selectively, or strategically, depending on the context and motivation of the listener? Which elements from the source domain get mapped to the target domain and what are the principles determining these elements? Which conceptual metaphor is chosen when the target domain, about which we want to say something, figures in several different conceptual metaphors? Might there, for instance, be some trade-off between maximizing cognitive effects, or the established correspondences, and the cognitive effort expended during metaphor processing in exactly the way suggested by relevance theory? To what extent are image-schematic representations



activated or inferred during linguistic metaphor understanding? What happens with novel metaphors which relate neither to a conceptual metaphor nor to an image metaphor? Perhaps more fundamentally, cognitive linguistics does not specify clearly enough how one goes from the words seen or heard in a conventional or novel metaphor to the recruitment or creation of a conceptual metaphor.

There are, at this point, no studies that provide definitive answers to any of these questions, and it is not clear whether cognitive linguistic theories are in a position to offer specific hypotheses in regard to any of these issues. I believe that relevance theory provides some answers to these issues, but because cognitive linguists are usually reluctant to accept relevance-theoretic explanations, I will now present the view taken by another branch of cognitive linguistics: blending theory.

Blending theory shares many similarities with conceptual metaphor theory (cf. Grady, Oakley and Coulson 1999), but there are also some similarities with relevance theory, as will become apparent in the further course of my work. Unfortunately, one of the similarities of blending theory with conceptual metaphor theory is its lack of precision in description when it comes to the online processing of utterances. In spite of this, blending theorists see their framework as better accommodated to issues relating to the online processing of metaphor: 'In conceptual metaphor theory, metaphors are seen as instantiations of entrenched mappings between cognitive domains, while in blending, the meaning of a metaphor is constructed online in conceptual integration networks' (Coulson 2001: 178). Thus, although blending theory is meant to describe online processing, it is not very explicit about how utterances are really processed on a moment-by-moment basis.

Blending in verbal communication starts out with activating elements in mental (input) spaces by the use of particular words. Next to lexical cues, blending is also influenced by the grammar of the sentences, but whereas words open the door to particular mental spaces, the grammatical cues provide information about the mapping schemes which are cued by the utterance. These processes are in principle identical in the interpretation of metaphorical and literal language; so the differences must lie elsewhere. In order to get a more precise idea of these processes, let us take a look at the following two examples (Fauconnier and Turner 2002: 155):

- (3) Paul is the father of Elizabeth.
- (4) Vanity is the quicksand of reason.

Example (3) is generally not considered to be metaphorical in any way, whereas example (4) would probably be considered to be metaphorical. According to Fauconnier and Turner, the mapping schemes are the same in both examples. This means that in (3) we have one input space in which we find the roles of *father* and *child*. In another input space we have the persons

*Paul* and *Elizabeth*. In the blend, we have *Paul* who takes the role of the *father* and we have *Elizabeth* who takes the role of the *child*. A blend of persons and roles has occurred. The important thing to note is that the same mapping scheme can also be applied to example (4), because both integration networks are of the *X is the Y of Z* form. The differences between the two utterances are not to be searched in the processing schemas, but rather in the processing details.

A substantial difference between the two utterances (3) and (4) refers to the type of integration network they exemplify. An utterance of (3) elicits the creation of a *simplex network*. This means that the roles (i.e. *father* and *child*) are projected from one mental space and values for these roles (e.g. *Paul* and *Elizabeth*) are projected from the other mental space. In (3) this works without any clash or incompatibilities. *Paul*, as a male person, can easily be imagined as a father and *Elizabeth* can easily be imagined as Paul's child. The organizing frame of the blend is taken exclusively from the input space of family relations. In (4) this is different, because (4) generates a *double-scope network*. In this case the inputs have different organizing frames, and in addition to that the blended space has its own organizing frame, too. Thus, a high potential for emerging structure is given and therefore a high degree of elaboration is required. *Vanity* and *reason* in one input space, as abstract characteristics, have an organizing frame that naturally differs very much from an organizing frame for *quicksand*, which is a non-abstract, concrete element in the other input space. So, one input space is about abstract human personality traits and the interrelationships among these personality traits. The other input space refers to more concrete entities like quicksand and some animate or inanimate entity that is swallowed by the quicksand. This is a situation that we can vividly imagine and simulate mentally. The utterance of (4) does not make it entirely clear what the counterpart of *reason* in the quicksand input space could be, but a hearer who is familiar with quicksand will be able to call up a mental space which provides candidates for this counterpart relation with *reason*. To clarify things a little, Figure 4.1 provides an (incomplete) illustration of the integration network depicting the conceptual network of (4).<sup>22</sup>

The counterpart of *reason* should be something concrete. In analogy to the relation between *vanity* and *reason*, it is conceivable that the counterpart of *reason* is *human*, because in the metaphor the relation between *vanity* and *reason* seems to be the same as the relation between *quicksand* and *human*: one entity takes away the other entity. This is just a guess and ultimately this question will be resolved individually while calling up the individually bound input spaces and constructing and running the blend. Blended spaces are constructed according to the three basic processes of composition, completion and elaboration:

*Composition* refers to the projection of elements from the input spaces to the blended space. This process is apparently seen as being quite

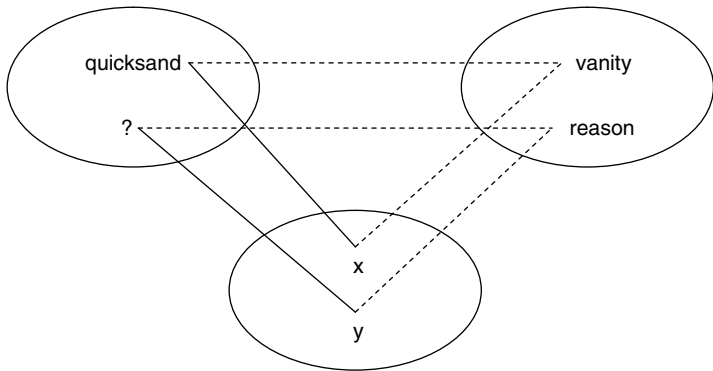


Figure 4.1 XYZ conceptual integration network: *Vanity is the quicksand of reason*

straightforward and it applies to both metaphorical and literal utterances in the same way. Counterparts from the input spaces can be fused in the blended space or remain separate. In (4), the counterpart elements *quicksand* and *vanity* are fused in the blended space. This is typical of metaphorical blends, although it has to be noted that this is neither a necessary, nor a sufficient characteristic of metaphorical blends. Non-figurative blends can also contain fused elements, and at the same time not every set of counterparts is fused in a metaphorical blend. The utterance of (4) does not provide a counterpart of *reason* that could be projected to the blended space. What the XYZ network structure requires, however, is that the interpreter finds an adequate counterpart of *reason* that will be fused with *reason* in the blend. In general, it is not just the counterparts from the input spaces which can get mapped to the blended space. Other elements can also be mapped to the blend, yet there is no need that all elements from the inputs are mapped to the blended space. The mapping usually remains partial and the mechanisms that govern the selection of elements in the mapping processes have not yet been fully understood. One idea that will be followed in Chapter 5 is that relevance theory offers a powerful heuristics that can address this problem. Fauconnier and Turner (1998: 162–3) claim that certain optimality principles are at work in creating a blended space and that it is these optimality principles which restrict the blending process.<sup>23</sup> One of those optimality principles is the principle of *good reason*:

All things being equal, if an element appears in the blend, there will be pressure to find significance for this element. Significance will include relevant links to other spaces and relevant functions in running the blend. (Fauconnier and Turner 2002: 163)

The potential for a combination of relevance theory and blending theory is very obvious at this point, as the principle of good reason at best seems to be something like an informal version of relevance-theoretic ideas.

The second process in developing the blend is called *completion*. This process is a uniquely pragmatic process, because it refers to the incorporation of background knowledge. Blended spaces are not merely generated on the basis of the inputs, but additional background knowledge is also introduced into the blend. Above, I argued that we can imagine the situation captured by the quicksand input space and that we can simulate it mentally. This means that we have background knowledge about the danger of quicksand. For instance, many of us have probably seen movies where people get lost in quicksand. We complete the blend by introducing the feature that vanity is a force that can capture reason so that reason gets lost when vanity prevails. This is an inference that is not part of any input space, and it is more particularly not part of the counterpart relations between the input spaces. In order to make sense of the counterpart relations that lead to the fused elements in the blend, we use our knowledge of quicksand. Departing from here, it is possible that the blend is further specified by emergent structure. For example, it is possible that in the blend we have the insight that vanity is a natural force that reason cannot stand up to. Obviously, in creative metaphors, completion might be a part of the whole process where the comprehension of literal utterances differs slightly from the comprehension of a metaphorical utterance. However, according to my knowledge blending theorists have not commented on this possibility.

The third process, *elaboration*, seems to be even more interesting for our purpose. Elaboration specifically refers to the mental simulation of the situation depicted by the blend. A mental simulation of the blend can introduce ever new bits and pieces into the blend, and thereby the blend can become considerably elaborated. It is here that we can construct the blend in a very creative way, because elaboration refers to the possibility of constructing the blend in ways that are not mandated by the linguistic form anymore. We can, for example, elaborate the blend by seeing a particular person we know 'drowning' in his/her own vanity and losing all his/her reason. This situation can then be further elaborated by drawing inferences from this concrete image, etc. This could, in theory, be continued ad infinitum. In practice, however, I maintain that elaboration is subject to relevance considerations and therefore restricted by the goal to minimize processing effort.

All three processes can result in emergent structure in the blend. Composition is the combination of conceptual content from various sources with the possibility of interaction resulting in new structure. Completion adds information to the blend which comes from background knowledge not present in either of the inputs, and elaboration is the creative simulation of the blend leading to a refined and elaborated structure.

Blending theory suggests a picture of utterance comprehension which is a little more complicated than the ones proposed by relevance theory or conceptual metaphor theory. In setting up a conceptual network structure for an utterance, the first step is to open up certain mental spaces as a response to certain words in the utterance. At the same time, the grammar of the sentence suggests particular mapping schemes which constrain the overall interpretation of the utterance. However, similar to what relevance theorists say concerning the underdeterminacy hypothesis, the product of setting up mental spaces and relating them to each other by creating mapping schemes is a representation which is still vastly underdetermined. Further processes of composition, completion and elaboration are necessary. Because these processes are not entirely mandated by the linguistic form of the utterance, there is much leeway for creative thought. The particular integration network which is created, for example a simplex or a double-scope network, opens up varying possibilities for creative thought.

As interesting as these suggestions may be for a picture of the online processing of metaphor, they remain vague unless blending theorists come up with more detailed suggestions. Such suggestions would have to tackle questions of the following sort: How are the input spaces determined? Which grammatical forms call for which mapping schemes? What are the constraints on composition, completion and elaboration? What determines and constrains the determination of a particular integration network (e.g. simplex, single-scope, double-scope)? Admittedly, Fauconnier and Turner provide at least a partial answer to such questions in the form of their *optimality principles* (Fauconnier and Turner 1998) or *constituting and governing principles* (Fauconnier and Turner 2002), which is certainly a move into a promising direction. However, until now these principles are not much more than a seemingly random selection of principles which are not very specific. It can certainly be stated that in blending theory cognitive linguistics has got some good potential to address matters of utterance processing. However, at the moment blending theory is fairly vague in many respects. More specifically, blending theory has not been made explicit enough yet to make clear predictions which can be falsified.

What this section has hopefully made apparent is that the weaknesses and strengths of relevance theory and cognitive linguistics are complementary. When it comes to a description of the online processes of utterance comprehension, relevance theory, as a theory of communication and cognition, provides a very useful framework. When it comes to the cognitive background of metaphor interpretation, cognitive linguistics is very explicit and has initiated much successful empirical work. The following section will focus on the degree to which the relevance theory model and the cognitive linguistic models of metaphor can cope with the particular context of a metaphorical utterance and the resulting pragmatic effects.

## 4.5 Context-sensitivity and pragmatic effects

Like any issue in language and thought, our understanding of metaphorical utterances and the metaphorical structure of our cognition are significantly influenced by the situation in which we encounter a metaphor.

Relevance theory is well equipped to deal with the context-sensitivity of metaphorical utterances. In relevance theory, the context serves as the source from where the premises used to derive contextual implications are taken. The choice of context thus has a direct impact on the relevance of an utterance and in particular on the understanding of metaphors, because many metaphors derive a major part of their force from the generation of an array of weakly communicated and extremely context-dependent implicatures. In Section 2.3.7 I reported on an experiment that Raymond Gibbs and I conducted with the intention to provide evidence for this claim (see Gibbs and Tendahl forthcoming). It was clearly shown that different contexts have a substantial influence upon the explicatures and implicatures communicated by metaphors. For example, our study indicated that depending on the context one and the same metaphor can lead to different cognitive effects such as strengthenings, contextual implications or contradictions. The contexts the participants in this experiment had at their disposal in order to interpret the metaphorical utterances were fairly restricted and focused, but even in situations where the context is not like this, it exerts a fundamental influence upon the interpretation process.

Many theories of metaphor postulate the existence of a default context when no particular context is given. The default context is a construct that derives from typical experiences with the world and mainly rests on statistical knowledge, i.e. an utterance that occurs without a particular context is automatically embedded in a context in which this utterance or a similar one has usually been encountered. Sperber and Wilson go a step further than this. They argue 'that the search for the interpretation on which an utterance will be most relevant involves a search for the context which will make this interpretation possible' (Sperber and Wilson 1982: 76). Thus, when it is not immediately clear what the context for an utterance is, the addressee does not automatically incorporate a default context, but he will first of all search for a context that is available and that would make the utterance optimally relevant. The underlying assumption here is that the speaker should frame her utterance in such a way that the first context that the addressee may access and that would make the utterance optimally relevant is indeed the intended context. Obviously, relevance theory has a very dynamic view of the context of utterances. It is not just the context which influences the understanding of utterances, but expectations of relevance together with utterances may also determine the context we incorporate into our interpretation endeavours. The overall interpretation process

is guided by a mutual adjustment of expectations of relevance, the context and the utterance. However, other relevance theorists do not incorporate the notion of a dynamic context. Noveck, Bianco and Castry (2001), for example, present experimental studies on the time-course of metaphor and argue that metaphors can demand a lot of cognitive effort in neutral contexts. In Section 2.3.5 I discuss this idea and conclude that language never occurs in neutral contexts.

The selection of a context may seem fairly unrestricted, but usually it is not. The initial context usually consists of the proposition which has been processed most recently, because this context is directly accessible and rather small. In a conversation this would usually be the interpretation of the immediately preceding utterance. Speakers, however, can deliberately or accidentally design their utterance so that sufficient relevance is not immediately achieved. Then the hearer has to extend the context in order to search for possible relevance. Extra information can be remembered from earlier discourse or preceding deductions, it can be taken from encyclopaedic entries of concepts in the memory or it can be received from sense perception (Wilson and Sperber 1986: 253). Sperber and Wilson (1982: 76–7) are of the opinion that the type of discourse is one feature that determines the addressee's willingness to extend his context. They, for example, state that in a usual conversation the duration of the actual utterance limits the processing time, whereas readers of a sacred text devote much more time and processing effort. These readers are driven by the anticipation to achieve greater relevance in turn for extending the context. Most relevance theorists would claim that the same kind of anticipation guides our processing of metaphorical utterances; i.e. upon encountering a metaphorical utterance we allocate more processing time to such an utterance, because we expect the utterance to yield more cognitive effects.

In Gibbs and Tendahl (2006, see also Section 2.3.6) we discuss the general relevance theory perspective which holds that metaphorical utterances cost more processing effort than literal utterances, but that this extra effort is offset by additional cognitive effects which could not have been achieved by a literal statement. We come to the conclusion that such a trade-off between cognitive effort and effects cannot be made in a general fashion. What determines issues of cognitive effort and effects is the context that is at hand. The traditional relevance theory framework has not incorporated this view yet, but the argument of the present work will be that such a view is compatible with relevance theory and very desirable, too.

Thus, the context used in ostensive-inferential communication is not fixed in advance. The hearer selects a context that promises to provide as many contextual effects as possible for as small as possible a processing effort. This search for a context can be facilitated by the speaker. After all, the speaker at least presumes to be as relevant as possible and this also entails that the context the addressee is supposed to select is easily accessible. More specifically,

Sperber and Wilson (1986: 142–3) point out that an assumption *A* will never be considered as being inherently relevant or not, but it is always ‘relevant in some, all or none of the contexts accessible to an individual at a given time, depending on whether some, all or none of these contexts already contain or imply a token of *A*, and on the relative strength of old and new tokens’.

After having pointed out the utterly fundamental notion of context in relevance theory, I now want to take a look at how cognitive linguistics deals with the context of metaphorical utterances.

As mentioned above, conceptual metaphor theory is predominantly concerned with generalizations of metaphor. Single instances of metaphoric language are not in the centre of interest. Hence, it is easily understandable that scholars working in the framework of conceptual metaphor theory have not shown too much eagerness to examine the role of context in metaphor understanding. This is at least true as regards contextual factors such as the setting of an utterance, i.e. place and time, particular speaker intentions, long- and short-term memory, momentary sense perception, etc.

However, there is one very powerful insight of cognitive linguistics that determines the (broadly understood) context of metaphor comprehension and interpretation to a large degree. According to conceptual metaphor theory, conceptual metaphors are used automatically in many aspects of metaphoric language use. Conceptual metaphors belong to our knowledge of the world and conceptual metaphor theorists claim that we understand most metaphorical expressions by activating corresponding conceptual metaphors. Furthermore, conceptual metaphors are not simply accessed during the process of understanding individual metaphorical utterances, but may be activated as part of people’s understanding of contexts, which in turn facilitates inferring the metaphorical meanings of utterances encountered later.

For example, Nayak and Gibbs (1990) show that people tacitly recognize that idiomatic expressions like *blow your stack* are more appropriate if they are used in a context that is structured around the idea of ANGER IS HEATED FLUID IN A CONTAINER, compared to alternative idioms having roughly the same figurative meaning, such as *bite your head off*, which is motivated by a different conceptual metaphor (e.g. ANGER IS ANIMAL BEHAVIOUR). Moreover, people find certain idioms appropriate to use in contexts in which all the correspondences arising from the underlying conceptual metaphor are consistent with the information in the context (Gibbs 1992). These data provide evidence that the contextual appropriateness of metaphorical language is partly due to the overlap in the way contexts and speaker’s utterances metaphorically conceptualize certain abstract concepts.

In the neural theory of language programme which Lakoff, Feldman, Shastri, Narayanan, etc. are pursuing, this boils down to a neural, biological level of brains. Upon hearing a particular metaphor we activate



associated neural structures in the brain (for a fuller discussion of this see Sections 3.2.2 and 4.9).

Thus, conceptual metaphors are often part of the context and prime the easier processing of metaphorical utterances. The comprehension process for metaphorical utterances is facilitated by activating a conceptual metaphor, because the mapping between the source and the target domain of such a conceptual metaphor becomes available and restricts possible entailments of a metaphorical utterance. From this point of view, we can see our system of conceptual metaphors as the main context we have available in metaphor comprehension and interpretation, provided that the context of the metaphorical utterances has already made use of this system in order to prime a metaphorical utterance. Such a claim only makes sense if we accept a very broad view of context that goes beyond such features as listed above (setting, speaker intentions, etc.). If we understand the term context in the same way as relevance theory does, i.e. as a set of assumptions we use in the online processing of an utterance, then the set of conceptual metaphors we access upon understanding metaphorical utterances can most definitely be regarded as a decisive part of the context we incorporate into our understanding of metaphorical expressions. That the availability of conceptual metaphors facilitates metaphor understanding has been shown in various psycholinguistic studies (Allbritton 1992; Allbritton, McKoon and Gerrig 1995; Gibbs 1992; Nayak and Gibbs 1990). At least it has been shown that when primed by an appropriate conceptual metaphor, people understand metaphorical utterances faster than without priming. This provides strong evidence for the assumption that conceptual metaphors are accessed during the immediate online processing of metaphors. However, these studies only show that a context which has already activated conceptual metaphors speeds up metaphor comprehension. What these studies have not shown is how a given metaphorical mapping is exploited in the online processing of metaphors. In order to deal with this in more detail, conceptual metaphor theory would have to take into account more contextual features than just conceptual metaphors.

One issue that has not been resolved in conceptual metaphor theory concerns the question of which elements from a source domain actually get mapped onto the target domain. Some metaphors, most notably of the *GENERIC IS SPECIFIC* kind (e.g. *ACHIEVING A PURPOSE IS REACHING A LOCATION*), are so abstract that it is difficult to identify any mapping at all. However, in actual discourse these metaphors are instantiated in the form of more specific metaphors (the metaphor *LOVE IS A JOURNEY* would be one possible submapping of the *ACHIEVING A PURPOSE IS REACHING A LOCATION* metaphor). Thus, let us take a look at basic-level metaphors. Most source and target domains of basic-level metaphors have a very detailed structure containing many single concepts. A single metaphorical utterance, however, does not make use of all the elements that could potentially be mapped by the underlying conceptual

metaphor, not to mention all the mappings that would theoretically be possible between the two domains. Lakoff and Johnson (1980) stress the fact that conceptual metaphors are always only partial mappings. Thus, only a small section of what a conceptual metaphor makes available is intended by the speaker and only a small section will be accessed by the hearer. What makes this even more complex is the situation that the mappings which speaker and hearer activate are not necessarily identical. Relevance theory is well equipped to deal with such problems with its notion of strong and weak communication on the one hand and its relevance-guided interpretation mechanism on the other hand. Conceptual metaphor theory, however, has no mechanism fit to determine which elements actually get mapped from source to target in a particular situation. Lakoff and Johnson (1980: 184; italics in original) do acknowledge that 'meaning is always meaning *to someone*', and they explicitly deny the possibility of sentences having meaning in themselves, but they do not seem to pay much attention to this theoretical prerequisite. Thus, it looks as if Lakoff and Johnson were well aware of the pragmatic intricacies of particular utterances, but that they are just not too eager in pursuing them.

This also becomes obvious when we take a look at how Lakoff and Turner (1989: 67–72) explain the processes involved in the understanding of poetic metaphors. Lakoff and Turner posit that processes like extension, elaboration and composition are important. Each of these processes marking figurative uses of conceptual metaphors is dependent on the particular context. In extension, the speaker for some reason determines to map certain elements from a source to a target in a novel way. Questions left unresolved with regard to this claim are, for example: Why does she choose to do that? What are the new entailments achieved by this? How can the hearer still recognize the underlying conceptual metaphor?

In elaboration, the elements which get mapped are now filled with non-standard values. This, however, does not tell us a lot about what this means. So why did the speaker choose to construct her metaphor in this way? What are the extra-entailments and effects achieved by this?

In composition, we must ask the question how different conceptual metaphors are interwoven within one metaphorical utterance. What is the contribution of each conceptual metaphor? What will we do if contradictions among the entailments of two or more conceptual metaphors arise? What are the elements that get mapped, and which ones are inhibited when contradictions arise?

Obviously, conceptual metaphor theory's treatment of novel metaphors, even if they are just extensions or elaborations of conceptual metaphors, runs into big problems as long as it does not have some notion of how the context of an utterance determines the particular mappings.

In other cases of (truly) novel metaphors the problems are even bigger. The most creative metaphors are not related to pre-established conceptual

metaphors. In truly creative cases people invent completely new mappings and relations between two domains. In these cases, the person's world knowledge has not established a link between these two domains before and a totally new view of a subject matter can be created. In neural terms: There are no predispositions for the co-activation of two different neural structures in the brain. This is a major problem for conceptual metaphor theory. When a metaphorical utterance cannot be associated with a conceptual metaphor, we need to have a mechanism that works out the meaning of the utterance. Such a mechanism will definitely have to respect the context that is available in the situation.

To conclude the last few paragraphs on relevance theory and conceptual metaphor theory, we can note that context is a phenomenon that is important for scholars dealing with metaphorical utterances; it is not so much a phenomenon of interest for scholars dealing with conceptual metaphors. Nevertheless, conceptual metaphor theory is very interesting with respect to metaphorical utterances, as it provides many valuable insights concerning the sort of assumptions we have available when interpreting metaphorical utterances. In contrast, relevance theory emphasizes the fundamental importance of the context in utterance interpretation. However, it has not yet tried to systematize the information we have available when we interpret metaphorical utterances. Therefore, it would be very convenient if it was possible to merge the benefits of relevance theory and conceptual metaphor theory into one hybrid theory.

Blending theory, as another theory from the cognitive linguistics perspective, claims to be well suited to describe online processes of understanding, and it also stresses the importance of context for online processing. Therefore, I will now take a look at whether blending theory makes useful suggestions about how the context determines online understanding.

Fauconnier (2004: 658) states that 'language does not "represent" meaning: language prompts the construction of meaning in particular contexts with particular cultural models and cognitive resources', and Coulson (2001: 17) points out that 'contextual variation in meaning is ubiquitous because context is an inherent component in the meaning construction process'. She further says that 'because cognitive activity mediates the relationship between words and the world, the study of meaning is the study of how words arise in the context of human activity, and how they are used to evoke mental representations'. Hence, blending theorists, just like conceptual metaphor theorists, are aware that sentence constituents do not have context-invariant meanings. When we want to study the meaning communicated through language, we cannot do so without considering pragmatics. However, the line between semantics and pragmatics is difficult to draw. Blending theorists do not think that a principled distinction between semantics and pragmatics is possible at all. According to blending theorists, such a distinction would presuppose that utterance comprehension first delivers

a context-invariant representation that can be linguistically described by compositional rules linking the morphology, semantics (i.e. truth-conditional semantics) and syntax of a sentence, and that only afterwards pragmatics would work on the purely linguistic representation to accommodate it to the context. Blending theory instead claims that both the context and the sparse information provided by language together evoke a conceptual representation. Words, phrases, entrenched background assumptions taken from long-term memory and situation-specific assumptions are all clues needed to come up with an interpretation of an utterance. Metaphors are not different in this respect from more literal utterances. Fauconnier and Turner (2002: 154) stress that the 'mapping schemes compose in identical ways, regardless of whether the ultimate meanings are flatly literal, poetically metaphorical, scientifically analogical, surrealistically suggestive, or opaque'. Thus, metaphors and literal utterances are processed in essentially the same way.

Fauconnier and Turner (2002) distinguish between four different kinds of integration networks: *simplex networks*, *mirror networks*, *single-scope networks* and *double-scope networks*. Metaphorical integration networks are typically considered to be either instances of *single-scope networks* or *double-scope networks* (Fauconnier and Turner 2002; see also Grady, Oakley and Coulson 1999). In single-scope networks there are two input spaces, each having its own organizing frame, and the blended space takes its organizing frame from only one input space. Therefore, very conventional metaphors where we understand one domain in terms of another domain are understood via a single-scope integration network. What traditionally has been described as the source domain of a metaphorical mapping is called the framing input, and what has been called the target domain is now called the focus input in blending theory. As in more traditional notions of metaphor understanding, for example the traditional pragmatics view of metaphor, blending theorists suggest that single-scope networks provide potential for conceptual clashes. This is assumed to be so because the frame-topology of the blend is completely dependent on only one input while inhibiting organizing structure from the other input.

In more creative instances of metaphor, the notion of a conceptual clash is even more apparent, because in these cases the organizing frame of the blend is a product of the organizing frame of both input spaces. Consequently, every conceptual element and topology from any of the input spaces has potential to clash with elements from other input spaces. Typically, in metaphorical networks, a salient element from one input has a counterpart in the other input space and both elements are fused into only one element in the blend. So, in a double-scope network there is no principled way of deciding which input space provides the structure guiding the projections. This is one of the major drawbacks of blending theory: There is no mechanism in blending theory that could explain why particular elements are mapped.

There is not even a mechanism that can explain which elements figure in the input spaces in the first place. The first point of criticism actually applies to both blending theory and the conceptual theory of metaphor. Above it was similarly argued that conceptual metaphor theory lacks predictive or at least explanatory mechanisms that determine which elements are actually mapped in a particular situation. The latter point of criticism is an issue that is problematic predominantly for blending theory. It would admittedly make no sense to expect a predictive mechanism for the content of mental spaces. This is not possible, because mental spaces are constructed ad hoc and for local purposes. However, what blending theorists could have done is study which image schemas, frames, conceptual metaphors and metonymies are recruited in the formation of mental spaces and what the selection mechanisms are. With respect to these issues, conceptual metaphor theory is far ahead. However, it is my conviction that both conceptual metaphor theory and blending theory would benefit a lot if they also accepted findings from relevance theory.

What is certain is that the frames, in whatever space they are, contain slots that need to be filled in a given context. Thus, every space is extremely context-dependent. The blended space is especially dependent on the context due to the main operations involved in constructing the blend. In *completion* background knowledge is recruited to structure the blend in addition to the composed structure that derives from mappings from the input spaces. *Elaboration* further determines a blended space. This means that the blend might be further developed by simulation and imagination and thus it is again modified by an extra-linguistic source. Moreover, the operations of composition, completion and elaboration may lead to emergent structure which is not derived by any of the input spaces alone, but rather by interactions of the input spaces and operations such as completion and elaboration. Last but not least, emergent structure certainly includes implicatures, and implicatures are without any doubt context-dependent.

The one element in blending theory which above all underlines the context-sensitive nature of meaning communicated through language is the notion of mental spaces. Fauconnier and Turner (2002: 40) define mental spaces as 'small conceptual packets constructed as we think and talk, for purposes of local understanding and action'. Thus, in contrast to the relatively static notion of a domain, as it is used in conceptual metaphor theory, blending theory works with a more dynamic notion of mental spaces. Fauconnier and Turner (2002: 102) further explain that 'mental spaces operate in working memory but are built up partly by activating structures available from long-term memory'. Altogether, this is reminiscent of Carston's notion of ad hoc concepts. Surely, a fundamental difference between mental spaces and ad hoc concepts is the idea that a mental space is a structured set of knowledge that includes such forms as mental frames possibly containing several individual concepts, whereas ad hoc concepts are a particular kind

of concept. In short, mental spaces are generally something bigger than ad hoc concepts. However, if we take Carston's (2002: 359–64) speculative thoughts seriously and broaden the picture of concepts (which in traditional relevance theory consist of a lexical, a logical and an encyclopaedic entry) to the idea of 'concept schemas' and take words as pointers to 'conceptual spaces', then we are approaching the idea of Fauconnier's (1985) notion of mental spaces to a very large degree.

