

DOCTOR OF PHILOSOPHY

Metaphors in spoken academic discourse
in german and english

Klaus Thiele

2013

Aston University

Some pages of this thesis may have been removed for copyright restrictions.

If you have discovered material in AURA which is unlawful e.g. breaches copyright, (either yours or that of a third party) or any other law, including but not limited to those relating to patent, trademark, confidentiality, data protection, obscenity, defamation, libel, then please read our [Takedown Policy](#) and [contact the service](#) immediately

METAPHORS IN SPOKEN ACADEMIC
DISCOURSE IN GERMAN AND ENGLISH

KLAUS PETER THIELE, M.A.

School of Languages and Social Sciences

Doctor of Philosophy

ASTON UNIVERSITY

28th June 2013

©Klaus Peter Thiele, 2013 asserts his moral right to be
identified as the author of this thesis

This copy of the thesis has been supplied on condition that
anyone who consults it is understood to recognise that its
copyright rests with its author and that no quotation from
the thesis and no information derived from it may be
published without proper acknowledgement.

Dedication

This thesis is dedicated to all corpus linguists, particularly those researching spoken academic discourse, who are aware of both the benefits and the challenges of working with transcripts of spoken genres. I also dedicate this thesis to metaphor researchers, who are familiar with handling the massive amount of research literature and the complexity of systematically defining and identifying metaphor in discourse and actually successfully completing all of these tasks, which at times resembles a miracle.

Acknowledgements

I would like to use this opportunity to thank two groups of people involved with me while I was working on the present thesis. The first group are academics. First of all, I would like to thank my supervisor, Prof Gertrud Reershemius for her patience, her endless, highly helpful and effective support alongside continuous feedback. Besides, Gertrud also gave me other academic opportunities besides my PhD thesis, such as the work on the GeWiss Project, which paralleled and enhanced my research, as well as the IVG 2010 Conference, which also proved to be highly effective both for the GeWiss data collection, for promoting the GeWiss Project, as well as academically for myself. Second, there are some academics (both staff and fellow PhD students), who helped me at the very beginning. They always had supporting words for me and ensured the atmosphere in the shared postgraduate research students' office was calm and encouraging. Both fellow students and academic staff members assisted me in various ways, such as correcting drafts, examining me on my QR viva, or general advice. Finally, I'd like to thank the support staff, who welcomed me on my first day for enrolment and also helped in the decisive moments when this thesis was about to be submitted.

The second group of people is personally involved with me and mostly non-academic. I would like to wholeheartedly thank my beloved wife for her patience and support, particularly as the submission of my PhD thesis came closer. Besides personal support, she also helped me with invaluable feedback throughout the course of my research thanks to her own academic background. At the same time, I wholeheartedly would like to thank my parents, who also had to suffer with me through the ups and downs of this project: First, because they were worried I might not make it on time, and second because my absence from home for more than three years also made them sad. I hope all of this can be compensated by the completion of this work. I specifically would like to thank Ria Perkins for her invaluable help with the translations of German examples and for her feedback on a part of the conclusion of this study. Furthermore, there are numerous friends and colleagues whom I also would like to thank for their kind support and encouragement, even when I had doubts about the success or relevance of my work.

Title: Metaphors in Spoken Academic Discourse in German and English

Name: Klaus Peter Thiele

Degree: Doctor of Philosophy

Date: 28th June 2013

Thesis Summary:

Metaphors have been increasingly associated with cognitive functions, which means that metaphors structure how we think and express ourselves. Metaphors are embodied in our basic physical experience, which is one reason why certain abstract concepts are expressed in more concrete terms, such as visible entities, journeys, and other types of movement, spaces etc. This communicative relevance also applies to specialised, institutionalised settings and genres, such as those produced in or related to higher education institutions, among which is spoken academic discourse.

A significant research gap has been identified regarding spoken academic discourse and metaphors therein, but also given the fact that with increasing numbers of students in higher education and international research and cooperation e.g. in the form of invited lectures, spoken academic discourse can be seen as nearly omnipresent. In this context, research talks are a key research genre. A mixed methods study has been conducted, which investigates metaphors in a corpus of eight fully transcribed German and English L1 speaker conference talks and invited lectures, totalling to 440 minutes.