So far, we see that context plays an enormously important role in blending theory. In that respect, it can be compared to relevance theory. Both theories claim that a traditional notion of truth-conditional semantics is not very useful in trying to understand what utterance meaning is all about and that furthermore an abstract level such as the traditional notion of a sentence does not play a psychologically real role in communication. However, Coulson (2001: 37) seems to understand relevance theory differently. To her, relevance theory is representative of a group of theories that posit that there is 'a firm distinction between the computation of literal and nonliteral meaning'. That this view is not correct should have become clear in Section 2.3.3. In fact, Sperber and Wilson claim that the interpretation mechanisms for literal and nonliteral utterances are the same. Furthermore, they claim that the logical form is a representational form that is completely subconscious and not truth-evaluable. The status of the logical form in relevance theory can perhaps roughly be compared with the mapping schemes in blending theory. Particular configurations of the logical form call for particular contextual saturation and enrichment. Similarly, in blending theory particular triggers in an utterance open up particular frames and lead to frame shifts and special mapping schemes. Evidently, both theories contend that the linguistic form of an utterance does nothing more than provide us with clues about where we should look for conceptual content and how we should process this content.

In this section I have argued that metaphorical meanings often vary, because of their significant context-dependency. This variation is not restricted to the meaning of whole utterances. On a level of lexical items it can be noted that metaphors are often responsible for variations in lexical meaning. Therefore, in the following section I will deal with the phenomenon of polysemy, which is a central topic for any theory of metaphor.

#### **4.6 Metaphor and polysemy**

Relevance theory has certainly not been preoccupied with discussions of the phenomenon of polysemy. Nevertheless, relevance theory seems to have a clear position concerning polysemy.

First of all, there is general work that Dan Sperber and Deirdre Wilson (1998a) have done on the relationship between words in the language and concepts in the mind. Sperber and Wilson argue that our mind contains

more mental concepts than our language has words to express these concepts with in a code-like fashion. In fact, Sperber and Wilson claim that most concepts are not lexicalized. Therefore, it seems natural that our language has words which can be used to express different meanings. A word like the verb *open* may be used to communicate a huge number of concepts depending on the particular context of use. In the utterance *Peter opened a bottle of water* the meaning of *open* is clearly different from the one in the utterance *Peter opened a savings account*. Sperber and Wilson do not believe that the linguistic context alone can resolve which particular meaning is intended in a particular situation. What a hearer needs to do is take the linguistic stimulus as a trigger for a relevance-guided inferential process that enriches the linguistic trigger and elaborates it into a part of the speaker's intention. It is not enough to know that *a bottle of water* is the object of *open* in the sentence *Peter opens a bottle of water* and to select the proper sense of *open* accordingly. Our enriching of the sentence also requires non-linguistic contextual knowledge, as for example the assumption that Peter did not open the bottle with a hammer. We see that the contribution that a particular word makes to the overall intention of the speaker usually is not just a decoded concept. Instead, relevance-guided inferences on the basis of the linguistic trigger in a particular context may lead the hearer to the speaker's intention. These inferences may be entrenched or creative and new. Furthermore, the products of these inferences are not necessarily stable concepts that already exist. They can also be one-off creations that have never been used before and will never be used again. Thus, according to Sperber and Wilson (1998a), words generally point to various concepts, all of which could theoretically be the word's meaning in the utterance, but only one of which is the word's meaning in a particular explicature. Polysemy is seen as a very natural outcome of the mind's flexibility in working with concepts and creating ad hoc concepts.

As a relevance theorist, Groefsema (1995) suggests a monosemy view in her treatment of the modal auxiliaries *can*, *may*, *must* and *should*, in that she claims that the meanings of these allegedly polysemous modals are stored as highly abstract entities with their contextually appropriate meanings only being derived in context using the principle of relevance (Groefsema 1995; see also Ruhl 1989 for a different view of monosemy). More recently, Carston (2002: 219) notes that she is 'uneasy with the assumption that a monosemous analysis is always preferred to a polysemous one', because 'it might well be economical to retrieve a clutch of stored senses and choose among them, than to construct an interpretation out of a single sense and contextual information, guided by principles of rational discourse'. Carston addresses a central problem that any abstractionist view of polysemy, i.e. a monosemy view, has to face: it is very often incredibly difficult to find abstract core meanings of polysemous words. Wittgenstein's idea of family resemblances is a case in point. In his *Philosophical Investigations*, Wittgenstein (1978: 31–3)

shows that the German word *Spiel* ('game') refers to a category the elements of which do not necessarily all have features in common with each other. Instead, the category is defined by a network of similarities. What is important to note is that Wittgenstein compellingly shows that there is not one abstract meaning for the word *Spiel*. The same reasoning can be applied to Sperber and Wilson's example of *open*, which is a word that can be used as a predicate of *bottle* and *savings account*. It seems to be very difficult to find a common, abstract sense subsuming these different senses of *open*. When you open a bottle, you gain access to a substance enclosed by a concrete object. But when you open a savings account, you will not gain access to something concrete, nor will you gain access to something that has been enclosed before. Apparently, it is very difficult to find an abstract common sense for many polysemous words. This observation ascribes some initial plausibility to models of polysemy based on networks and family resemblances.

Cognitive linguists generally assume that the multiple meanings of polysemous words are related to one another according to a variety of cognitive principles (e.g. metaphor and metonymy) such that meanings of polysemous words are at least partly motivated (cf. Lakoff 1987; Taylor 1995). It is assumed that in many, but not all, cases image schemas underlie the different senses of polysemous words. Consider the preposition *over*. An image schema underlying this proposition is the UP-DOWN schema. This can be modified in various ways, for example the trajectory and landmark may vary in size and shape, the trajectory can be in contact with the landmark or it can even be part of the landmark. Although this would be a process leading to polysemy, it is not a kind of polysemy that is based on metaphor. However, whenever the preposition *over* is used in ways that cannot be reduced to a variation of the image schema alone, metaphor is involved. This would, for instance, be the case in the utterance *He has gained too much power over his people*. A possible candidate for a conceptual metaphor that is involved here is the CONTROL IS UP metaphor. It can be argued that in this example, this metaphor has led to an extension of the UP-DOWN image schema that can be motivated by Grady's theory of primary metaphors (Grady 1997, 1999; see also Grady, Taub and Morgan 1996 and Section 3.2.2).

Furthermore, the meanings of polysemous words may be organized as radial categories, family resemblance structures, or lexical networks that may possibly serve as models for the internal mental lexicons of individual speakers (Brugman and Lakoff 1988).

Although these proposals all seem intuitively valid, one has to be cautious about whether the cognitive projections which are assumed to underlie polysemy are really active during the hearers' and speakers' online processing of words and utterances. It is an important issue to find out whether conceptual metaphors, family resemblances, etc. only motivate polysemous meanings or whether people actually use them while processing polysemous words in context.



Multiple-access models posit complex networks with over 100 supposedly related senses (connected by a variety of metaphoric, metonymic and other links). Should we assume that when a person hears a preposition such as *over* that he will activate all of these senses? Or is only some part of a network activated (i.e. the contextually appropriate part)? Or might people simply construct sense interpretations pragmatically online without activating any kind of lexical network? Most generally, linguists and psychologists studying polysemy must not automatically assume that the elaborate network models of polysemy necessarily reflect what is actually in speakers' heads or that language is something entirely removed from other cognitive processes. A few cognitive linguists suggest that some proposals on polysemy are more reflective of what linguists think, or believe, than they are representative of the linguistic behaviour of ordinary speakers (Evans 2003; Sandra and Rice 1995).

Apparently, neither relevance theory nor cognitive linguistics offer a conclusive model of polysemy yet. Again, a combination of both lines of research would have the potential to lead to significant advances.

Relevance theory, as we have seen, only sees one abstract meaning of polysemous words and allocates the determination of a concrete sense to our inferential abilities. In a recent version of relevance theory, Carston (1996, 2002) speculates that a word only points to an abstract conceptual space and that from there we build an ad hoc concept that enters the level of explicatures and implicatures. Carston (2002: 360; italics in original), suggests that '“conceptual encodings” are (in many instances, at least) not really full-fledged concepts, but rather concept schemas, or pointers to a conceptual space, on the basis of which, on *every* occasion of their use, an actual concept (an ingredient of a thought) is pragmatically inferred'. Like Sperber and Wilson (1998a) and Groefsema (1995), Carston (1996, 2002) sketches a fairly typical monosemy view of polysemous words according to which polysemous words have a very sketchy and abstract meaning from which particular meanings are inferred in context. This entails that during the online interpretation of utterances, our inferential abilities (including relevance considerations) guide us towards the intended ad hoc concepts.<sup>24</sup>

In contrast to this view, one influential view of polysemy sees several separate lexical entries in the mental lexicon for the different but related senses of a polysemous word. Adherents of this view argue that upon recognition of the phonological form of a word, all of its possible senses become available simultaneously, and the hearer chooses one of the different senses according to the context. Cognitive linguists are not sure whether all of these senses are simultaneously activated, but they describe how and why the different senses of a polysemous word are related. A major tool for relating different senses of a polysemous word is conceptual metaphor. Conceptual metaphors can link different senses of a word into a complex network of family resemblances. The same is possible with image metaphors relating

different image schemas. This is often the case with prepositions, where the different but related meanings of prepositions can be traced back to different image schemata we connect to a preposition in varying contexts.

Altogether, it seems perfectly reasonable to assume that both cognitive linguists and relevance theorists are right in what they say about polysemy, but it also seems that both do not offer a theory that describes the whole picture. Carston's idea that words are pointers to conceptual spaces is indeed very appealing. In addition to that, however, I assume that in such a conceptual space we have information about conceptual metaphors or image metaphors relating different meanings of a word.

I assume that depending on the particular context any of the possible meanings may be accessed first. In Gibbs and Tendahl (2006), for instance, we make the case for a massively context-based comprehension of metaphors and I would claim that the same argument also holds for polysemy. This entails that a particular context can directly bias the mapping of words onto concepts. What some people may like to call the literal or primary meaning of a word does not have to be the first concept that is accessed. Allegedly metaphorical meanings of a word may just as well be accessed first. This will most definitely be the case for senses which can be related by some conceptually meaningful relation, such as a conceptual metaphor to an 'allegedly' literal sense, if this relation is entrenched in the language. In such a case, it will be a matter of empirical research to find out whether the conceptual metaphors are still activated in the online understanding of an utterance exhibiting a polysemous word. At any rate, what is important to know is that the relation can at least be motivated by conceptual metaphor, and that in a particular context the concept from the target domain can be accessed before the concept from the source domain is activated, or even without the concept from the source domain being activated at all. In these cases, we can use our knowledge of the source domain to reason in the target domain. The following examples might help to illustrate this:

- (5) I see<sub>1</sub> a tree.
- (6) I see<sub>2</sub> what you mean.

Obviously, *see*<sub>1</sub> refers to the perceptual domain of VISION and *see*<sub>2</sub> refers to the epistemic domain UNDERSTANDING. The way I see this (pun intended) is as follows: In a situation biasing the hearer towards *see*<sub>1</sub>, we have direct access to *see*<sub>1</sub>, and in a situation biasing the hearer towards *see*<sub>2</sub>, we have direct access to *see*<sub>2</sub>. This seems obvious at least when *see*<sub>2</sub> has become an entrenched meaning of the word *see*. *See*<sub>1</sub> and *see*<sub>2</sub> are related by the conceptual metaphor UNDERSTANDING IS SEEING, but we do not know whether the conceptual metaphor has to be active in the online interpretation of an utterance of *see*, or whether it just motivates the relation between *see*<sub>1</sub> and *see*<sub>2</sub>.

Even if  $see_2$  is not an entrenched meaning of *see*, it may be possible that the hearer can first access  $see_2$  under the condition that the context favours a domain containing  $see_2$  (e.g. the domain UNDERSTANDING). Given that the context has already activated the domain understanding and because the conceptual metaphor UNDERSTANDING IS SEEING is part of our conceptual system and because  $see_1$  is an element of the domain vision, we can assume that the conceptual metaphor UNDERSTANDING IS SEEING is directly activated via target domain access. In this case, a mapping between the two concepts  $see_1$  and  $see_2$  is created. This mapping is activated unconsciously and automatically in the right context and it supports our understanding of  $see_2$ . In such a situation,  $see_1$  is inhibited and does not reach a level of consciousness.

The relation between  $see_1$  and  $see_2$  can also be created if the hearer does not even have a pre-existing concept  $see_2$ , given that the context profiles the word *see* against the domain UNDERSTANDING rather than VISION. If the hearer cannot find a pre-existing concept  $see_2$  in the domain of UNDERSTANDING, then the metaphorical relation to the domain VISION helps by using our knowledge of  $see_1$  in the source domain VISION in order to create  $see_2$  in the domain UNDERSTANDING. In this case, it can be assumed that the meaning of  $see_1$  is indeed active in our search for the intended sense, but without further ado we can construe *see* as  $see_2$ .

To sum this up, in particular contexts, the intended meaning of a polysemous word may be directly accessed, although the word points to a conceptual space which may contain connections to several domains against which the word's conceptual representation can be profiled. This will be the case if the meaning of the word is entrenched. If the mapping between the word and the intended concept is not fully entrenched, then conceptual or image metaphors can lead to the right understanding of the polysemous word.

Such an account of polysemy is compatible with the view pronounced by Croft and Cruse:

Polysemy is understood here in a broad sense as variation in the construal of a word on different occasions of use. It will be treated here as a matter of isolating different parts of the total meaning potential of a word in different circumstances. ... When we retrieve a word from the mental lexicon, it does not come with a full set of ready-made sense divisions. What we get is purport, together with a set of conventional constraints. (Croft and Cruse 2004: 109)

I claim that the only approach that can sensibly formalize such a view of polysemy is a hybrid theory of relevance theory, being responsible for the selection processes, and cognitive linguistics, being responsible for the make-up of the conceptual spaces. In Chapter 5 I will present such a theory and I will then briefly discuss the phenomenon of polysemy again. In the

next section, however, I will discuss relevance-theoretic and cognitive linguistic beliefs concerning the acquisition of metaphors.

#### 4.7 Metaphor acquisition

The question of how and when we acquire the ability to process metaphor in thought and language is another important issue that is part of a complete theory of metaphor.

With regard to the acquisition of communicative competences in general and metaphor in particular, relevance theory stresses the importance of a child's developing theory of mind and metarepresentative abilities for communication (see Section 2.2.1.4; see also Sperber 2000a,b,c; Sperber and Wilson 2002; Wilson 2000). Recall that to form a metarepresentation is to form a representation about another representation such as a thought about a thought, a thought about an utterance, an utterance about a thought, etc. It was argued that this is something essential for communication, for example, when we assess our counterpart's cognitive environment or when a speaker has some kind of attitude towards the proposition expressed, such as a belief, a desire, a dislike, etc. Metarepresentations are the offspring of our general capacity to read other persons' minds.

Interesting research concerning the importance of mind-reading abilities for communication comes from studies with people who have a theory-of-mind impairment, most notably autism (Baron-Cohen 1989a,b, 1992; Baron-Cohen, Leslie and Frith 1985; Happé 1993, 1994, 1995; Happé and Loth 2002). The general consensus in these studies is that autistic people cannot communicate in a 'normal' manner, because they cannot take into account speakers' intentions. Furthermore, autistic people are known to be able to deal with communication in very simple situations, to understand fairly literal uses of language and to be very pedantic about word meanings. Happé (1995: 278) notes that studies by Tager-Flusberg (1981) showed that the grammatical and phonological development of autistic children need not be impaired. Thus, autistic people may be able to use language as a code, but this is a form of communication that cannot be compared with the degree of creativity that normal interlocutors put to use even in very ordinary interchanges, not to mention in figurative uses of language. In these cases, a hearer must take into account the speaker's intention, which means that he must form a higher-order metarepresentation. Without at least a first-order theory of mind, it is virtually impossible to interpret metaphors in a speaker-intended sense. Rather than just decoding sentences, the hearer must form at least the following first-order metarepresentation: *The speaker intends X*; and even this would only allow for a very restricted understanding of metaphors. Thus, whereas an autistic person may be able to decode sentences on the basis of grammatical and lexical knowledge, he or she could not understand nonconventional metaphors. Some autistic

people, especially those diagnosed with Asperger's syndrome, which is a milder form of autism, are able to form first-order metarepresentations and consequently may be able to understand some metaphors. Most autistic people, however, are not able to form any sort of metarepresentation and therefore are not able to understand figurative language at all.

As the ability to use metaphors seems to require the ability to form at least first-order metarepresentations, it has often been claimed that our acquisition of metaphors runs parallel to a more general acquisition of a theory of mind. This would mean that children developing normally acquire metaphors during their fourth year (Bezuidenhout and Sroda 1998; Happé 1995; Happé and Loth 2002). However, there is also some evidence against this. Some scholars claim that we acquire the ability to form metarepresentations in communication even before we acquire the ability to form metarepresentations in other domains (for brief discussions see Happé and Loth 2002; Bezuidenhout and Sroda 1998; Sperber 2000a). This view presupposes Sperber's view of the modularity of the mind (Sperber 1994a, 2000a, 2001). If it is true that our minds are massively modular and that we acquire a communication-specific theory of mind before we acquire a more general theory of mind or other specialized theories of mind, then this would enable children to deal successfully with metaphor before they can cope with tasks from other modules in which they need to have the ability to read other people's minds.

Thus, a typical relevance-theoretic position is that we acquire the ability to understand and use metaphors once we have acquired a communication-specific ability to metarepresent intentions. Gradually, a healthy child develops a very sophisticated ability to metarepresent intentions and the requirements for metaphor understanding are being acquired. This view reflects the general relevance theory position that metaphorical language is nothing more than one possible way of achieving relevance. Thus, the general ability to understand metaphors develops in line with the ability to understand speaker's intentions.

Whereas relevance theorists have studied the general conditions for children to acquire the ability to produce and understand metaphors, they have not dedicated any attention to the acquisition of particular conceptual metaphors and their instantiations in language. Relevance theory has only studied the development of pragmatic competences which entail the ability to use and understand metaphors.

Because cognitive linguists assume that metaphor is a pervasive, but also a unique way of conceptualizing the world, it seems natural that cognitive linguists have studied the acquisition of metaphors thoroughly. Cognitive linguists assume that early metaphor development is primarily based on correlations in embodied experience. For instance, Christopher Johnson (1999) proposed a theory of conflation and deconflation to account for young children's understanding of certain metaphorical utterances.

According to Johnson's theory, young children, even infants, may experience a correlation between different experiences, such as a correlation between sensorimotor experience and subjective emotions. For example, children usually experience a correlation between affection and the feeling of warmth from being held closely by parents and caretakers. At first, the domains of AFFECTION and WARMTH are undifferentiated and perceived as being only one domain, because the two experiences always happen simultaneously, but over time they are deconflated. However, a link between the two domains is retained and this link forms the experiential basis for primary metaphors. To take another example, children may first have an undifferentiated understanding of seeing something and knowing it, yet over time deconflate these two domains, which nonetheless remain linked as a strong correlation in experience underlying the primary metaphor KNOWING IS SEEING.

An entailment of Johnson's *conflation hypothesis* is the widely accepted assumption that conceptual metaphors may start out as conceptual metonymies. Let us consider the example that Johnson (1999) discusses: the case of the verb *see*. If we accept that in the early stages of language acquisition, the visual aspects of the lexical item *see* and the mental aspects of the lexical item *see* belong to one conceptual domain, then it is obvious that during this period the relationship between visual *see* and mental *see* is metonymic. Only later, as a response to more input and a growing complexity of the child's conceptual system, the two aspects of *see* are differentiated, i.e. two conceptual domains are derived from only one domain, and the relation that remains is a cross-domain mapping, hence a metaphor.

Various publications by Raymond W. Gibbs and colleagues (Gibbs 1994, 2006; Gibbs and Colston 1995) describe a variety of evidence from experimental and developmental psychology that is consistent with the idea that (a) very young children possess a rudimentary ability to draw cross-domain mappings, (b) that young children's emerging image schemas underlie many aspects of concept acquisition, and (c) that children learn the meanings of conventional metaphoric phrases faster when these are motivated by widely known conceptual metaphors, than when such phrases are not related to metaphorical schemes of thought. More recent studies show that children generally learn the meanings of metaphorical expressions that are tied to primary metaphors earlier than they do expressions that are based on novel metaphorical mappings (Siqueira 2003). Other empirical research shows that non-native speakers better learn and retain the meanings of idiomatic phrases when they are alerted to the conceptual metaphors motivating these expressions (Boers 2000; Kövecses and Szabo 1996). These experimental studies highlight the importance of embodied experience in children's metaphor acquisition, although this fact alone cannot account for all aspects of metaphor development.

It seems that one difference between the relevance-theory position and the cognitive linguistics position with respect to metaphor acquisition lies in the kind of metaphors that they examine. Whereas relevance theory predominantly studies novel metaphors, cognitive linguists predominantly study expressions of conventionalized conceptual metaphors. Therefore, it seems natural that the accounts of metaphor acquisition as presented in the theories differ. Nonetheless, it can be observed that the relevance theory account and the cognitive linguistics account nicely complement each other. Johnson's conflation hypothesis, as a major representative of cognitive linguistics, convincingly explains how children's development of the conceptual system can lead to more fine-grained concepts with the possible result of emerging metaphors. Relevance theory, drawing on research in developmental and clinical psychology on our theory of mind, compellingly shows how important a developed theory of mind is for a child's ability to understand metaphors. A conclusion from these studies is that the less conventionalized a metaphor is, the more important it will be to possess a functioning theory of mind. This is especially true for those metaphors which are not grounded in experiential correlations. For example, metaphorical expressions which are extensions of complex conceptual metaphors that are composed of other primary metaphors can certainly not be understood unless a child is able to take into account the context and a possible speaker's intention. Conventionalized metaphors, however, which for the child may still be metonymies, perhaps do not require such finely tuned metarepresentative abilities as more novel or complex metaphors do. Johnson's theory presumes that the way a young child processes sensorimotor expressions like *see* is different from adults anyway. Therefore, if Johnson is correct, a young child will try to make his/her own sense of utterances such as *I see the table* vs. *I see what you mean*. A developing theory of mind with the accompanying ability to take into account speakers' intentions may then act as a driving force for a child to deconflate domains. After all, when the child repeatedly tries not only to understand what it could make of utterances which we understand as being ambiguous between a sensorimotor and a mental reading, but also to understand what the speaker may have intended, then this could act as a stimulus to deconflate a domain which captures both VISION and KNOWING into two separate domains.

In the last couple of sections, it has become clear that metaphor is both a phenomenon of language and communication on the one hand and a phenomenon of thought and our conceptual system on the other hand. In the next two sections it shall be examined to what degree relevance theory, conceptual metaphor theory and blending theory are part of more comprehensive theories of language and cognition. It is important to consider this issue, because this is a central topic when pursuing the aim to integrate relevance theory and cognitive linguistic theories of metaphor into one all-embracing cognitive theory of metaphor.

#### 4.8 Relations to a wider theory of language use

It has been pointed out several times that relevance theory argues that the processing of metaphorical language is not different from the processing of other forms of language. In fact, in relevance theory it is even difficult to exactly define what metaphors are. This is because relevance theory does not suggest any special mechanisms that speakers or hearers apply when they produce or interpret metaphorical language. The study of metaphor is completely embedded within the usual relevance theory model of communication and cognition. This can be considered to be a huge advantage, because metaphor theory is not studied in isolation from other cognitive and communicative processes. Instead, metaphor is seen from the perspective of a theory that covers both semantic and pragmatic aspects of language in a cognitively realistic way. A disadvantage that can be found is that relevance theory has nothing to say about the system of metaphors that structures much of our cognitive environment. Due to this circumstance, relevance theory loses much predictive power and valuable knowledge about constraints on metaphor processing.

Conceptual metaphor theory and blending theory are both part of the cognitive linguistics movement. Scholars sharing the central assumptions characterizing cognitive linguistics have studied many aspects of language from a cognitive linguistics perspective. The major contributions from the cognitive linguistics community have certainly been in the areas of semantics and syntax, but other core disciplines such as phonology or morphology have also been studied. Insights from cognitive linguistics have also had a tremendous influence on other fields in the study of language, such as sociolinguistics, language acquisition, psycholinguistics, etc. However, although cognitive linguists have studied almost any aspect of language, neither conceptual metaphor theory nor blending theory are really embedded in a coherent theory of language use or communication. This is due to the fact that cognitive linguists have not managed to streamline their efforts or at least to agree upon a uniform terminology. To illustrate this, imagine a situation where you put ten cognitive linguists into one room and have them define what conceptual domains, frames, scripts, (image) schemas or mental spaces are. In contrast to relevance theory, which is a coherent piece of work that has mainly been developed by Deirdre Wilson and Dan Sperber, the situation we have in cognitive linguistics may be more typical, because cognitive linguistics is a framework that has been shaped by various scholars working fairly independently from each other towards various goals. It will certainly turn out to be important that cognitive linguists get together in order to clearly define their terminology and, even more importantly, to agree on methodological prerequisites. Only then it would be possible to say that conceptual metaphor theory and blending theory are part of an overarching theory of language use and communication. Additionally, this would be a situation in which it



would be easier to develop the theory by falsification of intermediate hypotheses and the proposal of new hypotheses.

#### 4.9 Theory of mind: modularity vs. embodiment

After having pointed out the relations of relevance theory, conceptual metaphor theory and blending theory to a comprehensive theory of language use and communication, I now want to consider in which ways each of these theories are embedded into a comprehensive theory of the mind.

That relevance theorists are immensely interested not just in communication, but also in issues related to human cognition and the mind is convincingly underlined by the subtitle of Dan Sperber and Deirdre Wilson's 1986 groundbreaking book *Relevance: Communication and Cognition*. At least three aspects seem to be essential when writing about the human mind from a relevance-theoretic perspective: the *cognitive principle of relevance*, *metarepresentative abilities* and the *modularity of mind*. The first two of these have already been described in some detail and will only receive a very cursory treatment here. The third aspect, the modularity of mind, is a topic that is at the centre of a long-standing dispute within linguistics and cognitive psychology, and I will briefly discuss this topic, since it is not only of interest for this section; it is also a topic that could theoretically turn out to be a problem in the endeavour to integrate relevance theory and cognitive linguistics. However, given the scope of this work I can only skim the surface of this huge issue.

The cognitive principle of relevance, which was introduced in Section 2.2.3, is defined as follows: 'Human cognition tends to be geared to the maximization of relevance' (Sperber and Wilson 1995: 260). Sperber and Wilson (1995: 261) further explicate that 'cognitive resources tend to be allocated to the processing of the most relevant inputs available, whether from internal or external sources'. This means that when we process any kind of stimulus, for example an utterance, we automatically and subconsciously direct our processing efforts towards those stimuli that promise to achieve as many cognitive effects as possible for as little cognitive effort as possible. Ostensive stimuli get a privileged treatment in that they come with a presumption of their own relevance, as formulated in the communicative principle of relevance. Nonetheless, these claims raise the important question of how we can achieve the goal of allocating resources to the processing of stimuli which (hopefully) turn out to be relevant. Generally, it is argued that this characteristic of the human cognitive system is a result of an evolutionary process, because it has been beneficial for the human cognitive system to operate efficiently. More specifically, Sperber (2005) speculates that it is an outcome of evolution that in a given context, cognitive procedures with prior activation are especially likely to be triggered, because the operation of procedures with prior activation costs less processing effort

than the activation and operation of procedures without prior activation. Therefore, the immediate context of a stimulus is always a decisive factor and our expectations of relevance can enhance the relevance of particular stimuli. This is so because the expectation of relevance gives particular stimuli prior activation resulting in less cognitive effort for the processing of these stimuli.

In the special domain of human communication, the ability to read other people's minds is assessed to be of utmost importance as a basis on which expectations of relevance are formed. Quite generally, in our relations with other human beings it is beneficial to be able to metarepresent their cognitive states. This is imperative for us to make informed guesses about the intentions of other people. The prime example of such situations in which we need to know about other people's intentions is communication. In the sections on metarepresentation (Section 2.2.1.4) and metaphor acquisition (Section 4.7), it was pointed out that persons who are not capable of forming higher-order metarepresentations will usually lack certain communication and language skills. For example, the ability to understand figurative language will be impaired. Thus, relevance theory makes at least two essential claims about our cognitive system: First, it is presumed that we direct our resources towards potentially relevant stimuli, and secondly, it is presumed that we have acquired sophisticated procedures to represent our own and other people's cognitive states. Moreover, we can even metarepresent cognitive states, i.e. we can represent a representation of a cognitive state, etc. For communication, relevance theorists have claimed that we need to be in a state of mutual manifestness, which requires metarepresentational abilities, in order to communicate successfully. In contrast to early versions of relevance theory, for example Sperber and Wilson (1986), the more recent version of relevance theory (e.g. Sperber and Wilson 2002; Wilson 2005; Wilson and Sperber 2004), particularly reflected in the work of Dan Sperber (1994a, 2001, 2005), postulates that our ability to metarepresent cognitive states is the result of a theory-of-mind module that is part of our cognitive system.

This takes us to the strongest claim that relevance theory, as purported by Deirdre Wilson and Dan Sperber, makes about the human mind and our mental architecture. Many relevance theorists take it for granted in their model of the human mind that our minds consist of many specialized modules. This is an assumption that they share with generative grammarians and faculty psychologists, and it sets them very far apart from cognitive linguists. As I said before, this issue has a long tradition in cognitive psychology and linguistics, and it will not be possible to do justice to this topic here. Nonetheless, I want to briefly point out some major assumptions in order to subsequently argue that the modularity of mind hypothesis is far from being an uncontroversially supported theory.

Relevance theory's commitment to the modularity of mind can, among others, be traced back to the works of Chomsky (e.g. 1975) and Fodor (1983, 2001).

Fodor (1983: 36) believes that modules are 'domain-specific, innately specified, hardwired, autonomous'. He further assumes that modules work in a mandatory way, that they are fast, that they are informationally encapsulated and that they have their own neural architecture. According to this definition, prototypical modules are, for instance, our senses. In addition to input modules such as our senses, Fodor assumes that higher cognitive processes are central processes which are not informationally encapsulated. These central processes can perform inferences with premises coming from basically everywhere in the cognitive system, particularly in the form of outputs from the input systems or from memory.

Our ability of metarepresentation would be among the candidates for central processes. However, Sperber makes the claim of *massive modularity* (cf. 1994a, 2001, 2005) and argues that our ability to metarepresent does not belong to the central processes. Sperber argues that we not only have a general theory-of-mind module that has specialized on intentional action, but we even have a more specialized 'comprehension module aimed at the online interpretation of utterances' (Sperber 2000b: 136). In addition to these specialized modules, Sperber (1994a: 48) also suggests that we have micromodules 'corresponding to one living-kind concept (the dog module, the cat module, goldfish module, etc.)'. Thus, Sperber is of the opinion that the human mind consists of a great number of modules, some of which only have the size of a concept. Building on Fodor's notion of informational encapsulation, Sperber (1994a) further distinguishes between a module's *proper domain* and a module's *actual domain*. A module's proper domain consists of all input conditions that the module is meant to process. The actual domain is bigger than this. The actual domain also contains input conditions that match the input conditions of the proper domain in an imperfect way, and although these input conditions do not belong to the proper domain, they may be accidentally processed, too.

Cognitive linguistics purports a completely different picture of the mind. In fact, it is safe to assume that the question of whether our minds are modularized constitutes the biggest difference between relevance theory and cognitive linguistics. For instance, Croft and Cruse (2004: 1) list three 'major hypotheses as guiding the cognitive linguistics approach to language', and one of those hypotheses is that 'language is not an autonomous cognitive faculty'. In the same spirit, the very first sentence of Lakoff and Johnson (1999: 3) reads 'the mind is inherently embodied'. This clearly pre-empted the programme of Lakoff and Johnson (1999), which is to show that the human mind is not a separate faculty, but that it makes use of sensory and motor neural systems and is therefore intricately intertwined with our bodies. Lakoff and Johnson further make the following statement:

The same neural and cognitive mechanisms that allow us to perceive and move around also create our conceptual systems and modes of reason.

Thus, to understand reason we must understand the details of our visual system, our motor system, and the general mechanisms of neural binding. (Lakoff and Johnson 1999: 4)

This picture can be understood as the total opposite to a modular view of the mind. According to cognitive linguistics, our mind is not subdivided into many modules each having their own input conditions and each delivering their own output. The mind is not a disembodied module performing inferences on the basis of premises coming from the input modules. It rather consists of neural structures which are not only used to perform these inferences, but also for seeing, tasting, walking, climbing, jumping, etc.

In the same way, cognitive linguists claim that language is not accommodated in its own faculty. Language is not a system that does its own computations and can only be used for communication purposes, because it cooperates with general pragmatic competences taking the isolated output of the language faculty as one kind of premise. Instead, language is a brilliant manifestation of our overall conceptual system and it is to be understood with respect to our embodied experiences. Naturally, Lakoff and Johnson do not deny that our conceptual system is the product of an evolutionary process: 'Moreover, human language is not a totally genetic innovation. Rather, central aspects of language arise evolutionary from sensory, motor, and other neural systems that are present in "lower" animals' (Lakoff and Johnson 1999: 6). Croft and Cruse (2004: 2) are also keen on pointing out that cognitive linguists do not deny 'an innate human capacity for language'. However, cognitive linguists definitely do not believe in an autonomous language faculty that has evolved.

Thus, at this point it is not possible anymore to argue that relevance theory and cognitive linguistics are complementary to each other. Anyone seriously wishing to combine relevance theory and cognitive linguistics into a comprehensive theory of communication and cognition will have to decide for one of the models discussed in this chapter, because they are so utterly different from one another. What makes things complicated is the fact that none of these models have been conclusively proved, nor has one of the models been disproved. Moreover, both models have been formulated in a way which on the one hand will make it very difficult to disprove them and on the other hand will make it fairly easy to collect evidence in favour of them. Despite this difficult situation which can only be remedied by a lot of empirical work, I can say that I am not convinced by the massive modularity hypothesis and that I see many good reasons to cautiously follow the suggestions from cognitive linguistics. Let me give my reasons for this decision.

First of all, the modularity view of mental architecture perhaps fits in nicely with some aspects of relevance theory, but there are also aspects in relevance theory which question the validity of the modularity hypothesis.

For instance, relevance theorists very much stress the underdeterminacy thesis (cf. Carston 2002), which says that linguistic meaning underdetermines what is meant and even underdetermines Grice's what is said. In communication, we have to enrich logical forms in order to get communicated propositions, no matter whether they may be in the form of explicatures or implicatures or both. The logical form looks like a residue of generative linguistics and seems to be the output of the language faculty. However, the many examples of enrichment that can be found in the relevance theory literature clearly illustrate the extent to which pragmatic knowledge and linguistic knowledge are intertwined. In the online understanding of language, pragmatic and linguistic processes are mutually dependent on one another. This means that the language faculty cannot work in isolation. It will not be possible to get a logical form of a sentence without taking into account pragmatic knowledge. Simple grammatical issues like those concerning grammatical role or part of speech are totally dependent on pragmatic enrichment processes like disambiguation, loosening or narrowing, etc. Pragmatics does not only enter the game once a logical form has been set up. An utterance is interpreted incrementally and the grammatical structure of an utterance is developed at the same pace. Phoneme by phoneme, morpheme by morpheme, word by word, etc., hearers work towards communicated forms, for example by determining grammatical structure on the basis of the phonological input and pragmatic knowledge. The theoretical distinction between a logical form and communicated forms may still make sense, but it is important to understand that in language processing we do not first construct a logical form and then subsequently construct explicatures and implicatures. This is a point that Wilson and Sperber (e.g. 2004: 615) emphasize as well.

In my opinion, grammatical form crucially depends on non-linguistic reasoning and therefore the language faculty cannot be an encapsulated module. The relevance-theoretic notion of logical forms nonetheless can be retained without the philosophical background. What seems to be the case is that the logical form is very much comparable to the network schemes in blending theory. Logical forms and network schemes are blueprints which are the direct outcome of a process that relevance theorists call decoding. However, these blueprints are not independent of conceptualizations outside language. During online processing these blueprints develop taking into account all sorts of information.

The importance of linguistic input, however, is in no way challenged. What this all means is simply that we cannot have an informationally encapsulated and neurally hardwired language module. The linguistic input consists of symbolic representations of conceptual and procedural knowledge. A meaningful unit in a language, for example a lexeme, a phrase or an idiom, opens up a whole array of conceptual and/or procedural knowledge that guides us in setting up a network structure in the

blending-theory sense and therefore integrates the mental lexicon and the grammar of a language. Let me emphasize this once more: We certainly have linguistic knowledge, but this linguistic knowledge is part of our general conceptual system. We do not construct a logical form first and then have pragmatics do the rest.

Having expressed my scepticism about the existence of a language faculty and the consequences a presumed language faculty has for relevance theory, I now want to briefly discuss the existence of a theory-of-mind module with a specialized module for verbal communication. In Section 2.2.1.4 it was mentioned that there is indeed some support for a communication-specific theory-of-mind mechanism. Experiments presented in Happé and Loth (2002), for example, provide evidence that preschool children apparently find it easier to identify a false belief in a word-learning task than in a standard false-belief test. This result certainly fits Sperber's ideas, but nonetheless it has to be noted that there might be a much easier explanation for such results. After all, children are exposed to language learning right from the beginnings of their lives and they therefore get used to language learning fairly early. The experimental conditions of standard false-belief tasks are totally different in this respect. Here, children find themselves in situations which are much more uncommon to them. This is not a difference of metarepresentative abilities, which again would support a communication-specific theory-of-mind mechanism. This is a difference of situational factors having nothing to do with the question of whether we have different theory-of-mind mechanisms. We would be well advised to only accept Sperber's suggestions on this topic, if we were certain that we can cancel the less ambitious claim that our ability to metarepresent both speaker intentions and cognitive states in general is part of our general conceptual system. Wilson and Sperber (2004: 624) argue that 'the range of meanings a speaker can reasonably intend to convey in a given situation is virtually unlimited' as opposed to the range of actions an agent can intend to perform. True, there are more possible meanings than possible actions. But how should this justify a communication-specific theory-of-mind module? After all, even if we can communicate more meanings than we can perform actions, the quality of intention attribution does not have to be different. It might be the case that the ability to communicate requires particularly sophisticated metarepresentative abilities and that while we learn to engage in verbal communication we improve these abilities, but why should this justify the development of a separate module? To give a knock-out argument in relevance-theory style: Would it be cognitively efficient to have one comparatively dumb general module of metarepresentation and one sophisticated module responsible for the same kind of thing? I do not think so.

In addition to these relevance-theory-internal arguments against a massively modularized mind, there are many good arguments against massive modularity provided by a range of findings from cognitive linguistics. An

important point to start with is mentioned in Croft and Cruse:

From a cognitive perspective, language is the real-time perception and production of a temporal sequence of discrete, structured symbolic units. This particular configuration of cognitive abilities is probably unique to language, but the component cognitive skills are not. (Croft and Cruse 2004: 2)

This quotation captures the essence of cognitive linguistic thinking. Although language is indeed understood as an extraordinary achievement of our conceptual system, it is not something that requires abilities that are exclusively reserved to language. The cognitive abilities needed for language and communication are not reserved for a language faculty with sub-modules for syntax, morphology, phonology linked up with a module called the mental lexicon. The cognitive abilities used for language are cognitive abilities that we use for various purposes in our everyday interaction with the world. A simple example might illustrate this: Phonology is a discipline that deals with the identification of phonemes and allophones and their relation to each other. When we identify phones we perceive them as symbolic units. When we hear the sound of a dog barking, we perceive phonetic properties of this sound; for example, we realize that it is from a dog and we can usually determine whether it is a small or a big dog. Additionally, we may be able to judge whether the dog's barking is in an aggressive or in a playful manner, whether it is directed towards us or towards somebody/something else, whether the dog wants to achieve a certain purpose, etc. In analogy, when we hear a linguistic unit we are usually able to notice this as a sound (sequence) that is a part of language and we can decide if it comes from a language we speak. We will also be able to treat this as a symbolic unit with a certain meaning potential. Now consider another, even more mundane example. When we hear the sound of a glass falling to the ground, we will usually be able to decide just on the basis of the sound whether the glass is still in one piece or whether it is broken. We may also perceive whether the glass has just incidentally fallen to the ground or whether somebody has smashed it to the ground with much force. If we suppose that the latter is the case, then we will infer that this person must be very angry about something, etc. Thus, what we call phonology is certainly a major and unique achievement of human beings, but it does not require abilities that are exclusive to language. What it does require is an extremely sophisticated ability of understanding sounds we perceive as symbolic units. It just would not make sense to have this sophisticated ability accommodated in one module and a less sophisticated version of this ability that we may use to perceive and make sense of other sounds accommodated in another module.

Some empirical evidence for the embodiment of language and conceptual knowledge comes from neuroscientific research. The picture that emerges from this research seems to support a major hypothesis of cognitive

linguistics. It suggests that our sensorimotor system does not only integrate information from our motor system and our senses in order to direct our bodily interaction with the world. Apparently, our sensorimotor system is also recruited to structure sensorimotor *concepts* (for example, concepts like *walking* or *grasping* or concrete concepts that we can manipulate with our bodies like *chair* or *flower*). Moreover, it is proposed that the sensorimotor system provides the structure for our understanding of abstract concepts. If this is true, then this is proof that language and abstract thinking are not situated in separate modules.

Gallese and Lakoff (2005) show that recent neuroscientific research has come to the result that 'imagining and doing use a shared neural substrate' (Gallese and Lakoff 2005: 456). The major argument of Gallese and Lakoff's paper is that 'a key aspect of human cognition is *neural exploitation* – the adaptation of sensory-motor brain mechanisms to serve new roles in reason and language, while retaining their original function as well' (Gallese and Lakoff 2005: 456). What Gallese and Lakoff also try to substantiate by presenting neuroscientific research results is Croft and Cruse's claim quoted above. Gallese and Lakoff explain that language is not restricted to its own module, but instead 'language exploits the pre-existing multimodal character of the sensory-motor system' (Gallese and Lakoff 2005: 456). This means that our sensory modalities, i.e. sight, hearing, touch, as well as motor actions, are all used in the production and understanding of language.

Gallese and Lakoff (2005) list several studies providing evidence for these claims. For example, Rizzolatti, Fogassi and Gallese (2001) have shown that mirror neurons in the F5c-PF cluster fire when a monkey observes another individual performing a goal-related hand action in the same way as they fire when the monkey performs such an action itself. Farah (2000) presents diverse scientific evidence that those parts of the brain that are used in seeing are also used for visual imagery. Similarly, Jeannerod (1994) supports the claim that those parts of the brain which are used in action are also used while imagining these actions. Gallese and Lakoff (2005) take these and further similar results to display that we need our sensorimotor system for the understanding of concrete concepts, because the results of the studies mentioned suggest that understanding is simulation. Furthermore, conceptual metaphors are used for the mapping of information from a sensorimotor domain to an abstract domain, and therefore we also understand abstract concepts by accessing our sensorimotor domain. Gallese and Lakoff (2005: 473) even say that the grammar of a language is dependent on sensorimotor neural structure, because 'grammar is constituted by the connections between conceptual schemas and phonological schemas'. All this, of course, is in total opposition to a modularized picture of the human mind. Language, abstract thinking, concrete thinking, sensory information, motor skills, etc. all use the same neural structure in the brain.

Thus, there is plenty of evidence, linguistic and neuroscientific, supporting the cognitive linguistic hypothesis that our minds are not modular and



that our mental and bodily dimensions are intertwined. In short: Cognitive linguistics sees human cognition as deeply embodied.

In addition to arguments against modularity from cognitive linguistics and the neurosciences there is also psycholinguistic evidence against modularity. Katz (1998) mentions experimental results suggesting that language is not situated in a language faculty, i.e. that language is not biologically hard-wired. For a long time it was supposed that the areas of the brain involved in language are in the left hemisphere of the brains of right-handers. However, more recently there have been results indicating that at least some aspects of language, most notably the pragmatics of language and figurative uses of language, are clearly dependent on the right hemisphere of the brain (cf. Burgess and Chiarello 1996; Chiarello et al. 1990). Similarly, for a long time it has been assumed that damage to Wernicke's area, an area in the left hemisphere, results in semantic problems and damage to Broca's area results in syntactic problems. Katz (1998) lists studies suggesting that the simple associations between semantic problems resulting from damage to Wernicke's area and syntactic problems resulting from damage to Broca's area have been questioned (cf. Heesch 1985; Kolk, Van Grunsven and Keysar 1985; Linbarger, Schwartz and Saffran 1983). Finally, Kimura (1993) argues that because aphasia often goes hand in hand with motor problems (e.g. oral movements), and because both Wernicke and Broca aphasics often perform well on tasks of production and comprehension, one can assume that aphasia due to brain damage in Wernicke's or Broca's area is often not a competence problem, but rather a performance problem. This again is counterevidence against the existence of a language faculty.

Apparently, relevance theory and cognitive linguistics are based on very different presumptions concerning the human mind. This is probably one of the main reasons for the mutual ignorance between relevance theory and cognitive linguistics. However, I argue that the disparities relating to questions of mental architecture do not make a fruitful combination of relevance theory and cognitive linguistics impossible. I believe that it should be possible to accept relevance theory's ideas on communication, metarepresentation and the cognitive principle of relevance without accepting the modularity of mind hypothesis. The resulting, slightly truncated, version of relevance theory would still be a very rewarding completion of cognitive linguistic approaches to communication and cognition. Such a combination should be possible for the simple reason that the defining assumptions of relevance theory are not logically dependent on the modularity of mind.

#### **4.10 New challenges**

The previous chapters have shown that a combination of cognitive linguistic approaches to language and thought are possible. The benefits that more comprehensive theories of language and thought can offer should be

enough reason for scholars to also pursue such comprehensive views and establish connections between different theoretical frameworks.

Yet even if scholars do not wish to pay attention to developments in other fields, the minimum standard that every scholar should ascribe to is the insight that findings in one field are not necessarily to be viewed as a threat to their own theoretical background. Some scholars may even feel inspired to make use of the manifold possibilities of connecting the two theories.

One recommendation is that every metaphor scholar working within each respective framework explicitly address how their various empirical analyses fit, or do not fit, with the assumptions of the other view. Thus, all metaphor scholars should ask whether there is something unique about their analyses or whether they are similar to or different from other theoretical perspectives. If they only fit one approach, then it should be overtly stated where they do not fit predictions from other frameworks.

For instance, Coulson (2001; Coulson and Van Petten 2002) has demonstrated in studies measuring the brain's evoked potentials during metaphor comprehension that there appears to be some empirical support for the general claim that blending operations may be mentally effortful. This sort of empirical result certainly fits relevance theory's basic claim that inferring strong and weak implicatures will often be associated with greater cognitive effort. The important point here is that the same empirical result may be entirely consistent with different theories, and that alternative, complementary perspectives should always be considered as part of any metaphor research programme.

A good example of how fruitful interactions between relevance theory and cognitive linguistics can be is illustrated by Ruiz de Mendoza Ibáñez and Pérez Hernández (2003), who have put forward a suggestion about how explicatures and implicatures are derived on the basis of salient conceptual metaphors and metonymies in specific cognitive environments. They stress the fact that the principle of relevance determines which of the licensed explicatures are finally communicated. For example, Ruiz de Mendoza Ibáñez and Pérez Hernández (2006: 32–3) discuss the following example:

- (7) You're going nowhere that way

This utterance may communicate the following explicatures:

- (8) The addressee is not going to achieve his expected goals (if he persists in his behaviour).
- (9) The addressee is not making any progress in life.
- (10) The addressee may make progress if he changes his way of doing things.
- (11) The addressee is acting in an erroneous way.
- (12) The addressee may not have clear goals.
- (13) The addressee has erroneous goals.

Ruiz de Mendoza Ibáñez and Pérez Hernández argue that these explicatures are all based on the JOURNEY metaphor and its associated PATH schema and that the principle of relevance determines that (10) to (13) would be typically analysed as implicatures. However, because these propositions are direct elaborations of what is said and because no extra contextual information other than knowledge about the JOURNEY metaphor and the linguistic utterance itself is required, they argue that these propositions are in fact explicatures. At the same time, the principle of relevance offers a motivated explanation for which of the above-identified meanings may actually be inferred in understanding. Depending on the discourse situation, and what is most accessible from the cognitive environment, processing of (7) will be limited to the extent that listeners infer sufficient cognitive effects while minimizing cognitive effort. If the conceptual metaphor LIFE IS A JOURNEY is especially salient in context, and part of the cognitive environment in which the metaphorical statement is presented, then it will surely facilitate the rapid drawing of many relevant cognitive effects. If this metaphor is less accessible, then listeners may have to expend more effort to infer sufficient cognitive effects for the utterance to be seen as optimally relevant in context. In other contexts, it may be that people infer the metaphor as a consequence of understanding optimally relevant metaphorical meanings, and not as a precondition to understanding a metaphorical utterance.

Relevance theorists have made some steps towards such connections. Whereas relevance theorists used to completely disregard the possibility of metaphors as being understood via cross-domain mappings, they have cautiously approached this possibility in a recent publication. Wilson and Carston (2006) have speculated that associative links (e.g. conceptual metaphors, blending of features from different domains) 'may affect the outcome of the mutual adjustment process by altering the accessibility of contextual assumptions and implications, but the resulting overall interpretation will only be accepted as the speaker's intended meaning if it satisfies the hearer's expectation of relevance' (Wilson and Carston 2006: 429). In line with this important conclusion, it will be interesting to see how relevance theory explains people's understanding of metaphorical language with implicit source domains, such as that typically studied within conceptual metaphor theory. Such an account would be very desirable, as it may also suggest how both propositional knowledge about domains and image-schematic knowledge structuring those domains is employed to inferentially derive contextually appropriate metaphoric meanings. The consequence of this acknowledgment of multiple representational formats for metaphor, and that different sources of information constrain the processing and meaning products of metaphor, is that no single approach to meaning will necessarily capture all that is understood with metaphoric language.

In the next chapter I want to suggest how a systematic approach based on both relevance theory and cognitive linguistics could be created. Please imagine the Hybrid Theory of Metaphor as a blend with two input spaces (relevance theory and cognitive linguistics) and a blended space (the hybrid theory) with structure delivered from both input spaces in addition to its own emergent structure.

# 5

## The Hybrid Theory of Metaphor

In the preceding chapters various approaches to implicit and figurative language, communication and cognition were presented and critically discussed. In this chapter, I want to gather together the results deriving from these discussions. The outcome of this will be a hybrid theory of metaphor that is significantly influenced by relevance theory and cognitive linguistics, but in which I will also make original contributions which cannot be found in either of the theories. Such a hybrid theory seems to be especially valuable as it has become obvious that metaphor scholars struggle with the deficiencies of each theory, and some begin to understand that both perspectives have something very important to contribute towards a comprehensive, cognitive theory of metaphor.

However, many scholars working in one of the two frameworks would probably not even waste a serious thought on accepting or even incorporating ideas from the other framework. I hope that the preceding chapters have shown that both relevance theory and cognitive linguistic approaches to metaphor have their own shortcomings and advantages. I claim that the mutual ignorance which characterizes the relationship between relevance theory and cognitive linguistics is based on the wrong assumption that one has to decide whether to support the one or the other. Quite to the contrary, I have shown that in many respects central assumptions of these frameworks are not mutually exclusive. Of course, there are issues in both theories which are in opposition to each other, but in these cases a necessary decision in favour of only one of the theories does not imply that the other theory is defeated in its totality. In short: There is no need to buy an all-inclusive package. Both theories offer wonderful insights into the workings of metaphorical language and thought, and in many respects these insights are complementary. Therefore, in the following I want to present a hybrid, cognitive theory of metaphor.

### 5.1 The foundations

The theory I want to outline is situated in the discipline called cognitive pragmatics. I call it cognitive, because it is based on the important

assumption that language and communication cannot be separated from other cognitive activities. For example, language is not situated in a specialized module of the mind. Instead, language and communication are human achievements which are only one spectacular instantiation of general cognitive abilities. These cognitive abilities are based on input from our senses, our memory and our bodies, for instance from our sensorimotor system, and they include inferential abilities taking into account information from all available sources.

The wider context that is available to both interlocutors in ostensive-inferential communication is their cognitive environment. All strongly manifest assumptions plus those weakly manifest assumptions which the other interlocutor makes strongly manifest may have an impact on the interpretation processes. Especially those assumptions which are mutually manifest<sup>L</sup> are essential for communication to take place. The quality of the mutual cognitive environment<sup>L</sup> depends to a large degree on the theory-of-mind abilities of both interlocutors.<sup>25</sup> I will comment on these issues in greater detail later, but what should have become clear by now is that the cognitive environment of the interlocutors is replete with information that plays a role in utterance interpretation. Therefore, the theory I am about to describe is not a typical semantic theory of metaphor, but rather a pragmatic theory. This does not mean that lexical semantics and sentence semantics do not play a role. I am rather of the opinion that lexical semantics without context cannot say a lot about concrete meanings of lexical items. It can only give instructions about how to construe lexical meaning in a discourse situation. Something similar can be said about sentence semantics. The meaning of a sentence is not just the composite meaning of its constituents. The semantics of a sentence together with the syntax of a sentence only give clues about how to construe the meaning of a sentence in a discourse situation. Therefore, sentential meaning can only be concrete in a given context. In particular, it is not the case that sentences have default meanings and that in cases of metaphor the sentence meaning changes. Sentences do not have any concrete meaning at all without a context.

In Section 2.2.1 I discussed the status of shared knowledge and metarepresentation in communication and cognition. In the hybrid theory of metaphor I will assume that the context speakers and hearers use in metaphor interpretation is based on relevance theory's notion of the cognitive environment. In particular, the context does not contain weakly manifest assumptions, but only assumptions which the interlocutors represent. In contrast, the cognitive environment of a speaker or a hearer is a set of assumptions including assumptions which the interlocutors may not even have represented before. For example, the cognitive environment includes assumptions which can be retrieved from memory or which can be inferred from existing assumptions. These assumptions do not have to be right, but at least they should be manifest in the sense that an interlocutor believes

in their truth or is able to verify their truth. For communication to be successful, however, it is necessary that parts of the cognitive environments are mutually manifest<sup>L</sup>. So, every assumption that is central in the communication process has to be strongly manifest to at least the initiator of the topic.

One important part constituting our cognitive environment is our long-term memory. In communication, most assumptions from our long-term memory will only be weakly manifest. However, given a particular trigger, we are usually able to access these weakly manifest assumptions. Just to give a simple example: It may be part of our long-term knowledge that cobras are poisonous. This fact is usually only weakly manifest and it will not become strongly manifest in conversations unrelated to this topic. We would, for instance, not represent this assumption in a conversation about the London Stock Exchange. However, if you are on holiday in Asia and somebody informs you of a cobra approaching you, then you will quite probably be able to access the information that cobras are poisonous and this assumption will become strongly manifest. What is particularly interesting for the understanding of metaphorical language and also for the conceptualization of abstract concepts is the empirically supported claim that we store conceptual metaphors as part of our long-term knowledge. These conceptual metaphors may become strongly manifest if either the source domain or the target domain has become strongly manifest individually. Such a domain may become strongly manifest, if a salient element of the domain has become strongly manifest.

Having a mutual cognitive environment<sup>L</sup> cannot be taken for granted. Representing mental states of other people is quite a sophisticated and essential achievement. An advanced theory of mind with the ability to metarepresent several propositional layers is imperative in the assessment of which assumptions are mutually manifest<sup>L</sup>. The less conventionalized an utterance-context combination is, the more we have to rely on this ability, because assessing the cognitive environment of the addressee is essential in forming an utterance that the hearer will be able to understand. From the point of view of the hearer, the ability to metarepresent several levels is necessary to take into account the speaker's intention. In contrast to relevance theory, however, which treats metarepresentations as propositional forms, I posit that metarepresentations can also be simulations of somebody else's experiences in a non-propositional way. Support for this view comes, for instance, from neuroscientific research on *mirror neurons* (Gallese 2001, 2005; Gallese and Goldman 1998). Neuroscientists have found that the same neural structures which are involved in action are also involved in representations of other people's actions. This clearly supports the idea of mental simulations. Further evidence for the importance of mental simulations in language understanding comes from research on *fictive motion* (cf. Matlock 2004; Talmy 1996, 2000). The argument here is that as part of our understanding of sentences like *The road runs through the valley* we

mentally simulate the action of running. Despite various types of evidence in favour of the mental simulation hypothesis, I think that it is still possible that metarepresentations on a propositional level exist as well. Quite generally, I assume that we have the ability to perform metarepresentations in various forms.

The mental representations that play a role in metaphorical utterances may be propositional or image-schematic, where image schemas include representational formats delivered by our sensorimotor system. In other words, in order to understand metaphorical language, we make use of both propositional knowledge about domains and image-schematic knowledge-structuring domains. Metaphorical utterances may therefore communicate explicatures, implicatures, images and even sensations.

To draw clear distinctions between explicit and implicit communication is very difficult. Pragmaticists have, for example, not yet found a clear way of distinguishing between explicatures and implicatures. The two terms include statements about the processing of utterances, but the problem is that pragmatics does not just have an impact on explicatures and that, for instance, metaphorical concepts are not necessarily constituents of implicatures. Propositional forms which can be construed with only minimal pragmatics involved are considered to be typical explicatures, and propositional forms with a lot of inferential work involved and with a propositional form that is fairly remote from the form of the original utterance are typical implicatures. In that vein explicatures take the structure given by the utterance and implicatures are associated propositional forms independent of the utterance's structure, but dependent on the meaning of the utterance's constituents. However, this is obviously no proper definition. The boundaries between explicatures and implicatures will remain fuzzy.

It is also difficult to distinguish between literal and metaphorical utterances. In order to approach a distinction it might be helpful to first take a look at lexical items and subsequently at utterances. To state exactly whether a given lexical item is used literally or metaphorically is not a simple endeavour, because every lexical item requires pragmatic modifications and is therefore understood in the form of an ad hoc concept. Consequently, it is impossible to associate ad hoc concepts with metaphorical uses of lexical items and lexical concepts with literal uses. Therefore, in the hybrid theory it will be important to first understand how we construct ad hoc concepts at all, before I will then propose what may be special about metaphorical concepts. However, I want to strongly emphasize that identifying certain particularities about metaphorical ad hoc concepts does not entail unique construal processes.

Carston (2002: 362) suggests that there are certain classes of words, for example natural-kind terms like *cat* or *tree*, which quite generally communicate an encoded concept, but I am of the opinion that even these words do not just encode lexical concepts. For example, there might be referential



problems with a term like *tree*. In most instances we probably know whether a given entity is a tree or not. However, there are certainly many instances, in which a layman will find it difficult to judge whether such an entity is a tree or a bush. The point is that if we have difficulties in exactly determining what the denotation of a lexeme is, then this is an indication that perhaps the conceptual content of the lexeme is not just created via decoding. Moreover, natural-kind words are very often used in metaphorical utterances; just consider the following examples:

- (1) Paul is a rock.
- (2) My lawyer is a shark.

I argue that this shows that when we process a natural-kind term, we always have to take into account the context in order to identify its conceptual content. Identifying a particular phonological form like /ʃɑ:k/ does not automatically prompt the hearer to decode this signal into a fixed set of features describing an allegedly aggressive, large sea fish. This implies that we always construct ad hoc concepts – even in those cases which to most scholars seem to have a fairly stable meaning.

Above it was said that metaphorical utterances can be communicated in the form of explicatures, implicatures and/or image schemas. Thus, what can be said so far is that it is not a necessary condition, nor a sufficient condition, that figurative language coincides with implicit language, viz. implicatures. It is not a necessary condition as there are metaphorical utterances which are not predominantly communicated in the form of implicatures. Especially in ordinary discourse, metaphorical utterances do not always communicate a range of implicatures. Consider the following dialogue between a TV interviewer and a football player of Manchester United:

- (3) *TV interviewer*: Why have so many injuries ravaged the ManU squad?