A wide range of categories and functions were identified in the corpus. Abstract research concepts, such as results or theories are expressed in terms of concrete visual entities that can be *seen* or *shown*, but also in terms of journeys or other forms of movement. The functions of these metaphors are simplification, rhetorical emphasis, theory-construction, or pedagogic illustration. For both the speaker and the audience or discussants, anthropomorphism causes abstract and complex ideas to become concretely imaginable and at the same time more interesting because the contents of the talk appear to be livelier and hence closer to their own experience, which ensures the audience's attention. These metaphor categories are present in both the English and the German sub corpus of this study with similar functions.

Keywords: research talks, specialised discourse, spoken academic discourse, conceptual metaphor theory, contrastive corpus analysis, German

Table of Contents

List of abbreviations	7
List of Tables	8
List of Figures	9
1 Introduction	10
2 Metaphor and Metaphor Theory	15
2.1 Etymology of “metaphor”	15
2.2 Early Metaphor Theory: Aristotle	15
2.3 An early predecessor of conceptual metaphor theory: Vico	17
2.4 Overview of twentieth-century views on metaphor theory	21
2.4.1 Semantic approaches.....	21
2.4.2 Metaphor in Generative Grammar.....	27
2.4.3 Semantics, pragmatics and their approaches towards metaphor	29
2.4.3.1 Definition of pragmatics and conversational implicatures	29
2.4.3.2 Grice’s Cooperative Principle.....	31
2.4.3.3 Grice on metaphor	33
2.4.3.4 Searle on metaphor	35
2.4.3.5 Conclusion on pragmatic metaphor theory	37
2.5 Lakoff and Johnson (1980): Conceptual Metaphor Theory	38
2.5.1 Cognitive functions of metaphor	38
2.5.2 Lakoff and Johnson (1980)’s definition of metaphor	41
2.5.3 Other researchers on cognitive metaphor theory	42
2.5.4 Criticism of Cognitive Metaphor Theory	43
2.6 Overall Theoretical Definition of Metaphor	45
3 Spoken Academic Discourse	48
3.1 On ‘Discourse’	48
3.1.1 Historical overview	48
3.1.2 The role of context in discourse.....	51
3.1.3 The importance of sociolinguistic variation	52
3.1.4 Units of discourse and segmentation.....	56
3.1.5 Definition of ‘discourse’	57
3.2 Genres and Genre Theory	59
3.2.1 Register	59
3.2.2 Genre	59
3.2.3 Discourse community	61
3.2.4 Genre knowledge	63
3.2.5 Definition of ‘discourse community’	65
3.2.6 Definitions of ‘genre’	66
3.2.7 Working definition of ‘genre’	68
3.3 Academic discourse and ‘spoken academic discourse’	69
3.3.1 Importance of academic discourse	71
3.3.2 Role of terminology and specialised vocabulary	72
3.3.3 Other aspects of (spoken) academic discourse	73
3.3.4 Genres in spoken academic discourse and the specialist presentation ...	74
3.3.5 The ‘specialist presentation’	75
3.3.6 Academic conferences.....	79
3.3.7 The generic structure of a CP	81

3.3.8	The graduate seminar	83
3.3.9	CPs and the academic novice	84
3.3.10	The CP and its setting.....	85
3.3.11	Visual aids	87
3.3.12	Conclusion and summary	88
3.4	Metaphors in Spoken Academic Discourse	89
3.4.1	Functions of metaphor in academic discourse	89
3.4.2	Metaphors in spoken academic discourse including university teaching.....	90
3.4.3	Metaphor in written academic discourse	94
3.4.4	Other types and functions of metaphors in academic discourse	95
3.4.5	Theory-constitutive and pedagogic metaphors	95
3.4.6	Metaphor categories.....	99
3.5	Conclusion and Summary	104
4	Data and Methodology	110
4.1	Introduction to epistemology	110
4.2	Introduction to the data sections	111
4.2.1	Project Description: GeWiss Project	111
4.2.2	Data collection, post-processing, meta data and project partners	118
4.2.3	GeWiss-sub corpora analysed for this study	120
4.3	Data and methodology for this study	123
4.3.1	Combining qualitative and corpus methods.....	123
4.3.2	Conversation Analysis.....	124
4.3.3	Metaphor identification and MIP	130
4.3.4	Automatic metaphor extraction.....	134
4.3.5	Conclusion on data and methodology for this study	136
5	Quantitative data analysis	138
5.1	Introduction to corpus methods.....	140
5.2	Frequency Lists	149
5.2.1	English corpus.....	149
5.2.2	German corpus.....	152
5.3	Keyword Lists	154
5.3.1	English corpus.....	154
5.3.2	German corpus.....	154
5.4	Selected collocations.....	155
5.4.1	English corpus.....	155
5.4.2	German corpus.....	156
5.5	Metaphors in multi-word sequences (n-grams)	157
5.6	Frequency-based Overview of Metaphor Categories	160
5.7	Metaphor density	161
5.8	Conclusion of the quantitative data analysis.....	163
6	Qualitative metaphor analysis	164
6.1	English corpus	165
6.2	German corpus.....	177
6.3	Qualitative analysis by category or function.....	201
6.3.1	Visual Metaphors	202
6.3.2	Metaphors of movement / journey/ space	204
6.3.3	Distribution and density of metaphors by talk.....	212
6.3.4	Concretisation of abstract entities.....	218
6.3.5	Theory-constructive and pedagogic metaphors	220