*Paul*: Sir Ferguson is a neutron bomb.

Here it may be, but does not have to be, the case that the hearer just constructs an ad hoc concept for *neutron bomb* which enters the explicature of (3) and that his expectations of relevance are fulfilled once he has come up with an interpretation that may be described as follows:

- (4) Sir Ferguson is a very damaging person.

It can be argued that (4) is not an implicature of the utterance in (3). It is not functionally independent of (3) and the syntactical and conceptual structure of (4) is the same as in (3). If the hearer nonetheless develops additional implicatures, then these are not necessarily elaborations which are

dependent on the fact that we consider (3) metaphoric. The same implicatures could probably also be communicated by the non-metaphorical (4). In pragmatics this is a well-known feature of implicatures known as the *non-detachability* of implicatures. Implicatures are attached to semantic content, but not to particular words. The fact that possible implicatures of (3) are the same as the ones of (4) supports the analysis that (4) is not functionally independent of (3). Thus, the metaphoricality of an utterance need not lead to metaphorically induced implicatures.

The existence of implicatures is not a sufficient condition for metaphors either, which is illustrated by the following dialogue:

- (5) *Nicole*: Can I invite you to my home-made vindaloo?  
*Sir Ferguson*: Thank you. I had that before.

One can easily imagine that Sir Ferguson implicates that he is not accepting this invitation. However, Sir Ferguson's utterance is not metaphorical.

Thus, implicatures do not help us much in defining what metaphors are. Nonetheless, the metaphoricality of an utterance is often increased by a wealth of weakly communicated implicatures. Thus, Sperber and Wilson's original definition of *poetic effects* (Sperber and Wilson 1986: 217–24) may be helpful to some extent, but it does not offer a definition of metaphorical language. In Section 5.5 I will offer a more productive suggestion concerning sentential metaphoricality, but before I can do so, I will have to take a closer look at the lexical semantics and pragmatics that my hybrid theory of metaphor is based on. An important claim that the hybrid theory makes is that utterance interpretation in general needs to be analysed as an incremental process in which single meaningful units are processed one after the other with the possibility of backward and forward modifications until enough relevance has been attained. Such a theory needs a solid theoretical foundation on a level of lexemes.

## 5.2 Lexical semantics in the hybrid theory

Relevance theory suggests that words are either related to lexical concepts, which have a fairly stable and context-independent content, or that they are related to ad hoc concepts, which are nonce constructions created in context. Whereas the lexical concept approach seems to be too inflexible as a general theory of word meaning, the ad hoc account is a very promising approach. Unfortunately, ad hoc concepts have only been discussed with regard to nouns. Therefore, relevance theory's treatment of metaphor is very restricted in that relevance theorists have only discussed nominal *X is Y* metaphors. I am of the opinion that such a restriction is unnecessary, because the ad hoc concepts account also works for other word classes. Such an extension of this account is important, because the metaphoricality of an

utterance cannot always be traced back to a noun. Metaphoricity can also be created via the particular use of verbs, adjectives, adverbs or prepositions:

- (6) And every fair from fair sometime *declines*  
By chance or nature's changing course *untrimmed*  
But thy eternal summer shall not *fade*. (William Shakespeare, *Sonnet 18*)
- (7) The dream for *Screaming Green* is to develop as a focus for *grassroots* environmental sustainability for not only students and staff at the University of Salford, but also for local communities. ([www.screaming-green.org/](http://www.screaming-green.org/))
- (8) The nineteenth autumn has come *upon* me. (W.B. Yeats, *The Wild Swans at Coole*)

Moreover, metaphorical language does not even have to be restricted to particular word classes. Sometimes whole utterances are metaphorical and it is difficult to pinpoint a single word that is responsible for the metaphorical character of the utterance. The example in (9) is metaphoric, but in contrast to the examples in (6) to (8) we cannot reduce its metaphoricity to the metaphoricity of a single word.

- (9) The spring entombed in autumn lies. (Henry King, *Sic Vita*)

Conceptual metaphor theory works with conceptual domains. Croft and Cruse (2004: 15) define a domain 'as a semantic structure that functions as the base for at least one concept profile (typically, many profiles)'. For my purposes this is a very fitting definition, as it incorporates the important notion that domains contain concepts. Consequently, a conceptual domain is a knowledge structure that is wider than an ad hoc concept. Moreover, domains are knowledge structures which are more stable than ad hoc concepts. Whereas a conceptual domain usually develops over time and becomes part of our long-term knowledge, ad hoc concepts are spontaneous modifications of more stable conceptual regions with respect to a particular context.

Blending theory's notion of mental spaces is somewhere in between the notion of ad hoc concepts and conceptual domains. Similar to a conceptual domain, a mental space can contain various concepts and can thus be regarded as a structure that is wider than a single ad hoc concept; but similar to ad hoc concepts, a mental space is a nonce construction generated for local purposes. Both ad hoc concepts and mental spaces can become entrenched and conventionalized, but I suggest that once they have become so entrenched and conventionalized that they are stable across contexts, ad hoc concepts should rather be called lexical concepts and mental spaces should rather be called domains. Entrenched ad hoc concepts and mental

spaces may be accessed as a conventional unit, but they should still be susceptible to contextual modulation. In conclusion, on a level of concepts, lexical concepts are stable and ad hoc concepts are their contextually bound counterparts. Conceptual domains and mental spaces are above the level of concepts, because they are configurations of concepts. With regard to these larger knowledge structures, it is possible to at least describe the tendency that conceptual domains are fairly stable and mental spaces are fairly context-bound.

The hybrid theory can enjoy the luxury to use all of the above mentioned categories. In addition to those knowledge structures which are thoroughly discussed in relevance theory and cognitive linguistics, Carston describes the possibility of yet another kind of knowledge structure with respect to the word *happy*:

Could it be that the word 'happy' does not encode a concept, but rather 'points' to a conceptual region, or maps to an address (or node, or gateway, or whatever) in memory? This pointing or mapping provides access to certain bundles of information from which the relevance-constrained processes of pragmatic inference extract or construct the conceptual unit which features in the speaker's thought. (Carston 2002: 360–1)

According to this statement, the first thing we do upon perceiving a word is access a *conceptual region*. In what I will develop, a conceptual region is to be understood as a blueprint for an *ad hoc concept*. Therefore, accessing a conceptual region is what I take to constitute lexical semantics, not just in the hybrid theory of metaphor, but in any cognitively oriented theory of lexical meaning. However, a conceptual region is usually much too unspecified in order to call it 'the meaning' of a word.

A conceptual region consists of different kinds of elements. First of all, it contains pieces of information related to a word which are so central that they apply across contexts. These context-invariant pieces of information may be called the encoded content of the *lexical concept*. One possible part of the lexical concept is what Sperber and Wilson (1986) call encyclopaedic knowledge. Encyclopaedic information does not just consist of propositional knowledge, but also of image-schematic knowledge. Furthermore, I suggest that phonological and morphological knowledge is part of the lexical concept. Hence, it is obvious that a modular picture of the mind is not compatible with this view of lexical semantics. Lexical semantics, phonology and morphology are rather intricately intertwined. On this account, phonological competence would be understood as the ability to pair a phonological structure with possible conceptual regions. However, as this work is predominantly concerned with the interpretation processes involved in metaphorical language, I will not focus on matters associated with phonology or morphology. This entails that although I do believe that

phonological and morphological knowledge of words are parts of lexical concepts, I will, for practical purposes, restrict the use of the term 'lexical concept' to semantic and pragmatic issues.<sup>26</sup>

In addition, conceptual regions contain *free slots* which need to be filled via the activation of *connectors* to *external knowledge structures*. The knowledge structures which can be retrieved to partially structure the ad hoc concept are found in memory, they can be informed by our senses or by the sensorimotor system. It is possible to distinguish between two kinds of free slots in a conceptual region. Free slots may either be entrenched or completely ad hoc. Entrenched free slots are part of our long-term knowledge associated with a particular word, but they are not part of the lexical concept, because they are enriched via recourse to external knowledge structures. Conceptual metaphors would be typical examples of external knowledge structures connected to entrenched free slots. Conceptual metaphors are part of our conceptual system and they are stable across contexts. However, they are not part of the lexical concept. It depends entirely on the context of the utterance which elements from a target domain will be integrated in the ad hoc concept. The second kind of free slots are generated completely ad hoc. This means that they are completely guided by the co-text and context. When, for example, the preceding discourse has made more manifest certain assumptions in the cognitive environment and thereby activated a conceptual domain that is usually not linked to the conceptual region of the word, then we can construct an ad hoc concept that contains a slot which receives structure from such an external domain. It will be shown that this can become a source of metaphoricality.

I want to emphasize that these claims do not mean that we first build a conceptual region and then go on constructing an ad hoc concept. A conceptual region is a context-independent unit related to a particular word. Therefore, conceptual regions are accessed and ad hoc concepts are constructed on the basis of conceptual regions. Thus, conceptual regions are the structures which constitute lexical semantics. However, in a particular discourse situation we automatically and directly create a contextually modulated version of a conceptual region, i.e. an ad hoc concept. This process is studied in cognitive pragmatics. The conceptual region provides us with some lexical information plus procedural information about how to create the ad hoc concept. In that sense, conceptual regions are blueprints for ad hoc concepts.

### 5.3 Lexical pragmatics in the hybrid theory

In the preceding section it was suggested that the structural unit corresponding to the semantics of a lexical item is a conceptual region. Once the conceptual region has been contextually adapted we have what I understand as

the ad hoc concept. Getting from a conceptual region to an ad hoc concept consists of the processes studied in lexical pragmatics.

Important questions that have to be dealt with in lexical pragmatics are the following: Which elements of the lexical concept are incorporated into the ad hoc concept? Which connectors to external knowledge structures get activated? And once a connector is activated, which elements from the external knowledge structure are transferred to the ad hoc concept? A general answer to these questions is that the most relevant elements from the lexical concept enter ad hoc concepts, the most relevant connectors get activated and the most relevant elements from the external knowledge structures are transferred.

Above I said that the lexical concept consists of context-invariant information. This means that a full analysis of a particular lexeme would necessarily include the elements of the lexical concept. It does not mean that the elements of the lexical concept necessarily enter the ad hoc concept. Which elements eventually enter the ad hoc concept is determined by a relevance-driven selection process. Only elements which do not cause much processing effort, but at the same time contribute to the overall relevance of the utterance, enter the ad hoc concept.

Free slots are filled in different ways. First of all, a connector to a free slot must be activated, i.e. there must be contextual pressure that the external knowledge structure contributes information to the ad hoc concept. More specifically, a connector is activated when the hearer expects the enriched slot to contribute to the overall relevance of the utterance. So what determines the empty slot's degree of relevance? One important point is the degree of prior activation. If in the past a connector has been activated most of the time when the ad hoc concept was constructed, then this connector has some prior activation which will make it more likely that in the end the connector gets activated again. This is basically how entrenched free slots are characterized. Entrenchment of slots makes sense, because learning from past uses of the word and providing some connectors with prior activation can decrease the processing effort needed to construct the ad hoc concept. However, if the connector does not get additional activation from the context and co-text of the utterance, then the connector will not get activated and the respective external knowledge structure will not be used for the ad hoc concept construction. Thus, even connectors with prior activation need additional activation to be activated eventually.

Non-entrenched free slots are constructed completely ad hoc. There is no general level of pre-activation, but in a particular context and co-text, an external knowledge structure might be so foregrounded that even concepts which are usually not profiled against this knowledge structure are now modified by it. In other words, there might not be a pre-activation of the

connector, but the knowledge structure, or at least certain assumptions or images from the knowledge structure, are so strongly manifest that a connector to the knowledge structure is constructed and the concept is profiled against this knowledge structure. A mechanism like this is necessary, because otherwise semantic change would not be possible.

In general, I want to propose that the context and co-text of a word provide access to a wealth of information and associated knowledge structures. Where knowledge structures from the context and co-text are foregrounded, we will represent these assumptions in our cognitive environment as strongly manifest. Those knowledge structures and assumptions from our cognitive environment which match the knowledge structures which are connected to the conceptual region of the word enhance their degree of activation in a mutual fashion. Once the knowledge structures connected to the conceptual region get such additional activation, the connector to the conceptual region will receive sufficient activation so that elements from the external knowledge structure can be transferred to the conceptual region. When there is no connector linking a conceptual region to an external knowledge structure, the degree of contextual activation of the knowledge structure has to be very high in order to be possibly integrated into the ad hoc concept.

After a connector has been activated, the question is which elements from the external knowledge structure are transferred to the ad hoc concept. Usually not all of the elements of the external knowledge structures get activated strongly enough to be transferred. Again, according to the cognitive principle of relevance, those elements which presume to be relevant enough will be transferred to the ad hoc concept. All this happens simultaneously and usually very quickly. When the process is finished, we have constructed an ad hoc concept based on context-invariant elements and context-dependent elements which were selected according to relevance considerations. Figure 5.1 illustrates the notions of conceptual regions and ad hoc concepts. It is a simplified representation of a conceptual region which outlines the common structure of a conceptual region. The conceptual region is what is made accessible upon identifying a particular phonological structure, which itself is part of the lexical concept. However, not the entire conceptual region is communicated. A relevance-sorting process determines which parts of the lexical concept are communicated. Relevance-guided processes also determine which external knowledge structures are activated and which elements from these external structures are mapped onto an empty slot in the ad hoc concept. The result of these pragmatic processes is what constitutes the ad hoc concept which may enter a propositional form, provided that the utterance communicates something like a propositional form. In Figure 5.1, the shaded areas are what constitutes the ad hoc concept.

After so much theory an example is long overdue.

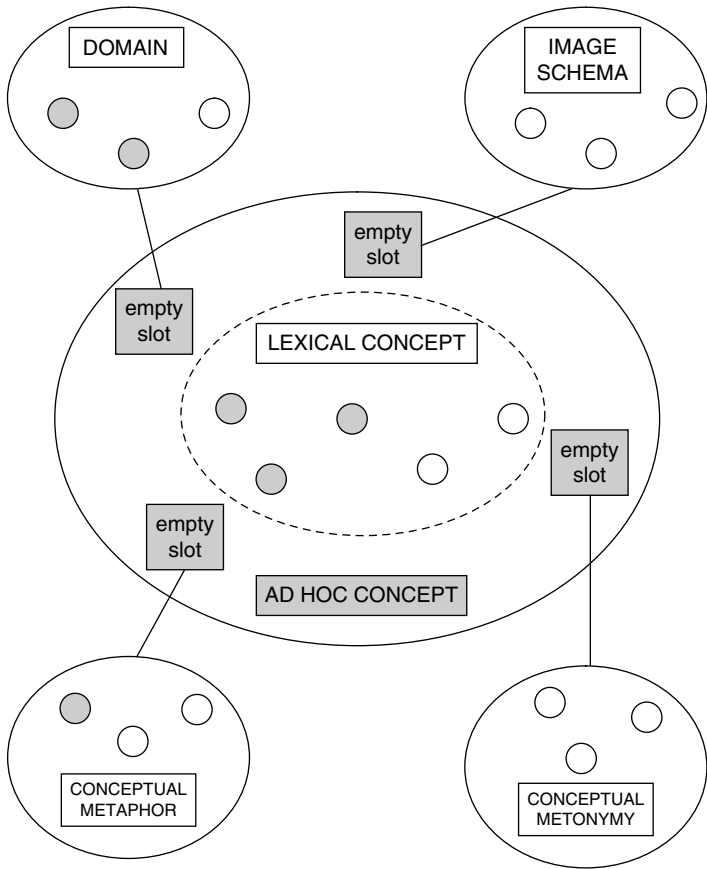


Figure 5.1 Conceptual region

### 5.3.1 The example *tree*

Let us first discuss the natural-kind term *tree* as in the following sentence:

- (10) I enjoyed the sunny afternoon under a huge *tree*.

Upon hearing the phonological form [tri:], the hearer accesses the conceptual region TREE. One part of this conceptual region consists of elements which are stable across contexts. The stable assumptions are surely individually bound to some degree, because everyone will have made slightly different experiences with trees. However, the assumptions about trees which are entrenched in a language and cultural community, i.e.



the information about which the members of the language and cultural community agree as being inherent to the word's meaning, will be found to a large degree in the stable parts of the conceptual region. For trees this probably includes the assumption that they are predominantly green, it might contain an image of the general form consisting of a trunk plus branches and, depending on the time of the year, also leaves, the assumption that the trunk consists of wood – plus further assumptions shared in the community. These assumptions and images belong to what I call the lexical concept *tree*.

In addition to the lexical concept *tree*, the conceptual region may also contain empty slots with connectors to other knowledge structures. These connectors are partly entrenched in the language and cultural community and partly idiosyncratic. Thus, depending on the situation and the individual, the following assumptions may be retrieved via the connectors: that the tree gives shade, that trees are important for our ecosystem, etc. Such propositional information may derive from various conceptual domains which are related to the conceptual region via a connector. For instance, the following domains may be connected to the conceptual region TREE: ECOLOGY, PLANT, SUN, etc. Langacker (1987) also describes a similar notion. He refers to the notion that concepts may be profiled against several domains, with possibly different degrees of abstraction, as a *domain matrix*. Accordingly, the concept *tree* is profiled against a domain matrix which is connected to empty slots in the conceptual region.

Most importantly, a conceptual region does not only contain context-independent assumptions plus connectors to conceptual domains. A conceptual region may also contain connectors to conceptual metaphors and metonymies. Thus, a word may not only make accessible a range of domains, but also a range of conceptual metaphors, which contain the profiled concept either in their source or in their target domain. In this respect, the word *tree* may make accessible conceptual metaphors such as ABSTRACT COMPLEX SYSTEMS ARE PLANTS (e.g. *The local branch of Barclays is on High Street*), PEOPLE ARE PLANTS (e.g. *He's a rotten person*), etc.

Furthermore, connectors may also point to image schemas. At any rate, the empty slots leading to particular conceptual domains, conceptual metaphors, metonymies or image schemas are usually very context-dependent. Moreover, although even these connections are sometimes deeply entrenched in a language community, it is probably here that the ad hoc concept formation of different individuals may differ to a larger extent. I want to emphasize that an ad hoc concept does not contain domains or metaphors or image schemas. Ad hoc concepts only contain assumptions and images provided by these knowledge structures.

Figure 5.2 illustrates these ideas, although I do not claim that this is a complete representation of the conceptual region of *tree*. In fact, it will probably never be possible to sketch a complete representation of a conceptual

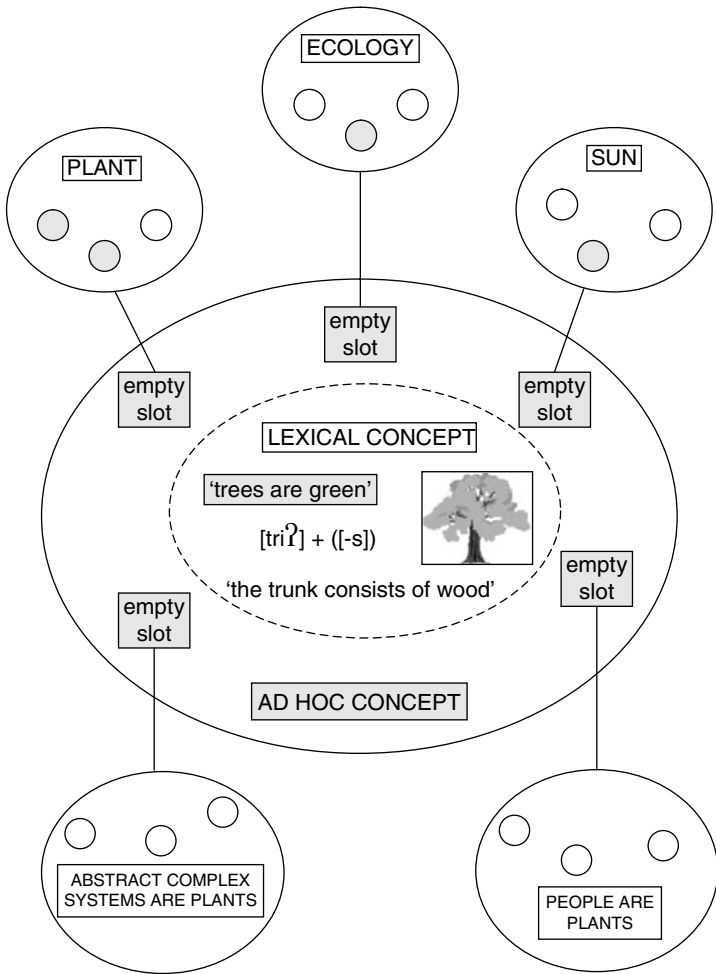


Figure 5.2 The conceptual region tree

region, because conceptual regions may differ a lot between different individuals and even within individuals in different situations. Therefore, figure 5.2 is only a simplified diagram that is supposed to give a general idea of what a conceptual region is.

Most models of metaphor understanding focus on metaphorical uses of nouns. In order to show that my hybrid theory of metaphor and its idea of conceptual regions and ad hoc concepts is not restricted to natural-kind terms, I will now discuss a function word: the preposition *at*.

### 5.3.2 The example *at*

Lexical concepts belonging to prepositions are usually very difficult to determine. They contain phonological and morphological information, but in addition to that it is usually almost impossible to determine encyclopaedic content. However, the conceptual regions associated with prepositions do include context-independent, stable, procedural information. Quite generally, it might be possible to say that the preposition *at* is always used in situations in which there are at least two entities which stand in some relation to one another. This very abstract characterization has to be fleshed out in a particular situation. The conceptual region of *at* has connectors to at least the following conceptual domains: PERSON, SPACE, DIRECTION, TIME. Moreover, it has connectors to image schemas depicting the kinds of locational, directional or temporal relations between the two entities.

Thus, the conceptual region of a function word like *at* does not have much context-independent conceptual content. Instead, there are many unfilled slots which need to be filled according to the context. Filling the slots is usually not a problem for native speakers, as the syntactic arrangement of the utterance usually makes it very clear which entities are to be linked by the preposition.<sup>27</sup> Once it is clear what these entities are, we have access to their conceptual regions. If, for example, entity one is a person and entity two is an object, then this will usually prime access to an image schema for the preposition *at* incorporating a locational or a directional relation between a person and an object, depending on the verb.

Let us take a look at the following example:

- (11) I was waiting at the church.

In this case, the conceptual region of *at* has connectors pointing to the conceptual domain PERSON, where the referent of the personal pronoun *I* is to be found. *Waiting* is a verb, but it does not entail movement or direction. Therefore, an image schema that is based on a locational relation is accessed. The second entity belonging to the locational relation is found by activating the connector to the domain SPACE, where the referent of CHURCH is to be found. The question of whether the first entity is enclosed by the second entity or whether the first and the second entity are just in close proximity is still vague and has to be resolved pragmatically. Figure 5.3 is an illustration of this rough analysis.

The construction of this image schema is based on the conceptual region of *at*, which provides the inferential guidelines for setting up the ad hoc concept.

The following two variations of (11) are dependent on a conceptual metaphor and are therefore processed in a very similar, but nevertheless slightly

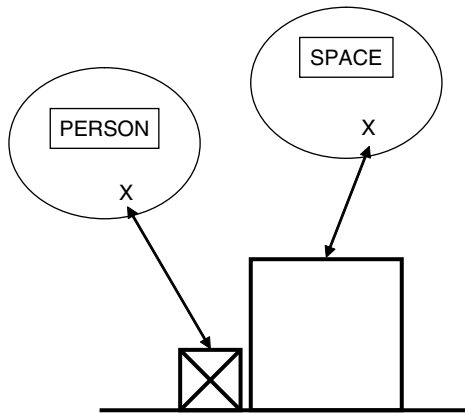


Figure 5.3 Enrichment of an image schema of *at* – locational relation

different way.

- (12) We met at three o'clock.  
 (13) We met at a group meeting.

In (12) the first entity is found in the domain *PERSON*. *Meet* is a verb without movement or direction, and therefore a locational relation gets activated once more. So far, the analysis is the same as for (11), but in contrast to (11), the second entity is not found in the *SPACE* domain, which has got some initial activation due to the activation of the locational relation. This problem is solved by the existence of the conceptual metaphor *TIME IS SPACE*. This conceptual metaphor also has some degree of prior activation, because its source domain is the already activated domain *SPACE*. Via the conceptual metaphor, the target domain *TIME* is activated and the referent for the expression *three o'clock* is found. We see that here we have, in fact, a temporal relation, which is captured in Figure 5.4.

Example (13) is based on the *EVENT FOR PLACE* metonymy. The referents of the first entity are found again in the *PERSON* domain. In (13) the same verb is used again and therefore the locational relation is activated once more. The *SPACE* domain contains the *EVENT FOR PLACE* metonymy, which permits noun phrases denoting an event, like a group meeting, to refer to the place where that event takes place. Figure 5.5 displays this analysis.

Examples (11) to (13) all exemplify variations of a locational relation. Example (14) is different from the other three examples, because in this case a directional relation is profiled:

- (14) The neighbourhood bully threw stones at the little boy.

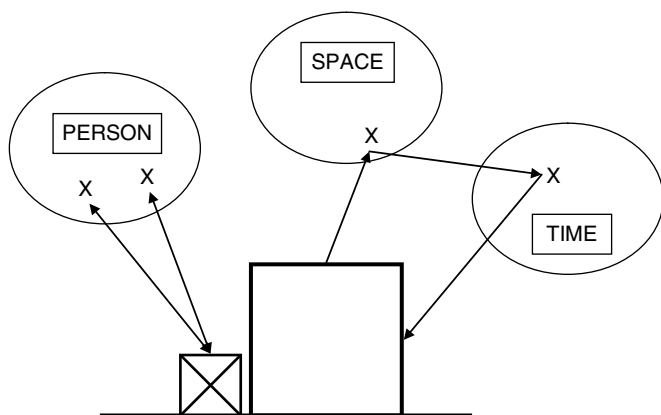


Figure 5.4 Enrichment of an image schema of *at* – temporal relation with *TIME IS SPACE* metaphor

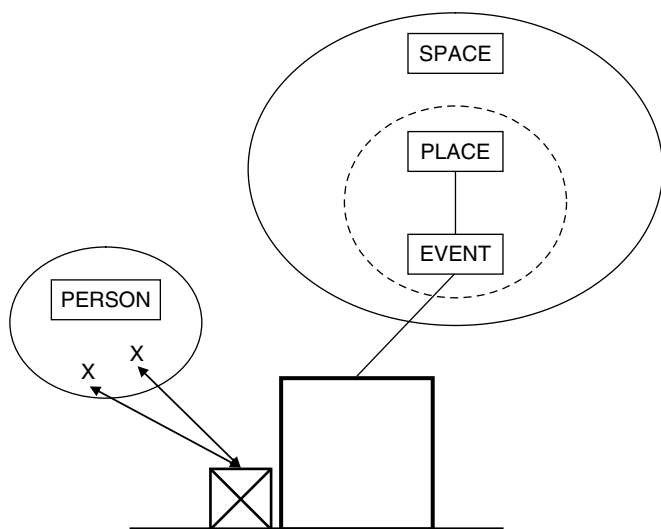


Figure 5.5 Enrichment of an image schema of *at* – locational relation with *EVENT FOR PLACE* metonymy

The first entity of the image schema triggered by the preposition activates the connector to the domain *OBJECT*. The verb *throw* has a force-dynamic component different from *wait*, *meet* or *discuss*. *Throw* entails that a *PATIENT*, in this case the stones, is caused to move and this implies direction. The second entity connects to the *PERSON* domain. Consequently, we have a directional

relation between an object and a person, and the object is forced to move towards the person, so that at the end of this process the object and the person are in close proximity to each other. This makes it obvious that in this use of *at* the generic metonymy GOAL FOR PROCESS is important. Figure 5.6 is a graphic representation of the enrichment of the image schema triggered by an utterance of (14). It does not include a hint to the metonymy GOAL FOR PROCESS. This link does not directly lead to the image schema, but it connects the metonymy with the conceptual region.

Now consider a very similar utterance:

- (15) The neighbourhood bully threw stones *to* the little boy.

The preposition *to* focuses more on the PATH than on the GOAL. Therefore, *to* does not trigger the activation of the GOAL FOR PROCESS metonymy. *At*, however, is a preposition that usually denotes a locational profile with a proximity relation. Thus, when it is used in a scenario with a force-dynamic structure, *at* triggers a metonymy that makes the locational profile of *at* compatible with the force-dynamic structure triggered by the predicator. Here it is impressively obvious that metonymy is not just a tool used for referential purposes in language. Metonymy can also be important as a tool in the grammar of a language. In an utterance of (14) the metonymy provides procedural information about how to process the preposition.

Figure 5.3 to Figure 5.6 only depict the image schemas which are activated in examples (11) to (14). In fact, the conceptual region of *at* is much more complex and abstract, as it contains pointers to all the image schemas illustrated above, to all the conceptual domains, to conceptual metaphors and conceptual metonymies. Figure 5.4 does contain a conceptual metaphor, but

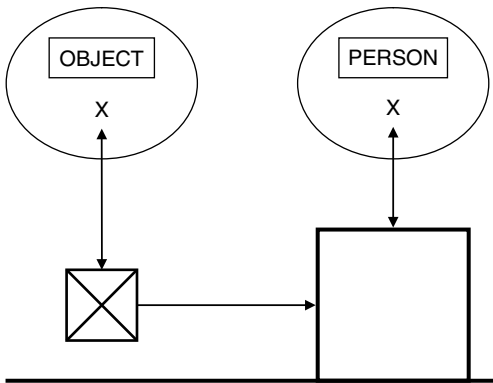


Figure 5.6 Enrichment of an image schema of *at* – directional relation

only because this is necessary for the referential enrichment of the image schema. In contrast, the metonymy of (14) is not present in Figure 5.6, as it is not involved in any referential enrichment. This metonymy is rather responsible for integrating the image-schematic structure of the preposition with the given force-dynamic structure of the utterance. This displays that the traditional belief that metaphors are responsible for comparisons and metonymies for references is oversimplified.

The image schemas representing the complete utterances in (11) to (14) are also more complex than the image schemas depicted above. For example, the image schema of the utterance in (14) also requires an antagonist or agent who causes the stones to move, but this is not a topic of lexical semantics or lexical pragmatics anymore. The lexeme *at* only describes a relation between two entities. Therefore, in (14) the person who initiates the movement of one of those two entities is part of the overall representation of the utterance, but it is not part of the image-schematic structure of the lexeme.

Thus, we see that any word in an utterance provides access to a conceptual region. The conceptual region is characterized by potentially context-independent assumptions and images plus context-dependent slots with connectors to other knowledge structures. The fully fledged ad hoc concept which is the product of contextual modulation, or more specifically, which has been modulated according to those assumptions which are strongly manifest in the interpreter's cognitive environment, is what I understand as an ad hoc concept.

The diagrams above may look very complex and the objection could be raised that these lexical processes cost too much effort and that they will be too time-consuming compared to how fast we manage to understand prepositions. However, it is important to realize that these processes are not invented anew every time we stumble over the preposition *at*. Therefore, the above illustrated image schemas are all familiar to us and the relevant connections are immediately activated on a step-by-step basis as the utterance unfolds and with respect to strongly manifest assumptions in our cognitive environment. As I want to say much more about the online processing of metaphors in Section 5.5, I will leave it at that for now.

In the next section I want to examine whether my thoughts on lexical semantics and pragmatics can help us in finding a more satisfying notion of what the differences between literal and metaphorical word meanings might be.

## 5.4 Lexical metaphoricity

In previous sections I mentioned several times that a distinction between literal and metaphorical expressions is difficult. In the following sections I want to suggest some possible characteristics of metaphorical versus literal

lexical items based on the picture of lexical semantics and pragmatics sketched above.

Conceptual metaphor theory defines metaphors as cross-domain mappings. This perspective has led to many valuable insights concerning the metaphorical nature of our conceptual system and language. However, in many cases the metaphorical expressions that are being discussed in conceptual metaphor theory do not seem figurative to us. This is because many of the metaphorical expressions have become completely entrenched and conventionalized, as metaphor is a cognitive tool that is at work not only under extraordinary circumstances. We use metaphors all the time and they shape language through and through – not just the vocabulary of a language. Example (16) illustrates that many entrenched expressions are strictly speaking metaphorical, although they do not seem very figurative from an intuitive point of view.

(16) You're wasting my time.

Example (16) is a realization of the *TIME IS MONEY* metaphor; however, (16) has become so idiomatic that hearers will usually not perceive a feeling of metaphoricality when they hear it. It is certainly very important to study such metaphorical relations like the one between *TIME* and *VALUABLE OBJECTS* or *MONEY*, because this research gives us fascinating insights into how our conceptual system is structured and how we organize information. However, it is just as interesting to know more about the conditions under which a hearer will perceive something as figurative, i.e. under which conditions the hearer will notice that an entity is conceptualized in a metaphoric way. Moreover, it was pointed out in Section 4.4 that conceptual metaphor theory is not very explicit about how we actually process novel metaphors.

In the hybrid theory of metaphor I accept the general idea of defining metaphors as cross-domain mappings with linguistic expressions instantiating these conceptual metaphors. I also want to make some suggestions concerning the circumstances under which we perceive a metaphorical expression as metaphoric, and I want to make some suggestions concerning the processing of novel metaphors.

My immediately following presentation is applicable to utterances whose metaphoricality can basically be reduced to a particular lexical item that was used metaphorically. Sentential metaphors clearly work in more complex ways and will be discussed in Section 5.5. In the following section I will discuss several examples in order to explain in which ways the view of lexical semantics and pragmatics presented above can be applied to utterances containing metaphorically used words.

### 5.4.1 Examples

Many lexical items are only linked up with one conceptual region. Such a conceptual region has the structure as described above. It may contain



both lexical parts and free slots connected to external knowledge structures, including conceptual domains, metaphors, metonymies or image schemas. In utterances, the words pointing to a single conceptual region may be perceived as literal or as metaphorical. So the interesting question is: What contributes to our perception of lexical metaphoricality? Let us take a look at a metaphor incorporating the lexeme *tree*, which was discussed above:

(17) Ruud is a tree.

In a context where Ruud is a striker at football and two people are discussing his heading skills, (17) is clearly metaphorical. The lexeme *tree* points to a conceptual region as was described above. This conceptual region consists of a lexical part and an enrichment part with free slots. The first difficulty in terms of processing concerns the role of the lexical concept *tree*. Above, I suggested that the lexical part of a conceptual region is context-invariant. Thus, it should somehow be activated in the metaphorical use of the word *tree*. But why do we not think that Ruud is green or that Ruud has a trunk made of wood? Section 2.3.2 has made it quite clear that we certainly do not first construct a propositional form in which Ruud has all the literal characteristics of trees, and then discard this option and search for alternative interpretations. However, there is also the intuitive notion that the lexical meaning of *tree* cannot be totally unimportant in (17). After all, it is no coincidence that Ruud was predicated as a tree. My suggestion is that the lexical concept does play a role in the processing of (17), but that much of the lexical information never enters a propositional level. In other words, the lexical concept does play a role, but not the whole chunk is incorporated into a metaphorical interpretation. Consequently, there will never be a proposition that will be discarded as being defective. The major role of the lexical information we associate with *tree* is its being a part of the source domain of the conceptual metaphor that can be described by the shorthand mnemonic PEOPLE ARE PLANTS. In the domain PLANTS, trees are fairly big exemplars, and according to the invariance hypothesis we can map topology from the source domain to the target domain. Consequently, we can come to the conclusion that Ruud is a fairly tall exemplar in the domain PEOPLE.

In Section 3.2.1 the invariance hypothesis was discussed in some detail. One of the conclusions was that the invariance hypothesis is probably right in its claim that the elements which are mapped from the source domain to the target domain maintain their topology, but it was also argued that the invariance hypothesis does not determine which elements from a source domain are actually mapped to a target domain. The selection of source domain elements is subject to relevance considerations. In a conversation about somebody's heading skills at football, the assumption that somebody's height is a decisive factor is surely strongly manifest<sup>L</sup> for people who are familiar with football. Furthermore, it is strongly manifest that in the

domain PLANTS trees are particular in terms of their height. Thus, the attribute GREAT HEIGHT is prevalent in the mutual cognitive environment<sup>L</sup> of both interlocutors. Therefore, activating this source domain element in order to map it in accordance with the invariance hypothesis to the target domain will not cost much processing effort. This gives an explicature like *Ruud is a very tall player* some initial relevance, because the cognitive-effort argument of the cost–benefit formula already tends towards more relevance.<sup>28</sup> But what about the other half of the formula: the cognitive effects communicated by the explicature? Given the fact that the hearer already knows that Ruud is a very tall player, the explicature would result in a strengthening of an existing assumption. Given the fact that the hearer did not know that Ruud is a tall player, the explicature would result in a contextual implication for the hearer. And given the fact that the hearer even thought that Ruud is a small player, the explicature would result in a contradiction and improvement of the hearer’s knowledge of the world. At any rate, the explicature would result in a positive cognitive effect. Thus, mapping the attribute great height from the source domain of plants to the target domain of people is backed up by a presumption of relevance.

Metaphors usually communicate more than just one explicature. In the original relevance theory account of metaphor, Sperber and Wilson (1986) make the important point that metaphorical utterances tend to communicate a range of implicatures. Considering both the original and the recent relevance theory approach to metaphor, I conclude that metaphorical utterances may not only communicate several implicatures, but also several explicatures. The implicatures and the explicatures are mutually adjusted to one another while being processed. In addition, cognitive linguists have made the important observation that metaphors not necessarily communicate propositions. They often communicate an image of a subject matter or they elicit a mental simulation process. Thus, it is possible to conclude that (17) may communicate more than just a propositional form along the lines of *Ruud is a very tall player*.

My aim in this section is not to provide an analysis of the whole utterance in (17), but only to discuss how a single word can trigger the elaboration of an ad hoc concept that contributes to the metaphoricity of the utterance. What would be more interesting for the moment is to see which elements from the lexical concept are not communicated and why they are not communicated. For example, I consider it quite unlikely that (17) communicates that Ruud is predominantly green. The lexical concept attribute GREEN is surely part of the source domain PLANTS, but it is not mapped to the target domain. GREEN is not strongly manifest in the mutual cognitive environment<sup>L</sup> of both interlocutors. In a conversation about the heading skills of football players, the colour green does not have a prominent status. Therefore, there is no prior activation of this part of the lexical concept. This means that mapping such a feature from a source to a target would require

more processing effort compared to a mapping of an already activated feature like GREAT HEIGHT. In the (metaphorical) fight for processing resources, the attribute GREEN loses against 'opponents' like GREAT HEIGHT, which eventually enter the interpretation process due to a higher level of prior activation. This also illustrates how important expectations of relevance are. In a discussion about somebody's heading skills, one expects that attributes like GREAT HEIGHT can render an utterance relevant, but one does not expect that a colour attribute renders the utterance relevant. As was presented in Section 2.3.7, in Gibbs and Tendahl (forthcoming) we are able to show that expectations of relevance are very important for metaphor processing. Once expectations of relevance have been fulfilled, hearers are likely to stop processing. As regards metaphorical utterances, this means that hearers do not necessarily compute metaphors with the strategy to obtain as many cognitive effects as the metaphor may provide. Instead, metaphors may be processed rather quickly.

Thus, the lexical concept is context-invariant and is accessed, but only to provide elements which are then mapped to the target domain of the conceptual metaphor PEOPLE ARE PLANTS, which is connected to the conceptual region TREE. Only those elements of the lexical concept whose mapped counterparts will presumably render the utterance relevant are actually mapped. The main relevance of the utterance is based on how the free slots of the conceptual region of the metaphorically used lexical item *tree* are filled. These enriched slots do not contain the information that Ruud is green, because there has never been a related mapping resulting in this assumption.

If the lexical concept actually plays a role in the processing of (17), why do we consider (17) metaphorical? The answer is that the main relevance of *tree*, which is to be found in the enrichments of the free slots, is derived from its profiling against the target domain PEOPLE. If *tree* had been used literally, then the main relevance of this lexical item would come from a profiling against the inherent domain PLANT. In the literal use of *tree* in (10), *tree* is indeed profiled against the domain PLANT. For example, no conceptual metaphor which transfers what we know from the lexical concept to another domain is activated in (10). Notice that similarly to the metaphorical utterance in (17), this does not mean that everything we store as the lexical part of the conceptual region of *tree* is communicated. The speaker of (10) probably does not communicate that she enjoyed the sunny afternoon under a huge plant that is green. So in this respect the literal use of a lexeme like *tree* seems to be similar to the figurative use of the lexeme *tree*: Some context-invariant knowledge we have about trees does not enter the level of explicatures, although it belongs to the lexical concept. Words always just trigger access to a conceptual region which then has to be elaborated into an ad hoc concept in context, irrespective of whether the word is used literally or metaphorically.

Apparently, a major difference between the lexical concept and the free slots in a conceptual region concerns the way they are contextually modified. Assumptions, images, etc. stored under the lexical concept are accessed directly and irrespective of a particular context. However, an immediate relevance-theoretic sorting process then selects only some elements of the lexical concept and this process is context-independent. It might even be the case that none of the encyclopaedic elements which are part of the lexical concept eventually become a part of the ad hoc concept. In such a case all the encyclopaedic information from the lexical concept is inhibited. In contrast, the free slots are filled by massively context-dependent construal operations. Some of these free slots are filled via entrenched connections to external knowledge structures. Such knowledge structures are generally accessed in order to construct the particular ad hoc concept. However, it is also possible that the ad hoc concept is enriched from external knowledge structures which are not generally accessed, but which are mutually manifest<sup>L</sup>, and that there is contextual pressure to profile the ad hoc concept against these knowledge structures. The outcome of these construal operations is not fixed in advance, but totally dependent on context-specific relevance considerations. Thus, free slots are never context-invariant. The context always determines which of the connectors get activated, and in addition the context determines which external elements are mapped into the ad hoc concept.

In Section 2.3.5.1 a distinction was made between nominal category-modification metaphors (e.g. *Nicole is a little princess*) and category crossings (e.g. *Oliver is a bulldozer*). Example (17) is an example belonging to the class of category crossings. The following example (18) belongs into the category of category modification metaphors, provided that Thierry is, in fact, a football player and not an artist:

(18) Thierry is an artist.

It is an instance of a category modification metaphor, because Thierry could, in principle, be an artist. The necessary modifications to the lexical concept are changes on a very basic level. Category modification metaphors are characterized predominantly by a relevance-theoretic sorting process. Thus, not all lexical knowledge we store in the conceptual region ARTIST is communicated in the expicature or in an implicature. Only the relevant pieces are communicated. For example, we do not assume that Thierry paints pictures or composes music. What is communicated by an utterance of (18) is something along the lines that Thierry plays football in an aesthetically pleasing way, that not many football players are as inventive on the football pitch as Thierry, etc. Presenting something aesthetically pleasing and being inventive are certainly parts of the lexical concept of *artist*. The sorting process works according to relevance principles based on cognitive effort and

cognitive effects. Spectators at a football match are certainly interested in seeing an aesthetically pleasing performance on the pitch. Spectators may also admire the inventiveness of a striker. Thus, whereas painting pictures is unlikely to be a part of the mutual cognitive environment<sup>L</sup> of both interlocutors in a conversation about a striker, assumptions about aesthetic pleasure and inventiveness may be strongly manifest<sup>L</sup>. Therefore, these assumptions receive some initial activation resulting in less processing effort when being processed in utterances like (18).

An important question that is raised once more is: Why is (18) metaphorical? After all, in our discussion of the literal use of *tree* in (10) it was pointed out that although (10) is literal, not everything in the lexical concept of *tree* enters the ad hoc concept, and so far the analyses of (10) and (18) are the same. The point is again that in (10) *tree* is profiled against the PLANTS domain, whereas in (18) it is profiled not predominantly against the ART domain, but against the FOOTBALL domain. Thus, even if the ad hoc concept of the subject complement *artist* in (18) is construed by a relevance-sorting process and not via a mapping of an external conceptual metaphor, the subject complement is profiled against an external domain. This is what I believe to be essential in our perception of metaphoricity in (18).

The examples in (17) and (18) contain words which have been used in fairly novel ways. I would now like to take a look at words which are more entrenched in their use. Some conventional metaphorical expressions may also be called polysemous. These expressions have two or more senses which are evidently related. Depending on how entrenched, i.e. conventionalized, the different senses of a word are, there might be several or just one conceptual region available.

Those words which have one entrenched sense and further less entrenched senses only provide access to one conceptual region. Thus, the phonological form of a word always points to the same conceptual region. When the entrenched sense is construed, this means that an ad hoc concept is construed which is profiled against an inherent knowledge structure. However, when a less entrenched sense is construed, this means that the context provides external knowledge structures, for example a conceptual metaphor, which lead to a profiling of the ad hoc concept against a non-inherent knowledge structure. I suggest that whenever one of the less entrenched senses is intended, hearers may perceive this use of such a word as figurative.

If a word is very often used in a way such that the main relevance of the ad hoc concept is construed via a profiling against the same external knowledge structure, it is possible that this external knowledge structure becomes the inherent knowledge structure of a new conceptual region. Thus, where several senses are fairly entrenched we store several conceptual regions in our long-term memory. The relations among the different senses might be motivated by conceptual metaphor, conceptual metonymy, image schemas or other cognitive principles, but this does not necessarily mean that the

cognitive links between the conceptual regions are always activated during processing. The hybrid theory of metaphor predicts that often those assumptions which are strongly mutually manifest<sup>L</sup> in the hearer's cognitive environment can directly determine which of the conceptual regions is accessed and is elaborated into an ad hoc concept. Of course, it is nevertheless possible that a non-intended conceptual region is accidentally accessed first. In these cases, a link to a related conceptual region can certainly be used in order to quickly and rather effortlessly access another conceptual region.

Provided that a particular conceptual region has been accessed and the developing ad hoc concept is profiled against an inherent knowledge structure, we will probably not perceive a sense of metaphoricity. However, it has to be noted that even when in the case of polysemy the intended conceptual region is accessed directly, the word may still be intended metaphorically. In such a case, the conceptual region is accessed without a detour via a metaphorical connection between conceptual regions, but the developing ad hoc concept is profiled against a non-inherent, external knowledge structure. The decision for a particular conceptual region is made according to relevance-based selection processes. In particular, those conceptual regions which match the strongly manifest assumptions already available in the cognitive environment will be activated in a fairly effortless way. I suggest that examples (19) and (20) illustrate the case where one phonological form can provide access to different conceptual regions and the conceptual regions are noticeably linked via a conceptual metaphor which motivates the polysemy.

- (19) His whole body was covered with *cuts*.
- (20) Repeated *cuts* in the university's budget have caused a dramatic situation.

Although the two different senses of *cut* are clearly related via metaphor, this metaphorical link probably only motivates the relationship between *cut*<sub>1</sub> and *cut*<sub>2</sub>. I do not believe that the metaphorical link and thereby both conceptual regions are activated during online processing. Instead, the available context will most likely directly prime one of the two conceptual regions. Now consider the example in (21):

- (21) Her vulnerable soul was covered with *cuts*.

In an appropriate context, I assume that the hearer is directly guided towards the same conceptual region of *cuts* as in (19), but the word *cuts* in (21) is used in a metaphorical way. This illustrates the situation described above, where we are directly guided towards the intended conceptual region, but the ad hoc concept that is construed is nevertheless based on a metaphorical use

of the word. I consider (21) metaphorical, because the main relevance of the resulting ad hoc concept comes from its profiling against an external knowledge structure via the MIND AS BODY metaphor. Thus, in this situation we do not perceive a sense of metaphoricity due to of the polysemous nature of *cuts*, but because the directly accessed conceptual region is elaborated into a metaphorical ad hoc concept.

Consequently, the existence of a metaphorical link between one polysemous sense and another one does not necessarily lead to a perceived metaphoricity, but it can lead to a perceived metaphoricity, if one of the conceptual regions is elaborated into a metaphorical ad hoc concept.

In the most conventional metaphors, what we analyse post-hoc as strictly speaking metaphorical has become lexicalized in that the originally metaphorical content has moved to a new conceptual region and a relation between the original and the new conceptual region is not obvious any more. This would be the case in the following example:

- (22) You can observe that your *pupil* changes size in response to changes in lighting.

Strictly speaking, the lexical item *pupil* could be considered metaphorical here, because in its Latin origin *pupillus* and *pupilla* were just the diminutive forms of *boy* or *girl* respectively. Due to the tiny image of yourself which is reflected in someone else's eye, the lexical item *pupil* was also used for the dark centre of the iris. However, from a synchronic perspective this is totally irrelevant, as only a few experts are aware of this and therefore most people would not regard (22) as being metaphorical. Thus, depending on the context hearers will directly activate either the conceptual region for *pupil*<sub>1</sub> (part of the eye) or for *pupil*<sub>2</sub> (student). If the conceptual region of *pupil*<sub>2</sub> is activated, knowledge from the conceptual region of *pupil*<sub>1</sub> will not be activated and no feeling of metaphoricity will occur.

#### 5.4.2 The construal of metaphorical ad hoc concepts

In the preceding section, several examples of metaphorically used lexical items were discussed. In this section I will summarize the main results of these discussions and make some general suggestions about what characterizes metaphorical ad hoc concepts.

The discussion began with the following two examples:

- (23) Ruud is a tree. (above as (17))  
 (24) Thierry is an artist. (above as (18))

The utterance in (23) is an instance of category-crossing metaphors, because the main relevance is not dependent on the assumptions and images present in the lexical concept. Nevertheless, the lexical concept is still important,

because it provides access to the conceptual metaphor PEOPLE ARE PLANTS. According to the invariance hypothesis and based on relevance considerations, certain attributes of trees are mapped to the target domain PEOPLE, which in turn supplies those attributes eventually figuring in the ad hoc concept *tree*\*. The hearer perceives (23) as metaphorical, because the main relevance of the ad hoc concept *tree*\* is dependent on its profiling against the target domain PEOPLE rather than the inherent domain PLANTS.

The utterance in (24) is an instance of category modification metaphors. Therefore, the lexical concept offers the attributes which secure much of the relevance of the explicature of (24). Most importantly, however, the literal attributes which survive the relevance-sorting process are profiled against a domain that is given by the context and that is not inherent in the conceptual region for *artist*.

Thus, in both examples the main contribution of the ad hoc concept originates from a profiling against an external knowledge structure. In (23) this was done via a conceptual metaphor and in (24) there was not a particular conceptual metaphor available, but the given context still makes it strongly manifest that the ad hoc concept is to be profiled against an external knowledge structure. Hence, the context provides the cognitive environment of the hearer with several knowledge structures, and on the basis of these knowledge structures an utterance has the potential to be particularly relevant, because interpreting an utterance on this background does not cost much cognitive effort. The communicative principle of relevance claims that 'every act of ostensive communication communicates a presumption of its own optimal relevance' (Sperber and Wilson 1995: 260). This entails that the hearer is licensed to assume that the speaker considers the context which is presumably available to the hearer sufficient for a successful interpretation. Thus, adjusting the relevance-sorting process to the context and profiling the ad hoc concept against knowledge structures which are strongly manifest<sup>L</sup> is a consequence of the communicative principle of relevance. If these knowledge structures are inherent to the context, the ad hoc concept will probably not be perceived as metaphorical. However, if the ad hoc concept is profiled against an external knowledge structure, the hearer may perceive the ad hoc concept as metaphorical.

Thus, I consider the profiling of an ad hoc concept against an external knowledge domain to be a major feature in our perception of metaphoricality. Words which are used in literal ways are rather profiled against an inherent domain. This account still leaves open the question of what constitutes an inherent domain. As a first approximation, I suggest that our past experiences of words, i.e. the usual use of words, determine which domains are inherent to a conceptual region. For example, our past experiences of the word *tree* certainly inform us that the extension of this natural-kind term covers elements from the domain PLANTS. Such an account supports Wittgenstein's (1978) claim that meaning is use.



Sometimes a sense of metaphoricity does not turn up and yet it could be argued that a word has been used metaphorically. In example (22), the word *pupil* exemplified a case where one phonological form points to various apparently unrelated conceptual regions. However, an etymological analysis reveals that the two senses of *pupil* were metaphorically related in Latin. Of course, most speakers of English are not aware of this connection, because the two senses of *pupil* are fully entrenched in the language. This means that the context directly determines which conceptual region is to be accessed. If the ad hoc concept into which the conceptual region is elaborated is predominantly profiled against an inherent knowledge structure, the hearer will probably not perceive any sense of metaphoricity.

A lack of metaphoricity may also turn up in true cases of polysemy – even when the different senses are related via conceptual metaphors and the hearer is aware of such a relation. When one word has several related and entrenched senses, it depends on the context which of the different conceptual regions is directly accessed. More particularly, a discourse context generally makes strongly manifest<sup>L</sup> some assumptions and images which lead to certain expectations of relevance. This is so because assumptions and images which are pre-activated are easier to retrieve, and therefore an utterance that is processed on the basis of these assumptions will take less effort to process compared to an utterance the interpretation of which is not really supported by the context.

In summary, the hybrid theory of metaphor predicts that the use of a word in an utterance will be perceived as being metaphorical, if the main relevance of the ad hoc concept is achieved by a profiling of the concept against an external knowledge structure. This implies that not every metaphorical extension of a word's sense is perceived as being metaphorical. It depends on how entrenched the metaphorical extension is. Once a metaphorical extension is completely entrenched, it may get its own conceptual region, and in appropriate contexts hearers can access the conceptual region directly. Processing difficulties of metaphorical utterances occur when the metaphorical ad hoc concept cannot be embedded in a context, i.e. when the knowledge structures which are strongly manifest<sup>L</sup> in the cognitive environment of the hearer do not easily connect with a conceptual region. In these cases the hearer has to search for a relevant context, which may cost extra processing effort. However, it has to be noted that this phenomenon is not exclusive to metaphor.

## 5.5 The online dynamics of metaphor interpretation

In this section I want to discuss the online processing of metaphorical utterances. This entails that I will deal with the basic issue of how meaning is created incrementally in a metaphorical utterance. I want to approach this issue by asking the following two questions: Which information is accessed

at which point of time? Which inferences are gained by newly incorporated information? Much of the theoretical foundation for this endeavour was elaborated in the preceding sections. Therefore, this section will not be so much concerned with theoretical work, but rather with applying the results from the preceding sections to the discussion of whole utterances.

Relevance theory claims that the representational format which is the outcome of purely linguistic operations on an utterance is a logical form. However, in Section 4.9, I argued that even the logical form cannot work without pragmatics. For example, it is not clear how we can access conceptual regions without taking into account the context. Let us just think about homophony. A homophonous word has pointers to various conceptual regions and it is to a large degree the context that determines which pointer is activated. Or consider converted lexemes like the adjective *lower* and the verb *lower*. In such a case the context together with syntactic expectations will determine whether the conceptual region for the adjective or the verb should be accessed.<sup>29</sup> For example, if the word *lower* directly follows the subject, then we can assume that the expectation was raised that *lower* is used in its verbal sense (e.g. *Peter lowered his voice*). Syntactic expectations certainly have an influence on the creation of ad hoc concepts, but even more importantly, the context has an influence on how we access conceptual regions, construct the respective ad hoc concepts and even structure utterances syntactically.

I argue that we can only generate a syntactic structure of an utterance in parallel to the massively context-dependent construction of the ad hoc concepts of the lexical items in the utterance. A syntactic structure cannot be based on unspecified conceptual regions, or even worse, on ambiguous access to several conceptual regions as is the case with conversion. Consequently, a syntactic structure is a structured string of ad hoc concepts, and because pragmatic knowledge, which is important for the construction of ad hoc concepts, by definition does not play a role in the construction of logical forms, the latter could not even represent the syntactic structure of an utterance.

Although relevance theorists emphasize that 'the hearer does not FIRST decode the logical form, THEN construct an explicature and select an appropriate context, and THEN derive a range of implicated conclusions' (Wilson and Sperber 2004: 615; capitals in original), it is still not clear how relevance theory deals with the problems associated with the logical form and online processing. I believe that the logical form is not a form that plays a role in online processing. I rather assume that it is a form that can only be determined post-hoc on the basis of a given proposition.

Instead of using relevance theory's notion of a logical form as a basis for discussions of whole utterances, I consider blending theory's network structure model to be more suitable for online analyses of utterances. The network model has the advantage that it can dynamically describe the information

flow during processing. Moreover, it is possible to describe the interaction between the creation of ad hoc concepts, a developing network structure and syntactic structure. Certain syntactic structures can trigger certain mapping schemes and at the same time a developing network structure can also influence the generation of a syntactic structure. Unfortunately, there has not been much work done on these issues so far (some work is discussed in Fauconnier and Turner 2002) and it is too remote from the goals of the present work to elaborate on this. However, I see huge potential in studying the interface between syntactic structures and network structures. In what follows, I will discuss one example on the basis of blending theory and the version of lexical semantics and pragmatics outlined above. Thus, the hybrid theory of metaphor is a new approach to metaphor understanding that is significantly influenced by relevance theory, conceptual metaphor theory and blending theory.

### 5.5.1 An unprecedented crusade

In order to illustrate the online processing of metaphorical utterances according to the hybrid theory of metaphor, I would like to discuss a metaphor that is not only based on the metaphoricality of one particular lexical item, but also on the interplay between the different constituents of the utterance. The following example is from a speech by Tony Blair titled *Education Action Zones* (1999). In order to get a fuller understanding of the metaphorical utterance that I will discuss, I will first quote the larger passage in (25), which contains the metaphorical utterance repeated in (26).

(25) I cannot repeat too often that education is this Government's top priority. It is central to everything we stand for – making our nation strong and competitive, enlarging opportunity, building successful families and responsible citizens, and eliminating social exclusion. That's why we have launched an unprecedented crusade to raise standards.

(26) We have launched an unprecedented crusade to raise standards.

The topic of this passage is obviously education. Consequently, the domain EDUCATION is available and many assumptions about education can be assumed to be strongly manifest<sup>1</sup> in the addressees' cognitive environments. Keywords in the preceding text passage are, for example, *nation, strong, competitive, opportunity, successful, responsible* and *social exclusion*. It can be assumed that the ad hoc concepts related to these words are at least profiled against the conceptual domains NATION, WAR, COMPETITION, SUCCESS, SOCIETY. Thus, at the point when the metaphor in (26) is processed, all of these conceptual domains have some level of prior activation. Moreover, conceptual metaphors which have any of those conceptual domains as source or target domain might have been made available, for example, AN ARGUMENT IS WAR,

COMPETITION IS WAR, TREATING ILLNESS IS FIGHTING A WAR, THEORETICAL DEBATE IS COMPETITION, COMPETITION IS ONE ON ONE PHYSICAL AGGRESSION, COMPETITION IS A RACE, COMPETITION IS COMPETITION FOR DESIRED OBJECTS, SOCIETY IS A BODY, etc. (cf. Lakoff 1994). If any of these metaphors have been accessed while processing the passage preceding the metaphor, then these metaphors also have some prior activation. In this way the preceding co-text shapes the cognitive environment of the addressees. In addition, much idiosyncratic knowledge is activated and becomes strongly manifest. Thus, the metaphor in (26) does not appear in a neutral context. At this point I want to repeat what I argued for in Section 2.3.6.5: I do not believe that there is anything like a neutral context in ordinary discourse situations. I contend that we always select an appropriate context on the basis of relevance considerations. This is even the case when we interpret metaphors in a poem that we read, although the mutual cognitive environment<sup>L</sup> between the author and the reader cannot be very big – in particular if the poem is read a long time after it was written.

In the following I would like to do a step-by-step analysis of the metaphorical utterance in (26). I will analyse each lexical item as it appears in the utterance and make suggestions about what kind of information is provided by this item. In addition to this, I will present the network structure capturing this flow of information. The incorporation of ideas from blending theory is important, because we need to have a mechanism that can account for the interaction of lexical items in an utterance. However, in contrast to blending theory or its subsidiary, Coulson's space structuring model, the hybrid theory of metaphor pays much more attention to lexical processes and to selection processes, which work according to relevance-theoretic principles.

The first lexeme in (26) is the personal pronoun *we*. The conceptual region of *we* has a lexical concept which contains phonological information, so that upon hearing a realization of the sound sequence /wi/, we can access the conceptual region WE. There is no encyclopaedic information in the lexical concept of *we*. The conceptual region is predominantly characterized by the procedural instruction to look out for a group of people which is strongly manifest<sup>L</sup> in the mutual cognitive environment<sup>L</sup> of the speaker and the hearer and that includes the speaker. This implies that there is an empty slot in the conceptual region which has a connector to a mental space that includes the speaker and other people salient in the context. Due to an anaphoric reference to *government*, which is strongly manifest<sup>L</sup> in (26), we can work out the antecedent of *we*. As this is a referent that we can access quite effortlessly, accessing the conceptual domain GOVERNMENT has some initial relevance. Other conceptual domains such as POLITICS, STATE OF LEGISLATURE are also made available, and it is possible to enrich the conceptual region WE with elements from these domains as well. The resulting ad hoc concept may be profiled against these domains, and furthermore these domains will

still be available for the processing of the following constituents of (26). Because *we* construes the government as at least one single person (Tony Blair) and one single entity (the rest of the government) and because *we* is in the subject position, the prototypical thematic role AGENT is pre-activated and becomes part of the ad hoc concept *we\**. Whether the subject really is an agent will be decided as the utterance unfolds. At any rate, on the basis of the first word in (26) the hearer will build a mental space containing the ad hoc concept *we\**. Figure 5.7 will therefore be the beginning of our network structure.

What follows the subject is the predicator *have launched*. This predicator consists of the auxiliary *have* and the lexical verb *launch* + *perfective participle*. However, until after the offset of the auxiliary we only have the expectation that *have* is either to be analysed as a lexical verb or as a perfective auxiliary. After the offset of the following lexical verb (*launched*) we know, due to its inflection, that *have* is to be interpreted as a perfective auxiliary. This informs us about the fact that the event is relevant in the present and was started in the past. Because there is no second aspectual auxiliary with a form of *be*, we also know that the focus is not on the action, but rather on the result of the action.

The lexical verb *launch* is polysemous between its more original concrete meaning which involves a force-dynamic component in the form of the CAUSED MOTION image schema with an object as complement (as in *to launch a boat*) and an abstract meaning lacking this force-dynamic component (as in *to launch a campaign*). Consequently, an important difference between the two uses of *launch* lies in the external knowledge structures which are activated to enrich the conceptual region LAUNCH. The concrete *launch*<sub>1</sub> has a free slot connected to the domain OBJECT which connects *launch* with its complement. Prototypical objects are those which can move automatically, for example boats, spaceships, etc. In contrast, the abstract *launch*<sub>2</sub> has a free slot which is connected to the abstract domain EVENT, often realized by activities of aggression, for example assault, attack, etc. This use of the verb is not directly based on the CAUSED MOTION image schema; however, via the GENERIC IS SPECIFIC metaphor which connects the concrete and the abstract meaning, the image schema is still available and determines the syntactic pattern of the utterance. Therefore, we get to know that in each case the utterance describes an event with a (metaphorical) AGENT, a (metaphorical)

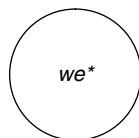


Figure 5.7 The mental space *we*

ACTION, and a (metaphorical) PATIENT upon which some (metaphorical) FORCE was exerted, such that the (metaphorical) PATIENT is caused to move with FORCE towards a (metaphorical) GOAL. As mentioned above, the PATIENT role is either realized by an object or by an event. The typical syntactic structure we associate with this image schema is subject-predicator-object-(adverbial).

Moreover, we can now specify the contribution of the auxiliary *have*. Above I mentioned that the contribution of *have* is to signal that the event/object is relevant to the present, but has started in the past. We can now specify this contribution by pointing out that the image-schematic structure, which either characterizes *launch* directly or metaphorically, entails that not the whole action has been going on for some while. *Launch + perfective aspect* opens a mental space representing a past state of time. The ACTION inherent in *launch* takes place exclusively in this mental space of the past, because *launch* is only related to the thematic role ACTION in the CAUSED MOTION image schema. The other elements of the image schema appear in between this past point of time, which has to be determined pragmatically, and the present or possibly a future point of time. Thus, the object/event was set in motion in the past, but the GOAL, and therefore the focus, is in the present or in the future. As *launch* does not focus on the PATH that the object/event takes, it is usually not used with a progressive aspect marker if it is complemented by only one ongoing event.

The question now is how we can determine which conceptual region of *launch* should be accessed? We can determine this conclusively only after we have processed the direct object, which should follow the lexical verb according to the syntactic pattern prototypically used for the CAUSED MOTION image schema. However, communication is geared towards efficiency and therefore we will usually have pragmatic expectations about whether *launch*<sub>1</sub> or *launch*<sub>2</sub> is more likely to be intended, i.e. we have expectations concerning this issue which do not derive from the syntax of the sentence, but from the discourse context. I suggest that in (26) *launch*<sub>2</sub>, the abstract sense, is pre-activated because the government as the agentive subject collocates more often with *launch*<sub>2</sub>. After all, governments are usually busier launching events like campaigns, programmes or, unfortunately, attacks, than launching objects like boats, spacecrafts, missiles, etc. Collocations play an important role in the processing of utterances. The collocates of a lexical item are automatically activated while processing the lexical item, and they are important for streamlining and narrowing expectations about the further course of the processing endeavours. Consequently, we will access the conceptual region for *launch*<sub>2</sub> before the critical direct object has been processed. If our expectations concerning the direct object are contradicted after having processed the direct object, then we can very quickly switch over to *launch*<sub>1</sub>, because *launch*<sub>1</sub> is also available to us due to the metaphoric link to *launch*<sub>2</sub>. So far the network structure has developed as depicted in Figure 5.8.

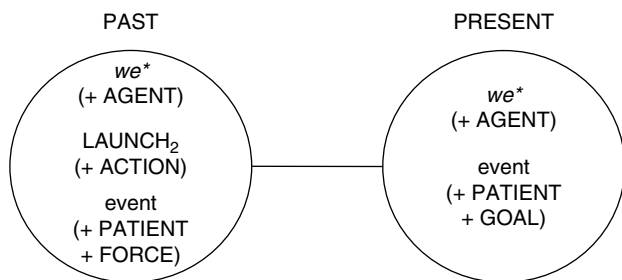


Figure 5.8 The network structure *we have launched*

This representation already contains a blending of the mental space for *we* and *have launched*. The italicized elements with asterisks in the mental spaces are fixed ad hoc concepts, the capitals without brackets refer to conceptual regions which have not yet been completely elaborated into ad hoc concepts and the capitals in brackets preceded by a plus refer to thematic roles. The plain characters refer to elements which the hearers already expect, but whose referents have not been established yet. This diagram illustrates that an AGENT has applied some FORCE to perform the ACTION of *launching* an object/event (the PATIENT) in the past. The event continues up to the present, where the AGENT and the event are still present. In addition, the GOAL of the object/event in motion is in the present. In short: The action was initiated in the past and the event is ongoing and relevant in the present.

It is already possible to show how explicatures and implicatures are being developed and mutually adjusted to one another. Until this point in the processing history of (26), an explicature has started developing in which the referent of the AGENT/subject has been specified and the ACTION/predicator has been disambiguated. Expectations of relevance have been narrowed down and it is clear that due to the CAUSED MOTION image schema triggered by the predicator, we are to expect an object/event. At the same time, first weak implicatures can be generated, which are not licensed by the communicator. For example, a pessimistic hearer could already assume at this point that whatever the government has launched, it cannot be anything good. Such an implicature would be completely based on the hearer's idiosyncratic cognitive environment and certainly not intended by the speaker. It is often possible to construe weak implicatures without much processing effort. Weak implicatures which are not intended by the speaker are often based on assumptions which are strongly manifest in the cognitive environment of the hearer. Therefore, it is usually not necessary to access remote assumptions as implicated premises and the low level of processing effort makes it easy to achieve relevance with such weak implicatures. It would certainly cost more processing effort to access premises which

are not strongly manifest, and therefore it seems to be a condition for the creation of weak implicatures that they are based on premises which are already strongly manifest. In this way the cost–benefit trade-off affects the creation of weak, unintended implicatures. At any rate, whole implicatures can be constructed before the whole utterance has been completed. Such early implicatures can influence the further construction of explicatures, as these implicatures make new knowledge structures more manifest. These knowledge structures can influence the accessing of particular conceptual regions and the elaboration of conceptual regions into ad hoc concepts. This is how explicatures and implicatures can be mutually adjusted to one another in parallel.

After the predicate we have the noun phrase *an unprecedented crusade*. As mentioned before, due to the CAUSED MOTION image schema we are already expecting that after the offset of the predicate we are to process a direct object. In (26) this object consists of an indefinite article, an adjectival modifier and a noun. The indefinite article simply communicates that the existence of the direct object's referent is not familiar to both interlocutors or, more particularly, that it is not familiar to the audience.

The adjective *unprecedented* points to a conceptual region which contains an image schema with three empty slots. One empty slot is connected to an EVENT domain that contains the event that is unprecedented. Another empty slot is connected to the mental space  $\neg$ EVENT which mirrors the EVENT space, but only contains nonexistent equivalent events. The third empty slot is connected to a TIME domain which projects a timescale between the past and the present to the ad hoc concept. Altogether, the image schema could be described as representing a situation in which one EVENT takes place at a point of TIME when no equivalent EVENT has taken place before. Which event is to be incorporated into the image schema is yet to be determined, but at any rate it will be the PATIENT from the image schema of *launched*. However, only after the head of the adjectival modifier-nominal head combination has been processed, the empty slot in the EVENT domain can be filled. Figure 5.9 illustrates what the conceptual region UNPRECEDENTED looks like.

Thus, the adjectival modifier *unprecedented* triggers a blend of one input space containing the conceptual region UNPRECEDENTED and another input space containing the EVENT, the nonexistent  $\neg$ EVENT and a TIME scale (see Figure 5.10). The empty slot in the EVENT domain will be filled by the ad hoc concept of the referent of the head of the modifier-head structure and enters the image schema elicited by the adjective *unprecedented* and the network structure in Figure 5.8. So the word *crusade* has to be construed in such a way that it can enter this image schema.

I propose that of all the lexical items in (26) the use of the word *crusade* is predominantly responsible for the perceived metaphoricity, as will be seen shortly. Nonetheless, the metaphor is quite conventional, because *crusade*



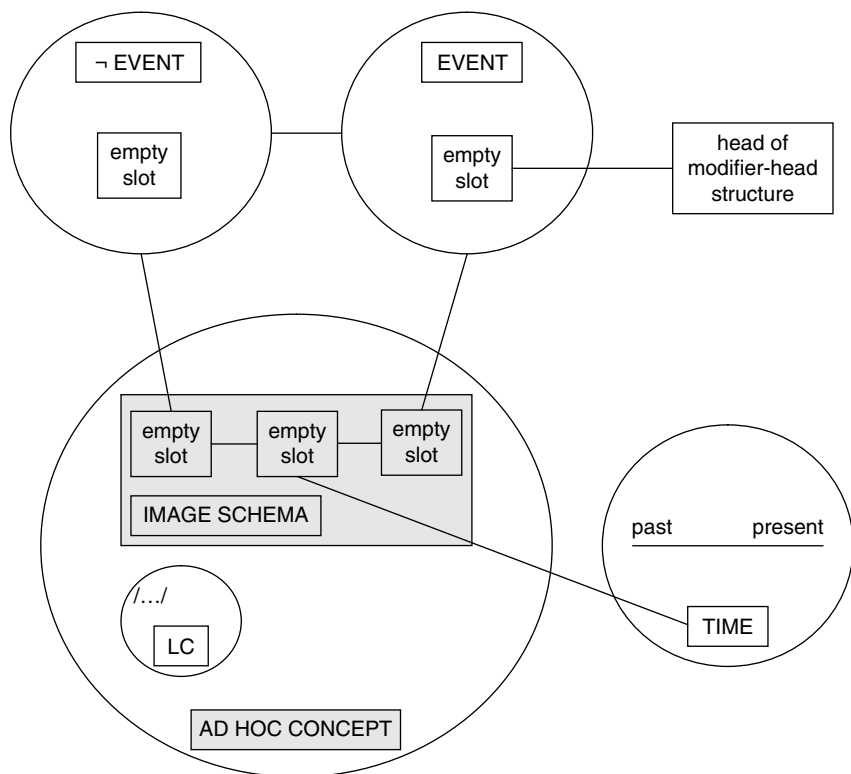


Figure 5.9 The conceptual region *unprecedented*<sup>30</sup>

has pointers to two conceptual regions which are metaphorically connected. *Crusade*<sub>1</sub> is elaborated into an ad hoc concept that may be profiled against domains such as WAR, RELIGION and/OR MIDDLE AGES. On a more abstract level there is also a conceptual domain GOAL and a conceptual domain ADVERSARY. The lexical concept contains propositional knowledge about death, blood, fighting, etc. *Crusade*<sub>2</sub> can be profiled against conceptual domains such as POLITICS, RELIGION and/OR SOCIETY, etc. In addition, *crusade*<sub>2</sub> is also profiled against a GOAL and an ADVERSARY domain. Encyclopaedic, propositional knowledge from the lexical concept includes assumptions about campaigns, political/religious/social change, etc. Both lexical concepts contain encyclopaedic information such as readiness to make a sacrifice, righteousness of cause, etc. Thus, some characteristics of the lexical concepts of both senses of *crusade* are still identical. Furthermore, the conceptual regions CRUSADE<sub>1</sub> and CRUSADE<sub>2</sub> are connected by the GENERIC IS SPECIFIC metaphor, as CRUSADE<sub>1</sub> can be regarded as a special instance

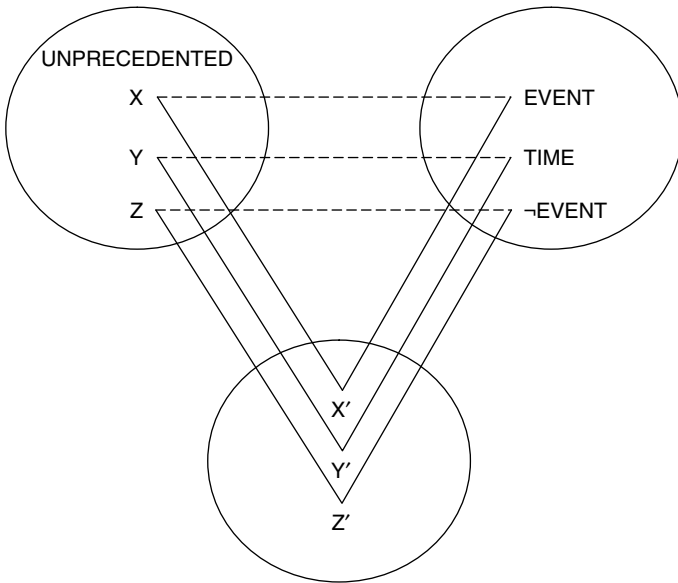


Figure 5.10 The blend *unprecedented event*

of CRUSADE<sub>2</sub>. Figure 5.11 is a graphic representation of CRUSADE<sub>1</sub> and CRUSADE<sub>2</sub> (in the representation AC is short for *ad hoc concept* and LC is short for *lexical concept*).

We can assume that Tony Blair intended the audience to construe *crusade*<sub>2</sub> rather than *crusade*<sub>1</sub>. On the basis of the previously mentioned auxiliary *have* plus the perfective participle *launched*, the audience knows that the timescale we need to enrich the image schema of *unprecedented* with is between a point in the past that has to be determined pragmatically (e.g. the election of the Labour government with PM Tony Blair) and the present moment. Thus, the event Tony Blair speaks of did not take place in the Middle Ages, which decreases the likelihood that a construal of *crusade*<sub>1</sub> is intended. Moreover, the domains EDUCATION, SOCIETY and POLITICS are strongly manifest<sup>L</sup> and therefore enhance the level of activation of some of the domains that CRUSADE<sub>2</sub> is profiled against. In addition, it is strongly manifest that Tony Blair is not talking about a real war and bloodshed, but about political measures the government has taken. Thus, the domains that are connected to CRUSADE<sub>2</sub> have already been strongly manifest<sup>L</sup> before, whereas the conceptual domains connected to CRUSADE<sub>1</sub> have not been activated. This means that constructing the ad hoc concept *crusade*<sub>2</sub>\* costs less processing effort than constructing *crusade*<sub>1</sub>\* and the audience will be guided directly towards *crusade*<sub>2</sub>.

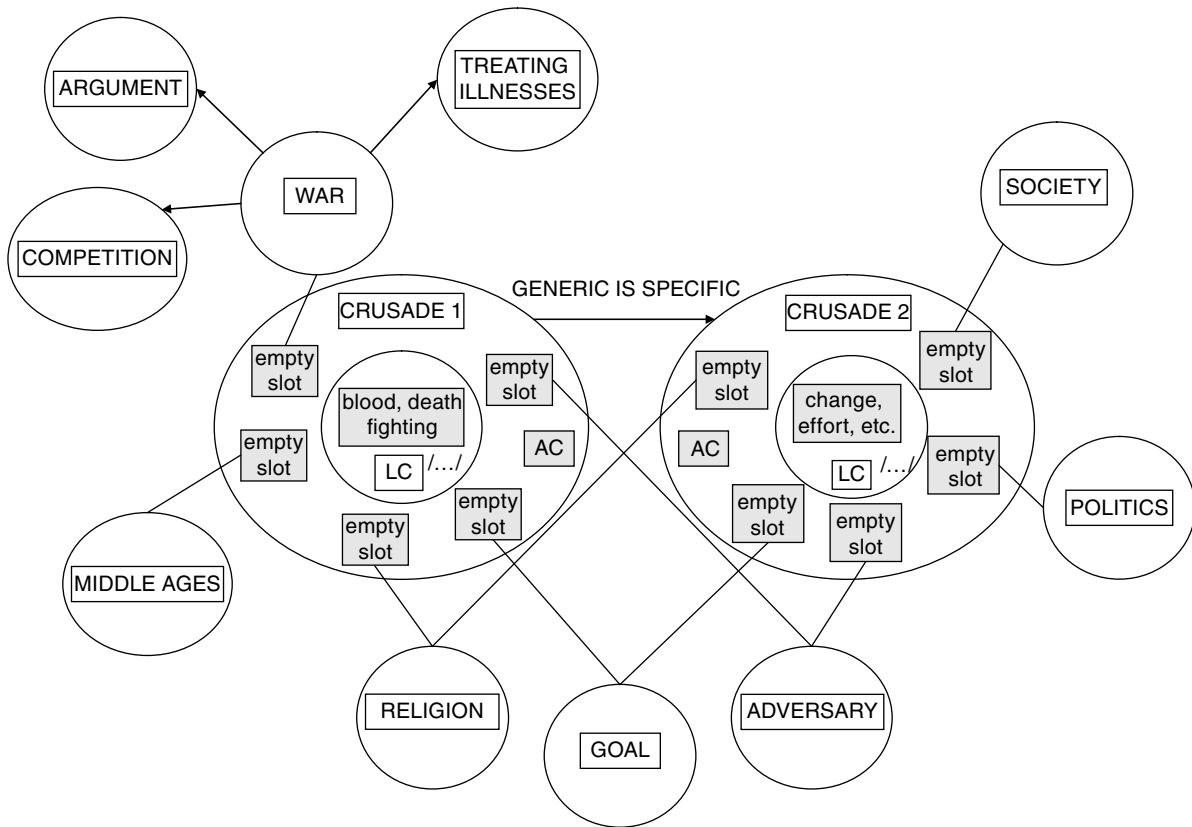


Figure 5.11 The conceptual regions of *crusade*

Figure 5.10 shows that the modifier *unprecedented* is a trigger for a blend of the adjective–noun combination *unprecedented crusade*. This blend has two input spaces: The first input space contains the image-schematic structure of *unprecedented* and the other input space provides the values for the empty slots in the image schema of input space one. The blended space functions as an integrated and compressed scene in which we have a crusade which is being carried out and which has never been carried out like this before. Thus, it is in this blend that the magnitude of the measures Tony Blair is referring to via the noun phrase *unprecedented crusade* becomes apparent. An elaboration of the blend leads to the result that no other AGENT, i.e. no previous government, has ever taken care of the education issue with so much force as the 1999 Labour government has. This forceful inference is enhanced by the metaphoric connection to *crusade*<sub>1</sub>. This does not mean that the metaphoric link and CRUSADE<sub>1</sub> are necessarily activated while processing CRUSADE<sub>2</sub>. However, CRUSADE<sub>2</sub> has retained some of the attributes of CRUSADE<sub>1</sub>. Thus, the force of the medieval crusades is transferred to the measures which are referred to by *crusade*<sub>2</sub>. The level of force that is communicated in using the noun phrase *unprecedented crusade* is what contributes to our feeling of figurativeness in (26). At this point in the incremental processing of the utterance, the GOAL from the CAUSED MOTION image schema is still not available, because the *unprecedented crusade* only represents the PATIENT in the CAUSED MOTION schema. Figure 5.11 shows that in addition to the CAUSED MOTION schema, the conceptual region for *crusade* can also be enriched with an element from the abstract conceptual domain GOAL. Irrespective of the particular GOAL which the hearers are expecting, they know that Tony Blair and the government are carrying out measures with an extraordinary force in order to reach this GOAL. In addition, even further elaborations and inferences are possible. As long as the hearer can easily access knowledge structures in order to further specify *crusade*<sub>2</sub> or to construct implicatures, he will probably continue these processes. What we associate with CRUSADE<sub>1</sub> is relatively easily accessible and may influence the processing of CRUSADE<sub>2</sub>. However, because *crusade* is fairly entrenched in both of its senses and given the fact that nowadays *crusade* is more entrenched in the sense of CRUSADE<sub>2</sub>, it is to be assumed that the hearers will not spend too much effort accessing ever more and more external knowledge structures. Quite generally, I assume that relevance theorists are right in saying that once an interpretation has been found that satisfies expectations of relevance, we stop processing, or rather, we continue processing the following constituents. Therefore, as long as it is possible to process a constituent on the basis of what has been strongly manifest before, we will not explore less accessible knowledge structures. Consequently, in ordinary discourse the trade-off between cognitive effort and cognitive effects will be influenced predominantly by the goal to minimize processing effort and

not so much by the wish to maximize cognitive effects. The blend represented in Figure 5.10 can now be specified as in Figure 5.12.

This blend serves as an input space to a megablend where we have an integration with the *we have launched* network structure, so that we now get the more complex network structure in Figure 5.13. In this network structure the mental spaces for *we have launched* and the blended space of the *unprecedented crusade* network structure become input spaces for a new megablend. In the new blend the *unprecedented crusade* blend provides the values for the event role from the mental spaces for *we have launched*. The emergent structure EXTRA FORCE is also part of the new megablend.

The explicature has been further developed in that the PATIENT is now determined. In addition to possible unintended implicatures, the hearer is now supposed to form the implicature that the government has invested an amount of FORCE or effort beyond the norm to achieve their GOAL and perhaps also that they have made sacrifices to achieve this. Like this the

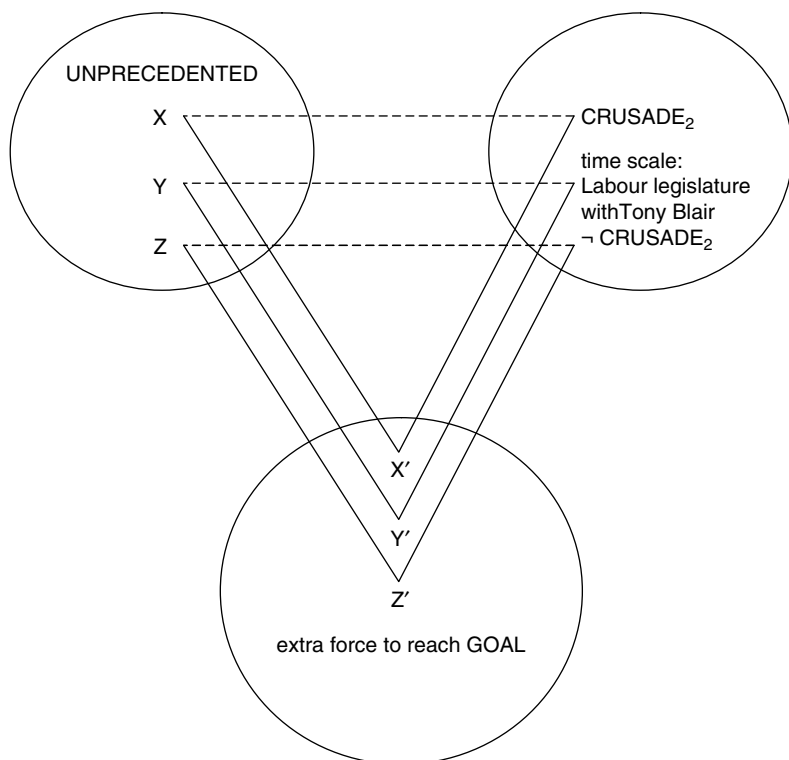


Figure 5.12 The blend *unprecedented crusade*

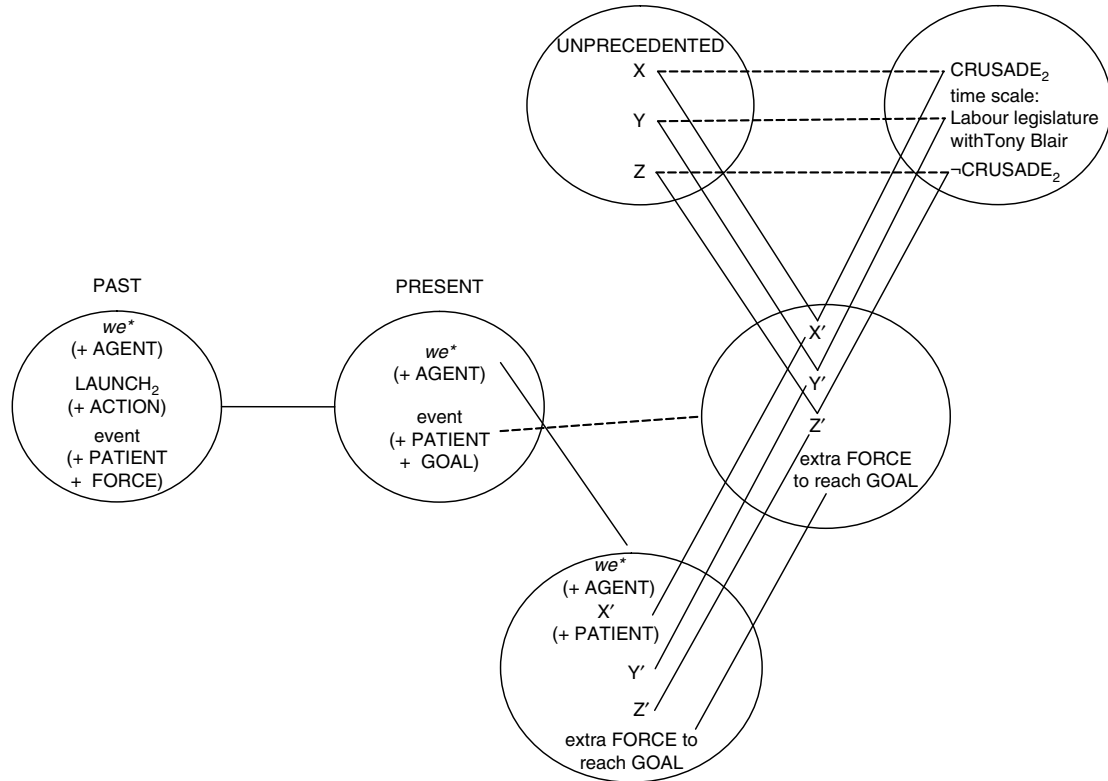


Figure 5.13 The network structure *we have launched an unprecedented crusade*

explicature and the implicatures continue being mutually adjusted to one another in parallel. With every further ad hoc concept that is integrated into the existing explicature the construction of an implicature can be triggered, and via backwards inference from the implicature, the existing explicature can be modified again to fit the implicature. This is possible because every new propositional form, image or knowledge structure can reveal existing inconsistencies and be used to profile earlier concepts against.

A crusade is always a crusade against someone or something and for someone or something else. Thus, there is always a GOAL and an ADVERSARY involved. These thematic roles may be named or remain implicit. If they are named, they are usually either realized by a prepositional phrase or by a non-finite clause after the noun phrase. In this case, the embedded non-finite clause *to raise standards* is part of the GOAL domain connected to CRUSADE<sub>2</sub> and it realizes the thematic role GOAL from the CAUSED MOTION image schema. Thus, this embedded clause is the missing element which is to enter the megablend in Figure 5.13. This does not mean that the ADVERSARY domain is unimportant. In the blend which is developing incrementally, the role of ADVERSARY can be filled while the ad hoc concept *crusade*<sub>2</sub> is elaborated. But again, I suppose that the ADVERSARY role will only be filled if there is a potential referent for this role in the hearer's cognitive environment. Otherwise the processing costs would be too high. In this example it is indeed possible that an unmentioned role like the ADVERSARY is filled. If the topic education makes strongly manifest the assumption that education in Britain is bad, because teachers are lazy (which, of course, they are not), then the assumption that the crusade is directed against the teachers can be construed easily. At any rate, it becomes obvious that an elaboration of CRUSADE<sub>2</sub> can function as the complement of *launch*<sub>2</sub>, i.e. as the event that has been launched and that this event has been launched with the GOAL which in (26) is referred to via the adverbial clause *to raise standards*. Such thematic correspondences between different constituents in an utterance are guided by the thematic structure of the utterance, and they are supported by a particular syntactic structure. These correspondences are very important discourse elements, as they contribute to a reduction of processing effort.

*Raise* is massively polysemous with several slightly different, but deeply entrenched, conceptual regions. *Raise*<sub>1</sub> is predominantly profiled against conceptual domains like OBJECT or SUBSTANCE and UPWARDS DIRECTION. *Raise*<sub>2</sub> is a mapping of the conceptual metaphor MORE IS UP. *Raise*<sub>3</sub> can be complemented by almost anything upon which we can project some scale of evaluation and it is a mapping of the GOOD IS UP metaphor. *Raise*<sub>2</sub> and *raise*<sub>3</sub> are closely related, because the conceptual metaphor GOOD IS UP is motivated by the MORE IS UP metaphor and a host of other UP metaphors (HAPPINESS IS UP, CONTROL IS UP, etc.). Accordingly, *raise* can be complemented by an object or a substance that is lifted up (e.g. *Please raise your hand*), by an object that can be conceptualized as an obstacle on a JOURNEY that is made more difficult

to pass (e.g. *They raised the entry requirements for getting into the club*) or by something that can be evaluated on a good–bad scale at two different points of time (e.g. *The efficiency of the company was successfully raised*). In any case, *raise* is inextricably profiled against the domain UP, and due to the manifold possibilities of metaphorical connections to the domain UP, the lexical item *raise* can basically be used with just as many senses as there are metaphorical connections to UP. The most concrete sense of *raise* is characterized by an image-schematic CAUSED MOTION structure very similar to the image schema underlying *launch*. *Raise* also needs an AGENT and a PATIENT to which some FORCE is applied that causes the PATIENT to move on a PATH upwards, possibly towards a GOAL. This image-schematic structure is also transferred to the metaphoric extensions of *raise* in accordance with the invariance hypothesis. Which use of *raise* is intended depends on the referent of its complement and on the context.

However, once more we may be able to disambiguate *raise* before we have processed the complement following *raise*. In (26) we already have very safe expectations regarding the particular use of *raise* before we process its complement *standards*. We said that crusades, no matter whether we talk about the specific or the generic use of *crusade*, always have a GOAL and that this GOAL can be made explicit by a prepositional phrase or by a dependent non-finite clause. Thus, the possibility that the adverbial clause functions as the GOAL of the *crusade* has a certain degree of pre-activation and thus enhances the possible relevance of such an interpretation. This makes it most likely that *raise* will be used in one of its metaphorical senses. Most generally, the goal of most conscious and effortful action is to improve an existing state. Thus, the GOOD IS UP sense of *raise* has a high level of pre-activation. It is, however, not impossible that another sense of *raise* is actually intended. In fact, it is also fairly likely that hearers construe *raise* in the OBSTACLE sense or even that both metaphorical senses are communicated. At any rate, we can note that it is most likely one of the metaphorical conceptual regions of *raise* which should be accessed and that, depending on the actual complement of *raise*, we can easily access another conceptual region to which the phonological form of *raise* can point.

The subsentential complement *standards* is an abstract term with only little encyclopaedic knowledge as part of the lexical concept. We may associate much information and many connotations with the term *standards*, but the point is that *standards* is a very context- and co-text-dependent word, because it always implies a comparison with something else. Hence, depending on the context and co-text it is conceivable that very entrenched connectors to external knowledge domains are activated, but I do not believe that it is possible to argue that *standards* has much encyclopaedic information that is valid across varying contexts.

Instead, I assume that there is again some image-schematic structure available in the conceptual region with empty slots which are connected



to external knowledge structures, such as ENTITY (providing an entity that can be evaluated on a scale) and EVALUATION (providing antonymous evaluations such as *good* and *bad* and intermediate points). First and foremost, we have to activate the connector to the ENTITY domain, so that we get an entity that can be evaluated. As the conceptual domain EDUCATION is made strongly manifest<sup>L</sup> in (25), we can fairly effortlessly assume that the entity we are looking for with regard to the image schema structure of *standards* is something along the lines of *level of education*. From the external knowledge structure EVALUATION a good–bad scale is retrieved for the conceptual region STANDARDS. Thus, it seems to make sense that we have opted for the GOOD IS UP sense of *raise*. As can be seen in Figure 5.14, *raise*<sub>3</sub> does indeed fit its complement *standards* nicely.

Input space one contains a slightly simplified version of the image schema of *raise*<sub>3</sub>. Most notably, it contains an EVALUATION scale and a PATIENT that becomes better from one point of time to a later point of time. This input space should normally also contain an AGENT and a FORCE. The AGENT is found

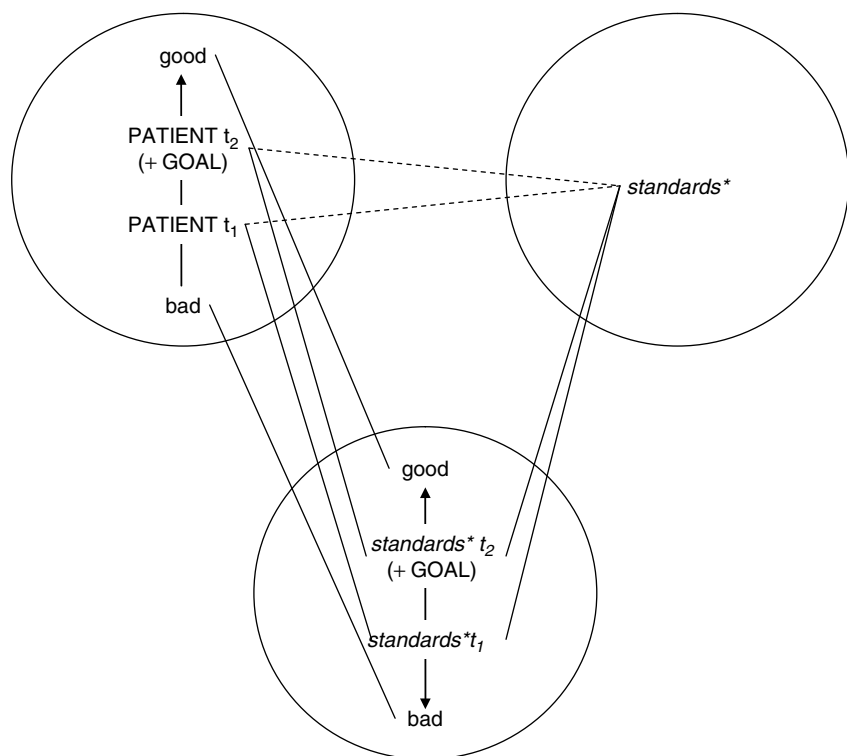


Figure 5.14 The blend *raise standards*

in earlier blends and is the referent of *we\**, i.e. the government, and the FORCE is also found in earlier blends. Thus, we basically have counterpart relations between earlier blends and input space one, but because the graphic representation would become too confusing, the AGENT and the FORCE have been omitted in Figure 5.14. Input space two contains the ad hoc concept *standards\**. Above it was mentioned that the GOOD IS UP sense of *raise* implies that the entity that is raised must be something that can be evaluated. STANDARDS is linked to an external knowledge structure EVALUATION, and therefore *standards\** can easily fit in the image schema of *raise* as the PATIENT. As can be seen, this blend finally contains the GOAL that is still needed to complete the process of elaborating the conceptual regions of *launch* and *crusade* into ad hoc concepts.

Thus, we can now try to represent the whole complexity of the utterance in (26) in Figure 5.15. As complex as this diagram may look, it is still incredibly simplified. The truth about our ordinary processing of even fairly conventional utterances is much more complex, and I have only tried to illustrate how the understanding of metaphorical utterances develops incrementally while processing. This incremental process is characterized by the creation of ad hoc concepts on the basis of conceptual regions and the creation of complex networks of mental spaces. The elaboration of conceptual regions and the setting up of a network structure of mental spaces happens simultaneously so that while we are processing an utterance, some mental spaces may contain unfinished ad hoc concepts. At the end of a successful interpretation process all mental spaces contain fully elaborated conceptual regions, i.e. ad hoc concepts. If an utterance leads to various interpretations, then we generate different network structures, but nonetheless every possible network structure is fully elaborated.

Figure 5.15 contains all elements and has all conceptual regions specified into ad hoc concepts. It also shows how elaborations in intermediate blended spaces can lead to the generation of implicatures. In particular, it shows that the implicatures that the government has applied extra force in order to improve the level of education and that the government is the first one who has done this are elaborations of intermediate blends passing through to the final blend. The final blend is not to be understood as the place where the utterance's meaning can be found. The final megablend is only the last step of the processing history. The utterance's interpretation is rather represented by the whole network.

The explicatures and implicatures are constructed in parallel and they are mutually adjusted to one another. With every new conceptual region or ad hoc concept an implicature can be generated and every new implicature can modify the existing explicatures again. In contrast to implicatures, which can be constructed on the way, explicatures can only be completed once the processing of the utterance has finished. However, the clearer the expectations of relevance are, the earlier a hearer will form expectations of



full-blown explicatures of the utterance. If these expectations turn out to be wrong, he will usually be able to modify the explicatures with the remaining parts of the utterance being processed.

The analysis of (26) is meant to describe the hybrid theory in action without any claims about being completely exhaustive. In fact, a full description of the exact processes going on in a hearer's mind is certainly not possible, because every hearer brings his own experiences, idiosyncratic knowledge and inferential abilities into the interpretation procedure. However, what I firmly claim is that this sort of analysis describes what happens during the online processing of metaphorical language. It relies to a very high degree on what is strongly manifest<sup>L</sup> in the mutual cognitive environment<sup>L</sup> of the speaker and the addressee(s). The knowledge structures which have been made available in the context and in discourse will still have a certain level of pre-activation in the utterances to follow, and because of this these knowledge structures can guide the interpretation of metaphors into a certain direction for the least cognitive effort possible. In the next section I will draw some conclusions from the discussion of the metaphorical utterance in (26).

### 5.5.2 The figurativeness of utterances

Before we begin processing a metaphorical utterance, our cognitive environment is usually replete with assumptions and images on which we base our interpretations. Starting on such a rich basis, we process a metaphorical utterance constituent by constituent. Every constituent makes more manifest assumptions we will use in the further course of processing. Language offers many procedural tools guiding us in particular directions. When we take a look at whole propositions of metaphorical utterances, we often spot indeterminacies. However, during online processing we often do not encounter such problems. Most do not even come up, because we are guided towards particular conceptual regions in order to construe unambiguous ad hoc concepts. In other words, many problems we attribute to metaphor interpretation are propositional problems, but not necessarily processing problems or even communication problems.

Thus, we already have astonishingly precise expectations about where the relevance of a following utterance will be, before we even start processing an utterance. If these expectations are not met, then this is often due to incompetence or unwillingness of the speaker to provide an utterance that fits these expectations. A competent and benevolent speaker will direct her addressee to select premises from the cognitive environment on which the addressee will be able to process the utterance in a relevant way, i.e. a competent and benevolent speaker will attempt to save her addressee the extra processing effort of activating countless knowledge structures in order to interpret the utterance. This shows how important metarepresentational abilities and sophisticated mind-reading abilities are.

On top of that, the addressee can elaborate on his interpretations in ways that are not foreseeable by the speaker. This may be especially the case in metaphorical language when the hearer accesses many external knowledge structures which the speaker could not take into account, or the hearer forms many weak implicatures. It is one characteristic of figurative language that it invites the hearer to profile the communicated concepts against various knowledge structures and thus create different possible network structures, which again lead to different implicatures. In other (metaphorical) words: Figurative language allows the hearer to explore various knowledge structures. Literal language is never really fixed and is enormously context-dependent, too. However, the chapter on lexical pragmatics has shown that the context-dependency of literal language is predominantly characterized by a relevance-sorting process within the conceptual region. The resulting literal ad hoc concept is profiled against an inherent knowledge structure. Metaphorical language is rather characterized by the fact that, depending on the cognitive environment of the hearer, various external knowledge structures can be selected against which the ad hoc concept is profiled.

The basis for every analysis on utterance level is a precise analysis of the meaning potential of single constituents. Therefore, I started this chapter with a thorough description of the lexical semantics and lexical pragmatics of single utterance constituents. An important outcome of these two sections was that phonological structures work like pointers to conceptual regions. These conceptual regions contain a lexical concept, but even more importantly, they contain empty slots with connectors to external knowledge structures. Whenever there are connectors to external knowledge structures which have already been activated before, it is quite likely that the developing ad hoc concept is profiled against this knowledge structure, because it is a process that does not cost much processing effort. This in turn enhances the relevance of the ad hoc concept. Thus, available knowledge structures with a certain level of prior activation are usually incorporated in the generation of the ad hoc concept. Only when, in accordance with the cognitive environment of the hearer, the conceptual regions have been contextually modulated, we have ad hoc concepts which can, for example, be parts of propositional representations or communicate an image. The section on lexical metaphoricity provided an extensive discussion of the ways in which metaphorically used lexical items are different from literally used lexical items.

My definition of lexical metaphoricity is similar to Lakoff and Johnson's (1980) definition of metaphorical language. Lakoff and Johnson (1980; see also Lakoff 1993) state that a metaphor is a cross-domain mapping in the conceptual system. In this sense, metaphorical language is characterized by a situation where expressions from a source domain are used to refer to something in the target domain. However, a consequence of this definition is that there is a discrepancy between the technical use of the term

metaphor and the general use of the term metaphor. Often, utterances which are understood on the basis of a conceptual metaphor just do not feel figurative. The ad hoc concept construction process can become so entrenched that a lexical item can point to two or more conceptual regions. As was shown in examples (19) to (22), in some instances of polysemy or homonymy a phonological form can point to various conceptual regions, and in a rich context the hearer will access only one conceptual region directly. Therefore, even though many polysemous senses are related by a conceptual metaphor, we often do not perceive these senses as figurative. In the hybrid theory of metaphor, a necessary condition for lexical metaphoricity is that the main relevance of the ad hoc concept depends on its profiling against an external knowledge structure. The degree of metaphoricity will increase when the addressee has to access many external knowledge structures in order to find relevant links. What Sperber and Wilson (1986) describe as a poetic effect on the level of propositions can be broken down to a constituent level by arguing that a poetic effect is created if the relevance contributed by a lexical item to a proposition is distributed over several free slots connected to various external knowledge structures.

Thus, the suggestion presented in this chapter captures much of Lakoff and Johnson's (1980) ground-breaking and incredibly important observations concerning the metaphorical nature of our cognition and languages. However, it also tries to capture the intuitive notion of what it means that an expression is used metaphorically. Of course, the perception of metaphoricity varies enormously between different individuals and in different situations. However, I claim that this is not a weakness of the hybrid theory, because the differences in the perception of figurativeness can be traced back to varying cognitive environments at the time of utterance. This variation is not a problem of the theory, but rather an important insight about cognition.

Constituents like *launched*, *crusade* or *raise* are all polysemous with several conceptual regions that we can access directly in an appropriate context. However, I assume that the overall metaphoricity of (26) is higher than could be expected if we just considered the single constituents. What contributes to this slightly boosted degree of figurativeness is the combination of contextual regions that are accessed while processing the utterance and the influence of the contextual assumptions on the basis of which the utterance is processed. For example, the word *crusade* referring to a campaign or some organized action with the goal of changing something is far from being a novel use of the word. However, the blend with the adjective *unprecedented* enhances the force of the action which leads to a change. The same is also achieved by the predicator *have launched*. The perfective aspect auxiliary and the image-schematic structure of *launch* also contribute to an increased force with which the government carries out their action. This increased force makes more manifest the original meaning of *crusade* (war). This is then applied to the topic education. The interaction of increased

force of change and the goal of change (increased level of education) contributes to an increased perception of figurativeness. This all happens in the blends and the final network structure.

Thus, the metaphoricity of utterances is not just proportional to the metaphoricity of its single constituents. Elaborating the single constituents of an utterance into ad hoc concepts is a necessary task in utterance processing and it certainly contributes to the metaphoricity of an utterance, but as we elaborate the conceptual regions, we simultaneously create blends and complex network structures which can account for additional metaphoricity based on the combination of the single constituents and background knowledge. While the conceptual regions are being developed into ad hoc concepts, these sometimes not yet fixed concepts enter input spaces as parts of larger networks representing the development of an utterance interpretation. All these processes, i.e. the elaboration of conceptual regions into ad hoc concepts, the simultaneous setting up of input spaces, the mapping of selected elements into blended spaces and the elaborations of blended spaces, are subject to relevance considerations.

While the network structure is developing, explicatures and implicatures may also develop in parallel. This entails that even before the utterance has been processed completely, we may construct implicatures. The creation of implicatures makes accessible further knowledge structures which can then lead to a modification of the existing fragment of the explicature, or at least it may influence the further construction of the explicature. The developing explicature then makes accessible further assumptions which may be used as implicated premises in the creation of further implicated conclusions. In this way, the creation of implicatures and explicatures works online and in parallel to each other.

In the next section I will discuss some of the consequences of the hybrid theory of metaphor and make suggestions about the predictions that the hybrid theory makes, in particular with respect to the time and effort needed to process metaphorical language.

### 5.5.3 Some predictions of the hybrid theory of metaphor

The notion of cognitive effort plays a central role in the hybrid theory of metaphor. It determines, for example, which knowledge structures are activated in the processing of single words and it also gives us some ideas about how many explicatures and implicatures are generated while processing an utterance.

When we process words, i.e. when we elaborate massively underdetermined conceptual regions into ad hoc concepts, we profile the developing concept against larger knowledge structures. These knowledge structures may be inherent in the conceptual region or they may be external. If the main share of the relevance that the concept contributes to the whole utterance is achieved by a profiling against an inherent knowledge structure,

then this word is used in its literal sense. The construction of the ad hoc concept will still be context-dependent, as the information available in the lexical concept is sorted in accordance with relevance principles. When the concept is predominantly profiled against external knowledge structures, then the use of the word will be metaphorical. Which knowledge structures are activated depends on the one hand on the connections between the conceptual region and external knowledge structures and on the other hand it depends on which knowledge structures have already been strongly manifest in the cognitive environment of the hearer. External knowledge structures with an existing connection to a conceptual region automatically have some level of pre-activation once the conceptual region is accessed. However, unless this pre-activation receives some additional activation through the context, the connectors are not activated and the knowledge structure will not play a role in the elaboration of the ad hoc concept. In addition, knowledge structures without an existing connector to a conceptual region may influence the construction of the ad hoc concept, if there is sufficient contextual pressure to profile the ad hoc concept against such an external knowledge structure. Thus, it is possible that a connection between a conceptual region and an external knowledge structure is created on the fly. In the end it pretty much depends on which knowledge structures receive the most contextual support. Quite generally it can be assumed that those knowledge structures which receive the highest degree of activation are incorporated into the construction of the ad hoc concept.

Such a view of concept construction is compatible with basic relevance-theoretic assumptions, because profiling a concept against a knowledge structure which has a high degree of manifestness is an important condition for saving processing effort and securing a high degree of relevance. Whenever knowledge structures inherent in a conceptual region or at least connected to an empty slot in a conceptual region receive some additional activation through the co-text or context of a lexical item, this knowledge structure probably fires elements into the ad hoc concept, i.e. the ad hoc concept is profiled against this knowledge structure.

The general principle behind this is that a knowledge structure which is already strongly manifest in the cognitive environment and a more or less identical knowledge structure connected to the conceptual region mutually enhance their degree of manifestness. The connector to the conceptual region is activated and the knowledge structure becomes more manifest in the cognitive environment, so that this knowledge structure will be available for the following constituents even more easily.

In contrast, knowledge structures without a pre-existing relation to the conceptual region of a lexical item need a higher degree of manifestness in the hearer's cognitive environment in order to receive a chance of being incorporated in the construction of the ad hoc concept. Knowledge structures which have not been strongly manifest in the cognitive environment



of the hearer and which are not connected to the conceptual region either have little chances of being incorporated into the construction of an ad hoc concept. The reason is that the cognitive effort would be too high to activate knowledge structures out of the blue. However, sometimes, and this may be the case in poetic metaphors, it is difficult to find appropriate knowledge structures at all. In these cases we explore our cognitive environment and search for alternative knowledge structures which we can use in order to construct an ad hoc concept and achieve cognitive effects. Thus, the general guideline seems to be that unless we cannot secure enough cognitive effects, we will only incorporate knowledge structures which are given by the context. This is a technical description of what it means to say that in order to understand utterances quickly, the utterance must be contextually embedded.

On this account, the prediction is that metaphorical uses of lexical items do not need more processing time than literal uses. The only thing that matters is the degree to which an utterance or the use of a particular word is contextually embedded. The question is whether the relevant knowledge structures we need in order to process a particular word have already been activated or whether it is necessary to search for relevant knowledge structures. Knowledge structures with a minimum level of pre-activation, either given exclusively through the context or through the context and a connector to a conceptual region, are accessible without much effort. In this way the issue of cognitive effort determines to a large degree which information we will incorporate in the construction of ad hoc concepts.

Thus, the hybrid theory predicts that the time it takes to process the metaphorical use of a word compared to the literal use of a word is not different in a general way. With respect to ordinary discourse it can be assumed that the speaker will usually be inclined to design his utterances in a way that is effort-saving for the hearer to obtain the intended range of cognitive effects. Thus, when a metaphorical word is embedded in a rich context, there will usually not be a major problem in understanding the intended sense of a metaphorical word. However, when the word is not supported by a cognitively rich context, then it may take quite a lot of processing effort to construct a relevant context and to access relevant knowledge structures, before the hearer can construct an ad hoc concept. It is important to note at this point that this is not something particular about metaphorical concepts. When a literally intended word is not embedded in a rich context, it will also be difficult to process this item. When speakers (or writers) produce a very poetic metaphor, they often intend that the hearer explores much of his background knowledge and that the developing concept is profiled against several external knowledge structures, i.e. that the hearer considers the use of such a poetically used word from different viewpoints.

We can note that it always depends on how much of the relevant context has been strongly manifest to the hearer before, and how much he

must construct ad hoc. In ordinary discourse it is usually the case that a speaker designs his utterance in a way that allows the hearer to profile the developing concept against knowledge structures which have already been activated. In general, the hearer will stop processing a conceptual region once he has been able to derive cognitive effects on the basis of the knowledge structures which are directly available to him. In this case, it does not take more effort and time to process a metaphorical concept than a literal concept. However, when the speaker intends his addressee to explore several weakly manifest knowledge structures, this may take time and effort, though there is still no necessity that it takes more time to process novel and poetic metaphors than literal language. If the hearer manages to directly access relevant knowledge structures leading to sufficient cognitive effects, then even the processing of poetic metaphors is possible without much effort.

Furthermore, I am of the opinion that it is only of limited interest to compare the total processing times of metaphorical and literal utterances, if one does not consider the number of cognitive effects communicated by an utterance as well. Poetic metaphor processing usually leads to a number of cognitive effects which would require many literal utterances in order to communicate the same range of effects. Moreover, often it is only a metaphor that can communicate the intended cognitive effects, or alternatively, the speaker intends his addressee not to come up with a particular interpretation, but rather to search for an interpretation by accessing various external knowledge structures. In this respect and in relation to what is gained by a poetic metaphor, the processing effort may not be considered as being so high after all.

Thus, the hybrid theory of metaphor is largely indebted to the relevance-theoretic idea that questions of processing are determined by the goal to minimize processing effort while achieving just enough cognitive effects. The hybrid theory may even ascribe more importance to the role of cognitive effort than relevance theory does. In this sense, I suggest that in the cost-benefit trade-off the idea of cognitive effort has a greater impact on online processing than the idea of cognitive effects.

Now, we can reconsider a question which was raised in Section 2.3.5.1 – the question of whether there is a difference in processing effort between category-crossing and category modification metaphors. A robust answer to this question needs more empirical work. However, the hybrid theory of metaphor makes a prediction regarding this question. In the hybrid theory of metaphor, the issue of whether a metaphorical utterance is a category-crossing or a category modification metaphor does not play a significant role and it can be assumed that this difference does not coincide with a general difference in processing effort.

This prediction is based on the above elaborated claim that the different kinds of literal and figurative language are processed in very similar

ways. Literal expressions, conventional and novel metaphors, category-crossing and category modification metaphors all work similarly. If there is encyclopaedic content in a lexical concept, then a relevance-sorting process determines which elements of the context-invariant lexical concept enter a propositional level. Additionally, some connectors linking free slots in the conceptual region with external knowledge structures, like conceptual domains, metaphors, etc., are activated and completely context-dependent elements are incorporated into the conceptual region. The result of the sorting process together with the enrichment process provides us with the ad hoc concept that becomes part of a proposition or an image. If there is no encyclopaedic content in a lexical concept, then the ad hoc concept construction process is limited to context-dependent enrichment processes only. As a rough guideline, I propose that the main relevance of literal concepts is achieved by a relevance-sorting process of the lexical concepts and a profiling against an inherent knowledge structure. Category modification metaphors are characterized by a relevance-sorting process of the lexical concept and a profiling against external knowledge domains. Category-crossing metaphors are also characterized by a relevance-sorting process of the lexical concept and a profiling against external knowledge domains; however, in addition to this they are characterized by massive enrichment from the external knowledge structures via connectors to empty slots in the conceptual region.

Above it was pointed out that the major feature that influences the processing effort is the degree of the utterance's contextual embedding. However, the degree of contextual embedding is not dependent on whether we process a lexical item that is part of a category-crossing metaphor, a category modification metaphor or even a literal utterance. For example, it is possible that a literally intended lexical item with only little contextual support demands a lot of cognitive effort, whereas a metaphorically intended lexical item with much contextual support requires only little cognitive effort. That it is not possible to make a general statement regarding the relationship between figurativeness and cognitive effort was the main result of Section 2.3.6, where much experimental evidence was presented that makes any general statement of such a relation implausible.

Once more it has become obvious that the context determines whether a metaphor can be processed easily or not and whether a metaphor can produce many cognitive effects or not. Ease of interpretation predominantly depends on whether we can easily access contextual assumptions that we can integrate with the metaphorical utterance. The number of cognitive effects depends to a very high degree on the number of external knowledge structures that we access and profile ad hoc concepts against. Because conceptual domains, conceptual metaphors, image schemas or scripts are idiosyncratic and interlinked in complex ways that researchers are hardly able to describe, it is very difficult to make precise statements about the number

and kinds of cognitive effects. In Section 2.3.6 I pointed out that it is, for example, very difficult to design psycholinguistic experiments on the cognitive effects communicated by metaphorical utterances. Now, I would like to add that this is due to the difficulties associated with the general complexity and fluidity of our conceptual system.

So far, the issue of cognitive effects has only been discussed with regard to the processing of lexical items. However, the discussion of example (26) has indicated that the metaphoricity of an utterance need not exclusively depend on the metaphoric use of a single lexical item. While we process utterances, we construct complex networks of mental spaces, explicatures and implicatures. The network of spaces develops in parallel to the development of conceptual regions and, as is described in the blending theory literature (cf. Fauconnier and Turner 2002; Grady, Oakley and Coulson 1999), metaphorical utterances offer much potential for emergent structure, for example in the form of implicatures. However, the hybrid theory predicts that at least in ordinary discourse, hearers do not necessarily aim at exhausting a metaphorical utterance's full meaning potential. The expectations of relevance are usually less ambitious in ordinary discourse. Typically, these expectations are satisfied once a metaphorical sense has been developed that conveys a cognitive effect such as a contradiction or a strengthening of existing assumptions or a contextual implication. Therefore, it is not to be expected that metaphors generally require more processing effort than other forms of language, just because metaphorical utterances could possibly communicate many implicatures. Besides, it was shown above that implicatures are neither a necessary nor a sufficient condition for metaphors anyway.

# 6

## Conclusion and Future Challenges

In 1990 the Spanish rock band *Héroes del Silencio* were famous for a song with the title *Entre dos Tierras* ('Between Two Worlds') – this song title fairly nicely captures the essence of this volume. Unfortunately, linguistic pragmatics and cognitive linguistics present themselves as if they existed in different worlds, and therefore it has not always been easy to reconcile these theoretical frameworks with each other. However, I hope that I have successfully demonstrated that there is a huge potential in working on topics in a non-dogmatic way rather than staying within the confines of a single framework.

In the present work I have developed a new approach to the question of how we process metaphorical utterances. This approach is substantially based on assumptions as suggested in relevance theory and cognitive linguistics (here in particular in conceptual metaphor theory and blending theory). A major goal of this work has been to present the need and possibility of achieving a broader and more realistic theory of metaphor by bringing together research from these disciplines. With a few notable exceptions, scholars from both fields tend to be reluctant to even notice what is going on beyond the boundaries of their territory. Therefore, this work not only aims at making a contribution to metaphor research, but also to pursue the 'political' goal of bridging the gap between cognitive pragmatics and cognitive linguistics.

Many metaphor scholars embracing cognitive linguistic or relevance theory perspectives see these alternative theories as being radically different. At first glance, this may even be the case. After all, relevance theorists and cognitive linguists adhere to very different theoretical goals and methodological assumptions, despite the fact that both aim to present a cognitive theory of language, cognition and metaphor. Being aware of this situation, I regarded it as imperative to begin with critical discussions of influential pragmatic and cognitive linguistic approaches towards implicit language and metaphor. After that it was possible to systematically compare and contrast relevance theory and cognitive linguistic views on metaphor along a

number of important parameters. This comparison is the backbone of this work, as it shows where relevance theory and cognitive linguistics are compatible with each other, where they complement each other and where they support different standpoints. I consider this systematic comparison to be essential, because one reason for the mutual disapproval of the two theories is probably a certain lack of knowledge about each other on both sides. After the comparison it was possible to develop the hybrid theory of metaphor on a solid theoretical foundation.

Linguistic pragmatics has been significantly influenced by Paul Grice's works. The big benefit of Gricean pragmatics is its focus on speaker intentions and the accompanying insight that communication is largely inferential. A disadvantage of the original Gricean pragmatics is that it still underestimates the importance of pragmatics in communication. In particular, it has turned out that Grice's highly complex and astute observations concerning speakers' behaviour in understanding utterances are not especially well suited to describe the cognitive online processes of speakers and hearers while communicating. In the 1980s, Dan Sperber and Deirdre Wilson developed relevance theory, which connects to Grice's model of communication, but which is far more explicit in the description of the cognitive processes guiding the understanding of utterances. Moreover, relevance theory has always seen communication as being even more inferential than Grice had envisaged.

A central problem for any inferential account of communication is the question of how speakers and hearers can coordinate the assumptions which are necessary in order to communicate successfully. Not surprisingly, the issue of mutual knowledge was discussed fervently in the 1980s. However, the suggestions from that time are either too strict for communication to be possible at all, or they seem too lax for communication to be successful. The mutual knowledge hypothesis, which was supported in slightly differing ways by Lewis (1969), Schiffer (1972), Bach and Harnish (1979) and Clark and Marshall (1981), cannot be maintained, because mutual knowledge is neither a necessary nor a sufficient condition in communication. Most importantly, it is impossible to establish mutual knowledge. As an alternative to the mutual knowledge hypothesis Sperber and Wilson (1986) introduced the notion of mutual manifestness. However, in Section 2.2.1.2 I provided evidence that this notion is too weak. Moreover, I pointed out that the notion of manifest assumptions as defined in relevance theory cannot be separated clearly from a traditional notion of assumptions. My proposal regarding the issue of shared information in communication is strictly based on Sperber and Wilson's idea of mutual manifestness, but it tries to remedy the defects that I see in this version. For example, I do not distinguish between assumptions and manifest assumptions, but use the term *manifest* as a gradable adjective giving information about how accessible an assumption is to an interlocutor. Furthermore, the notion of mutual manifestness is elaborated into the notion of mutual manifestness<sup>L</sup>. This entails that those

assumptions which are essential for communication to take place have to be strongly manifest to the initiator of the topic and weakly manifest to the addressees. Thus, many of the benefits of the mutual manifestness hypothesis are retained. Most importantly, in line with Sperber and Wilson's idea of mutual manifestness and in contrast to earlier notions of mutual knowledge, it is possible to establish mutual manifestness<sup>L</sup>. But because the conditions are stricter, the notion of mutual manifestness<sup>L</sup> is also well equipped to describe the kind of shared information that is necessary for successful communication – a feature that the purely relevance-theoretic notion of mutual manifestness does not have as I contend.

A basic condition for mutual manifestness<sup>L</sup> is the ability to have an intact theory of mind and to have sufficient metarepresentative abilities. Thus, the notions of mutual manifestness<sup>L</sup> and metarepresentation jointly characterize the issue of shared information in communication. In addition, the two principles of relevance and the relevance-theoretic interpretation strategies derived from the principles provide powerful heuristics that help us to access information which is to enter inferential processes.

On the level of complete utterances, relevance theorists distinguish between the non-propositional logical form of an utterance and propositional forms such as explicatures and implicatures. At various points in this volume I argued that the logical form is not a form that plays a role in a psychologically real model of online processing, and therefore the logical form is not a part of the hybrid theory of metaphor, which I presented in the preceding chapter. Apart from the logical form, relevance theorists only consider propositional forms on utterance level. In contrast, many cognitive linguists are sceptical about the existence of propositional knowledge and they are sceptical about the existence of explicatures and implicatures. Nevertheless, Ruiz de Mendoza Ibáñez and Díez Velasco (2003) claim that propositional models can be integrated with cognitive linguistic assumptions. In pragmatics, the existence of propositional forms is unchallenged. Grice and various pragmaticists in his tradition have particularly worked on the distinction between propositional forms that are communicated explicitly and those that are communicated implicitly. A discussion of these proposals in Section 2.3 has come to the conclusion that a clear distinction between explicit and implicit communication exclusively based on propositions is very difficult to draw. Moreover, it does not coincide with the distinction between literal and figurative language. Nonetheless, especially the distinction between explicatures and implicatures includes valuable suggestions concerning the processing of utterances. In contrast, the model presented by Bach (cf. 1987, 1994a,b, 1997, 2001, 2002; Bach and Bezuidenhout 2002) is not suitable as a model to describe online processes of utterance understanding.

Pragmatics has not just dealt with the distinction between explicit and implicit language, but also with the more specific difference between

metaphorical and literal utterances. The standard pragmatic approach to metaphor was predominantly supported by Paul Grice (1967) and John Searle (1979/1993) and is characterized by a three-stage processing model. In the first stage a hearer allegedly computes the literal meaning of a metaphorical utterance, in the second stage he notices a defect and in the third stage he infers the intended meaning. In Section 2.3.2 I offered various theory-internal reasons for rejecting the standard pragmatic approach to metaphor. Moreover, a great number of psycholinguistic studies using various methodologies have come to the conclusion that the three-stage model cannot be a realistic model of metaphor processing.

In contrast, relevance theory offers a model that seems to be much more compatible with psycholinguistic research, because relevance theorists state that the processing of metaphorical utterances is not different from the processing of literal utterances. Independent of whether an utterance is metaphorical or literal, hearers will always decode the linguistic form of an utterance and apply a number of pragmatic processes, such as disambiguation, reference assignment, narrowing or loosening, in order to elaborate an utterance into a set of communicated propositions (explicatures and implicatures). An important step for relevance theory with regard to the explanation of metaphor processing was the notion of ad hoc concepts. However, so far relevance theory has not provided a proposal that describes how we actually construct ad hoc concepts. This becomes particularly apparent in the analysis of metaphorical utterances of the category-crossing kind, because relevance theory cannot explain how we form ad hoc concepts on the basis of the vehicle term in a category-crossing metaphor. I believe that one problem of relevance theorists is that they do not take into account notions such as conceptual metaphor and metonymy, image schemas and scripts. These cognitive principles are important organizing elements of our conceptual system and can account for how we store knowledge, which is an essential issue in the creation of ad hoc concepts. In contrast, the hybrid theory of metaphor makes predictions about how we construct ad hoc concepts, because it also takes into account structures which are studied in cognitive linguistics. Furthermore, the hybrid theory of metaphor makes a suggestion about how metaphorical utterances are processed. As opposed to relevance theory, this suggestion is not restricted to *X is Y* metaphors, and it can also account for metaphorical effects which cannot be explained exclusively by single words of an utterance.

Despite the technical problems of relevance theory with regard to metaphor processing and ad hoc concept construction, relevance theory is a fascinating theory of communication with important suggestions for the processing of metaphors. In particular, Gibbs and Tendahl (forthcoming; see also Section 2.3.7) show that relevance theory is unique in pointing out that metaphorical language can be used in order to achieve ordinary cognitive effects in ordinary discourse situations. We further argue that metaphorical



utterances, like all kinds of utterances, are only processed until expectations of relevance have been satisfied, and, most importantly, given a rich context this can work just as fast as with literal utterances. Thus, metaphorical utterances are not generally processed until their full meaning potential for a hearer has been explored. Gibbs and Tendahl (2006; see also Section 2.3.6) survey psycholinguistic results on the relationship between cognitive effort and effects and come to the conclusion that this relationship cannot be reduced to the typical relevance-theoretic position that more cognitive effects entail more processing effects and vice versa. The hybrid theory of metaphor accepts the view that metaphorical utterances can be processed rapidly and that metaphorical utterances do not necessarily communicate more cognitive effects than literal utterances. Besides, the hybrid theory of metaphor explains why this is the case, and it makes predictions about the conditions under which processing is quick and rich, quick and shallow, slow and shallow or slow and rich. It assumes that the context and expectations of relevance usually guide the hearer towards metaphorical meanings without having to invest more cognitive effort than is necessary for other types of language.

I believe that relevance theory's main problem in terms of metaphor processing is that it has not studied the system of metaphors which is instantiated in many linguistic expressions. In particular, relevance theorists have not paid attention to the motivation for metaphorical expressions. These shortcomings of relevance theory are the strengths of cognitive linguistics. Cognitive linguists view metaphor as a phenomenon of our conceptual system in the first place – metaphorical expressions are only understood as one kind of metaphor realization (in addition to metaphors in gestures, pictures, etc.). Following this assumption, conceptual metaphors are studied by noticing systems of metaphor in language and by finding motivations for conceptual metaphors in our bodily, social and/or cultural experiences. This holistic approach to metaphor has led to groundbreaking discoveries with respect to the metaphorical nature of our conceptual system.

Another important suggestion from conceptual metaphor theory is the invariance hypothesis, according to which we can use our knowledge of source domain topology and apply this to a target domain of a conceptual metaphor. Lakoff (1993: 215) further claims that the entailments from source to target domain have to respect the inherent topology of the target domain. In Section 3.2.1 I argued that this latter claim cannot be upheld. Thus, I conclude that the invariance hypothesis should be restricted to the claim that source domain topology is not altered in the target domain. The question of which elements should and can be mapped is rather an issue for relevance theory. Furthermore, conceptual metaphor theory has not spent much effort on describing the ways in which we process metaphors online, for which pragmatic ends metaphors are used and what happens with novel metaphors which are not extensions of underlying conceptual metaphors.

Both relevance theory and cognitive linguistic theories of metaphor have their particular advantages and disadvantages, and therefore I posit that a hybrid theory that integrates aspects from both cognitive linguistics and relevance theory is beneficial. In Chapter 4 I outlined in which respects both theories are complementary and how they can benefit from each other. The goal of this was to prepare the way for the hybrid theory of metaphor by bringing together metaphor research from different disciplines. The juxtaposition of relevance theoretic and cognitive linguistic claims with respect to a number of criteria clearly illustrated that there is no reason to reject this goal. In many cases both theoretical frameworks are complementary and in some other cases it is necessary to decide for one of the two frameworks. However, in no single case it is necessary to discard a theoretical position that would render one of the frameworks incoherent.

The first criterion according to which relevance theory and conceptual metaphor theory were compared concerned the kinds of metaphors considered by the two frameworks. The result of this was that whereas relevance theory rather focuses on the pragmatic effects of novel metaphors in language, cognitive linguists have been preoccupied with studying metaphor in thought and conventionalized expressions of metaphor in language. Hence, in this respect relevance theory and cognitive linguistics complement each other.

When it comes to the motivation for metaphor, relevance theory's observations on the loose use of language show that speaking metaphorically is often the best way to achieve optimal relevance. However, the loose use of language is not a phenomenon that is exclusive to metaphor. Furthermore, relevance theorists have not examined the motivations for particular recurrent metaphors. Consequently, they have not dealt with the question of why we have the particular metaphors that pervade our language and thought. In contrast, cognitive linguists have studied the motivation for metaphor from the very beginning (cf. Lakoff and Johnson 1980). I am of the opinion that relevance theory would gain in explanatory and predictive power if they considered the cognitive linguistic research on metaphor motivation. I find this kind of research imperative for a complete theory of metaphor, because many metaphorical utterances cannot be analysed without its results. Besides, we can learn a lot from this research not just about language, but first and foremost about the way we conceptualize the world.

Relevance theory and cognitive linguistics also support different points of view as regards the form of metaphorical representations. Whereas relevance theory exclusively focuses on explicatures and implicatures, i.e. on propositional forms, cognitive linguists have largely ignored the existence of propositional knowledge. Instead, cognitive linguists acknowledge several forms of representation, such as image schemas or blended spaces. The system of metaphors is assumed to be stored in our long-term memory in the form of cross-domain mappings between conceptual domains. I believe,

and have tried to show in this volume, that metaphorical thought and language are complex phenomena that cannot be reduced to a single form of representation. Thus, again it can be argued that relevance theory and cognitive linguistics complement one another.

Another criterion that was discussed is the issue of online processing. Supporters of both frameworks are not very explicit about the online processes of metaphor understanding. However, relevance theory at least offers a view on metaphor that is embedded in a larger theory of communication. In my hybrid theory of metaphor, I show that relevance theory's communicative principle of relevance can be used to explain many of the online processes of utterance comprehension. Another valuable contribution of relevance theory is the idea that ad hoc concepts play an important role in the understanding of metaphors. However, as I mentioned above, relevance theory has not offered conclusive suggestions on how we construct ad hoc concepts. In contrast, the construction of ad hoc concepts is a central part of the hybrid theory of metaphor. My proposal concerning the construction of ad hoc concepts relies heavily on various forms of conceptual organization which are studied in cognitive linguistics. Cognitive linguistics makes important contributions to our understanding of how metaphors are processed online, but cognitive linguistics without support from relevance theory is very vague about these processes. For example, conceptual metaphor theory has not suggested how we can understand metaphors which do not instantiate an underlying conceptual metaphor.

The role of the context for metaphor processing and the pragmatic effects of metaphors are also treated in different ways by both theories. Relevance theorists argue that a hearer selects a context that promises to render an utterance optimally relevant. When this does not lead to cognitive effects, then hearers may search for another context that does provide cognitive effects. However, I pointed out that further processing does not automatically provide more cognitive effects, and even if this was true, it would not represent the standard case of metaphor processing. Metaphorical utterances are in most cases, just like other forms of language, only processed until enough cognitive effects have been achieved. This implies that even if a metaphor could be processed further and thereby lead to more cognitive effects, a hearer probably stops processing after sufficient relevance has been gained.

In contrast to relevance theory, conceptual metaphor theory has not been concerned very much with the context of utterances. However, many experimental studies show that a context comprising activated metaphorical concepts enhances people's immediate processing of appropriate verbal metaphors (cf. Allbritton, McKoon and Gerrig 1995; Langston 2002; Pfaff, Gibbs and Johnson 1997). Thus, conceptual metaphors can be a part of the context and enhance processing in that they can reduce the cognitive effort needed to process a metaphor. This is an important insight that is also taken

into account in the hybrid theory of metaphor, because conceptual metaphors can influence the construction of ad hoc concepts.

The discussion of polysemy in Section 4.6 showed that relevance theory and cognitive linguistics differ a lot in their views on what constitutes polysemy and how speakers disambiguate polysemous structures. Whereas relevance theory generally adheres to an inferential monosemy view, cognitive linguists usually put forward the view that polysemous senses are related to one another and that the links between the different senses are motivated in various ways. I argued that it is unlikely that just one of the two views is right and the other one wrong. Instead, it seems possible once more to combine the two accounts. I argued that depending on the degree of entrenchment of a polysemous sense, it might be the case that we access this sense directly, or that we access one conceptual region and construct the intended sense pragmatically with the help of cognitive principles, such as conceptual metaphor. This is a notion that was further elaborated upon in the hybrid theory of metaphor.

Another criterion according to which relevance theory and cognitive linguistics were compared is the question of how children acquire metaphors. Relevance theorists and cognitive linguists have studied this area in quite different ways, and scholars from both frameworks have proposed important ideas concerning the acquisition of metaphors. Relevance theory has been particularly interested in the kinds of cognitive abilities children must have acquired in order to understand figurative speech. In particular, relevance theorists have integrated research from theory-of-mind psychology into their theory in order to explain what is necessary to understand metaphors. Cognitive linguists have studied the way young children categorize their environment and gradually deconflate categories into more fine-grained categories resulting in so-called primary metaphors. In Section 4.7 I argue that these different approaches to metaphor acquisition do not contradict each other. Quite to the contrary, they are complementary again and both offer valuable insights into the acquisition of metaphors. I even argue that a developing theory of mind may act as a driving force for a child to deconflate domains.

The biggest and most serious difference between relevance theory and cognitive linguistics is on a very fundamental level. Both theoretical frameworks claim to be cognitive, yet their ideas concerning the role of cognition in communication are fairly different. Relevance theory claims that our cognition is composed of several encapsulated modules. Dan Sperber (1994a, 2001, 2005) even claims that our minds are massively modular with many micromodules being responsible for very specialized and clearly defined tasks, such as the categorization of animals. Cognitive linguists reject such a picture of the mind and instead put forward a holistic image of our cognition and bodies. In particular, cognitive linguists do not believe that language is situated in an autonomous module. Language is considered

to be embodied; for example, the same neural structures which are activated while moving around in the world are also activated while producing and understanding language. More specifically, a major part of language understanding is considered to work in terms of simulation processes. Thus, the differences between relevance theory and cognitive linguistics could not be greater with respect to our alleged mental architecture. Because of these substantial differences, it is necessary to opt for only one of the two suggestions. I reject the idea of modularity and accept the embodiment account predominant in cognitive linguistics. In Section 4.9 I provide many arguments to support the cognitive linguistics version and I also offer some arguments to reject the notion of modularity. However, what is important for the hybrid theory of metaphor is that the clear decision in favour of the cognitive linguistics position does not mean that relevance theory collapses. In fact, I am of the opinion that there is no reason to believe that relevance theory only works if its claims concerning the modularity of mind are accepted. The only element in relevance theory that depends on the notion of modularity is the idea of the logical form. This, however, I do not consider problematic, because as I have argued earlier I believe that the logical form does not play a role in a psychological theory of language and communication anyway.

Not many scholars have dared working across the disciplinary boundaries between relevance theory and cognitive linguistics. In Section 4.10 I briefly discussed one notable exception (Ruiz de Mendoza Ibáñez and Pérez Hernández 2003) to show that such work can be quite rewarding.

In a similar vein I outlined my hybrid theory of metaphor in Chapter 5 in greater depth. The first part of the hybrid theory is a suggestion about the lexical processes taking place while hearers interpret utterances. This is an important part of the hybrid theory, because utterance processing works in steps. Utterances are strings of meaningful units which we process the moment we perceive them. Each incoming unit contributes something new to the overarching interpretation process and explicatures, implicatures or images are constructed incrementally as the network of mental spaces unfolds.

In the hybrid theory, the entity that is accessed upon hearing a word is called a conceptual region. This unit consist of a context-invariant part, the so-called lexical concept, and context-dependent parts, so-called empty slots which can be enriched from external knowledge structures. The lexical concept contains encyclopaedic, phonological and morphological information. External knowledge structures can be a variety of things, such as conceptual domains, metaphors and metonymies, image schemas or scripts. The structure of conceptual regions is context-independent and they are not the units that we consider meaningful in an utterance. They are rather blueprints that have to be elaborated into ad hoc concepts. This elaboration of conceptual regions into ad hoc concepts is very context-dependent. For example, relevance-sorting processes determine which parts of the

encyclopaedic knowledge stored under the lexical concept are retained in the ad hoc concept. Context-dependent relevance considerations also determine which of the connectors between empty slots and external knowledge structures are activated and which elements from the external knowledge structures are mapped onto the empty slots in the conceptual region. A conceptual region can even be enriched by strongly manifest assumptions from knowledge structures which are not inherent in the conceptual region and which are not connected to empty slots in the conceptual region either. If such a knowledge structure is used to enrich the conceptual region of a word repeatedly, then this is a process leading to semantic change. When an ad hoc concept of a word is regularly profiled against an external knowledge structure, then this external knowledge structure can become the inherent knowledge structure of a new conceptual region and the respective word will point to two conceptual regions, of which usually only one region is accessed in a given context. In the hybrid theory I argue that this is what happens with entrenched polysemous senses of a word.

A necessary condition for our perception of metaphoricity is that the developing ad hoc concept is profiled against an external knowledge structure. Often, the external knowledge structure is a conceptual metaphor which transfers elements from the lexical concept to an external target domain. When there is no link to a relevant conceptual metaphor available, the context usually makes strongly manifest an external knowledge structure against which the concept is profiled. Sometimes, however, the context does not make a relevant external knowledge structure strongly manifest. In these cases, the hearer has to extend his context and explore a number of possible external knowledge structures which are at least weakly manifest. When the hearer is not able to interpret a metaphorical utterance at all, then this usually means that he was not able to find a relevant external knowledge structure, i.e. he was not able to integrate the utterance into the context.

At any rate, every ad hoc concept is profiled against some knowledge structure(s) and it depends on the context which structures are involved in the ad hoc concept formation. Knowledge structures which are usually involved in the lexical processes for a certain word already come with a certain level of pre-activation, and thus they do not need much contextual support to be involved. In contrast, knowledge structures without any pre-activation will only be involved, if there is a lot of contextual pressure to profile the ad hoc concept against such a knowledge structure. However, it is important to note that every knowledge structure, even the knowledge structure(s) inherent in a lexical concept, needs some context-specific additional activation in order to be involved in the ad hoc concept formation process. If this additional activation does not take place, then even an inherent knowledge structure or a very entrenched external knowledge structure will not be activated. In this way expectations of relevance, the

particular context and the conceptual region of a word interact and the ad hoc concept formation process is flexible enough to adapt to varying contexts and uses.

The lexical processes involved in creating ad hoc concepts are very important in the hybrid theory of metaphor, but they are nevertheless just parts of more complex processes on utterance level. These processes are described using blending theory's network structures of mental spaces, because the network model is well suited to capture the dynamics of the ways in which different kinds of linguistic and contextual information interact. Moreover, it is possible to show that the development of conceptual regions into ad hoc concepts occurs in parallel to the development of the larger network structure of mental spaces. Often, ad hoc concepts can only be finished after the utterance has made more manifest new information that is provided by subsequently uttered lexical items. The example that was discussed in Section 5.5.1 showed how processes on a lexical level and processes on utterance level interact with one another. Thus, conceptual regions enter mental spaces and as the network structure of mental spaces develops, the construction of ad hoc concepts develops in parallel.

The hybrid model of metaphor is a proposal that shows how beneficial it is to combine views from relevance theory and cognitive linguistics. Relevance theorists, for example, are restricted in their possibilities to analyse what is going on in metaphorical language, because relevance theory ignores structures like conceptual metaphors and metonymies or image schemas, which I consider to be essential in metaphorical thought in language. For example, relevance theory has not yet offered a suggestion about how we form ad hoc concepts or how lexical content, explicatures and implicatures are mutually adjusted to one another. The hybrid theory, however, makes clear suggestions concerning these issues. These suggestions can be empirically tested and, if necessary, refuted. Cognitive linguistics, on the other hand, has not yet managed to take into account the context in which metaphors appear or the pragmatic effects they have. For example, conceptual metaphor theory has not made any suggestions about the conditions determining which elements from a source domain are mapped to a target domain. Furthermore, it has not stated under which circumstances utterances are understood with respect to a particular conceptual metaphor or how deeply metaphors are processed in discourse. Because the hybrid theory of metaphor combines relevance theory and cognitive linguistics, it is able to remedy many of the problems that the two theoretical frameworks separately have.

Many of the predictions made in the hybrid theory of metaphor are predictions deriving from relevance theory or cognitive linguistics and have already been studied and confirmed in psycholinguistic experiments. For example, the importance of the co-text and context for the time-course of metaphor understanding has been proved in various

psycholinguistic experiments (e.g., Allbritton, McKoon and Gerrig 1995; Gibbs 1983; Inhoff, Lima and Carrol 1984; Ortony et al. 1979; Langston 2002; Pfaff, Gibbs and Johnson 1997). What still has to be examined in detail is whether different contexts influence the number and quality of cognitive effects communicated by metaphors; more generally, it has to be studied for which purposes metaphors are used in discourse at all. Many psycholinguists have conducted very sophisticated experiments concerning the cognitive effort caused by metaphorical utterances and the time it takes to process metaphors, but there has not been much experimental testing on the effects of metaphors. A major reason for this is probably that it is very difficult to clearly define and identify what a cognitive effect or a communicated meaning is. In practice it can, for example, be very difficult to distinguish between various implicatures communicated by a metaphor. A first step into the direction of testing the effects of metaphorical utterances is taken by Gibbs and Tendahl (forthcoming; see also Section 2.3.7) and it is desirable that further experiments along these lines will be conducted.

The elaboration processes leading from conceptual regions to ad hoc concepts also have to be studied. For instance, it would be interesting to see how a conceptual region is elaborated into different ad hoc concepts depending on varying contexts. Furthermore, it would be desirable to empirically test the hypothesis that the formation of ad hoc concepts is a process that works in parallel to the setting up of a network structure on utterance level. For example, it could be examined to what degree an ad hoc concept is still available in the further processing of an utterance and whether the content of ad hoc concepts changes during the processing of an utterance. In addition, it could be tested to what degree the context and expectations of relevance guide the processing of utterances. These research goals are certainly very challenging as they require very sophisticated online methodologies.

Another more general challenge that I consider imperative to tackle in the future is to bridge the gap between different theories of language, communication and cognition. I have mentioned before that I am of the opinion that the present state in linguistics and cognitive psychology is very much characterized by mutual ignorance between different approaches. This is a situation that is certainly not productive, and the disciplines would surely progress a lot faster if they managed to at least sometimes take a look at the results of colleagues working according to other theoretical prerequisites. Relevance theory and cognitive linguistics are prime examples of a situation in which we have two linguistic schools, each with much influence and acceptance in the general field, which seemingly reject each other's positions on principle. However, I believe that the systematic comparison of relevance theory and cognitive linguistics in Chapter 4 and the hybrid theory of metaphor outlined in Chapter 5 demonstrate that a combination



of these theories is not only possible, but also very beneficial. This work certainly shows that after more than two millennia of metaphor research, there are still many open questions, and I believe that we can only progress if scholars from different theoretical approaches and different disciplines cooperate in their efforts.

# Notes

1. This is not to be taken as evidence against the principles of relevance.
2. Other scholars are nowadays of the opinion that pragmatic inference in general, or even Grice's maxims and implicatures, do indeed play a role in reference assignment and disambiguation (cf. Carston 2002; Katz 1972; Levinson 1988, 2000; Stalnaker 1989; Walker 1975; Wilson and Sperber 1981; references taken from Carston 2002).
3. Levinson (1983) provides a comprehensive and well-structured survey of the different kinds of implicatures (conventional/non-conventional, conversational/non-conversational and general/particular implicatures).
4. It is still not completely resolved whether Grice wanted to have a sharp distinction between implicatures and entailments. Robyn Carston (2002: 112–13) argues that in Grice's theory, which was largely motivated by issues that arose out of truth-conditional semantics, it is essential that there be a clear distinction between entailment and implicature. Carston herself, however, is of the opinion that in a cognitive account of pragmatics, nothing would be opposed to allowing for entities like implicated entailments.
5. From now on I will only talk of *assumptions* rather than using the awkward term *usual assumption*. This is not meant to suggest that *usual* assumptions are not manifest – the contrary is the case: every assumption is manifest although not every manifest assumption is also an assumption in the standard sense.
6. Cognitive effects can roughly be described as the outcome of a productive interaction between old and new information. A more detailed explanation of this term will follow in Section 2.2.2.
7. *What is said* is to be understood here in the technical sense as used by Grice (see Section 2.1).
8. It can often be observed that football players have an apparently significant lack in first-order metarepresentational abilities when they are supposed to represent the mental state of the referee. It is especially striking that this deficiency of forming first-order metarepresentations only occurs in very selected situations in which it may be advantageous to have this defect.
9. For a lucid survey of the usefulness of metarepresentational abilities in communication see especially Sperber 2000b.
10. In real life it would be difficult to judge which utterance would be more relevant to Paul, as the differences in processing time are infinitesimal. In our simplifying framework, however, (48) can be considered to be more relevant.
11. I assume that Grice would not have wanted to call anything that does not belong to what is said figurative. Many implicatures, which are by definition outside of what is said, do perhaps not belong to literal language, but neither are they figurative meanings. For example, generalized conversational implicatures which project a temporal or causal relation onto an utterance of the form  $(P \wedge Q)$  are certainly not figurative.
12. Recanati (2002b: 302) gives the following definition of *minimalism*: 'What is said is affected by the bottom-up process of saturation but not by top-down processes such as free enrichment.' Recanati (2002b: 303) also names a stronger version of minimalism, which he calls *I-minimalism*. In I-minimalism even the

intuitive truth conditions of utterances work according to the minimalist principle, such that I-minimalism is defined as follows: 'What is said<sub>int</sub> is affected by the bottom-up process of saturation but not by top-down processes such as free enrichment.' This is a position that Jason Stanley (cf. 2000, 2002; Stanley and Szabo 2000) supports in his writings.

13. In Recanati (2002b) this is what is said<sub>int</sub>.
14. Sperber and Wilson's approach is very much based on Jerry Fodor's theory of the modularity of mind. The modularity of mind is an approach which has been criticized harshly by scientists working in a more holistic framework. In Section 4.9 I will briefly present the main issues and criticism.
15. In later sections it will be argued that Sperber and Wilson's notion of relevance guides these inferences.
16. In Grice's technical sense of saying something.
17. Theory-internal problems have been pointed out in much more detail in Levinson (1983) and Leezenberg (2001).
18. Only Rachel Giora's graded salience hypothesis goes into a slightly different direction. In her framework, it is not necessarily the context that determines whether metaphors are processed directly or not, but rather the salience of the metaphorical meaning of an utterance. The salience of an utterance is considered to be a mix of, for example, a metaphor's conventionality, frequency and familiarity (Giora 1997, 1999).
19. This feature of conceptual metaphor can also be abused as a tool to manipulate the attitudes of people, as George Lakoff (1992) has compellingly shown.
20. It has to be noted that although a conceptual integration network typically consists of two input spaces, it can and often does contain more than just two input spaces.
21. Ruiz de Mendoza Ibáñez and Díez Velasco (2002) use terminology from different branches of cognitive linguistics. For instance, they use technical terms from conceptual metaphor theory (e.g. *domains*) and blending theory (e.g. *input space*). In other passages of their article they also use terminology from Langacker (e.g. *profile*, *base*).
22. This diagram is simplified in that the generic space is omitted.
23. In Fauconnier and Turner (2002) a more elaborated version of the optimality principles is called *governing principles*.
24. For a full picture of Carston's ideas concerning polysemy, it is important to note that Carston deems it possible that the meanings of natural kind terms like *cat*, *water* or *tree* are not just abstract entities from where we derive more concrete ad hoc concepts. In these cases, she thinks it is more likely that the meaning of these terms is actually their decoded content (cf. Carston 2002: 362).
25. A *mutual cognitive environment*<sup>L</sup> is a stricter version of relevance theory's notion of a mutual cognitive environment, as it is based on the notion of lopsided mutual manifestness, which was presented in detail in Section 2.2.1.3.
26. This also entails that when I talk about what is communicated by a lexical concept, I am focusing on the content part of a lexical concept. Phonological or morphological knowledge is obviously not communicated. Phonological knowledge is just necessary in order to access the correct conceptual region and morphological knowledge contributes to the content part of a lexical concept, because morphological knowledge is procedural knowledge.
27. Second language learners often have problems with the use of prepositions. I assume that this is due to the fact that prepositions are so massively polysemous. Prepositions only offer very skeletal information and have links to many image

schemas which have to be selected and enriched in discourse contexts. Learning these pragmatic processes is fairly difficult for a second language learner, and learning single meanings of prepositions is an activity that will necessarily lead to many mistakes in use.

28. I would call this propositional form an explicature for the following reasons: (1) It is a communicated propositional form; (2) It is a development of the logical form, because only the subject complement *a tree* is modified ad hoc into the subject complement *a very tall player*; (3) Additional strong implicatures are all based on the propositional form *Ruud is a very tall player*. Thus, the explicature would not be functionally independent of alternative explicatures of (148).
29. I use the term syntactic expectation as referring to expectations which derive from syntactic premises.
30. To be more precise, the timescale is the result of a mapping between the space domain and the time domain (time is space).

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