6.3.6	Anthropomorphism	222
6.3.7	Other categories or functions of metaphors	224
6.4	Metaphor analysis: conclusion and summary	227
7	Concluding Remarks	234
7.1	Summary and results	234
7.2	Limitations	237
7.3	Further study	239
7.4	Implications	241
8	Bibliography	242
9	Appendices	251
9.1	Appendix 1: word- and keyword lists used in this study	251
	Word list English corpus	251
	Keyword list English corpus	258
	Word list German corpus	265
	Keyword list German corpus	272
9.2	Appendix 2: Meta data categories used in the corpus of this study	279

List of abbreviations

CA: Conversation Analysis

CL: Corpus Linguistics

CACL: Conversation Analysis and Corpus Linguistics

CADS: Corpus-Assisted Discourse Studies

CDA: Critical Discourse Analysis

COMA: Corpus Manager

CP: Conference presentation

DA: Discourse Analysis

EXMARaLDA: Extensible Markup Language for Discourse Annotation

GAT / GAT 2: gesprächsanalytisches Transkriptionssystem

GeWiss: Gesprochene Wissenschaftssprache

HIAT: Halbinterpretative Arbeitstranskription

LSP: Language for special purposes

MIP: Metaphor Identification Procedure

List of Tables

Table 1: Generic structure of a talk within a conference section, based on Ventola (2002: 29)	82
Table 2: Overview of Fandrych (2005: 24f) – metaphor categories.....	100
Table 3: Overview of the whole GeWiss corpus.....	116
Table 4: Overview of the English L1 speaker's sub corpus (GeWiss)	116
Table 5: Data for the qualitative Analysis.....	121
Table 6: Speaker overview and sociolinguistic background information.....	122
Table 7: sample concordance for <i>see</i>	142
Table 8: Frequent items as part of metaphors in the English corpus	150
Table 9: Frequent items as part of metaphors in the German corpus	152
Table 10: Items from the English keyword list.....	154
Table 11: Items from the German keyword list	154
Table 12: Collocates in the English corpus.....	155
Table 13: Collocates in the German corpus.....	157
Table 14: n-grams in the English corpus.....	158
Table 15: n-grams in the German corpus.....	159
Table 16: Metaphor categories in the German corpus	161
Table 17: Overview of unique metaphors by sub corpus.....	200
Table 18: Numbers of visual metaphors in both sub corpora.....	203
Table 19: Numbers of movement metaphors in both sub corpora.....	205
Table 20: Instances of metaphor in the English research talks sub corpus	213
Table 21: Instances of metaphor in the German research talks sub corpus	215

List of Figures

Figure 1: Visualisation of the development of DA.....	49
Figure 2: Extract from a transcript, part of the English sub corpus	114
Figure 3: The CLCA model, O’Keefe and Walsh (2012: 164).....	148
Figure 4: relative metaphor occurrences in the English wordlist.....	151
Figure 5: relative metaphor occurrences in the German corpus	153
Figure 6: Normalised metaphor numbers in the English corpus.....	162
Figure 7: Normalised metaphor numbers in the German corpus.....	162

1 Introduction

The present study has set out to explore “metaphors in spoken academic discourse in German and English”. Below, this introduction will discuss the theoretical background of this study. This will at the same time establish the relevance of this study, which is done by explaining the relevance of metaphor in general, following cognitive metaphor theory. Then, the relevance of spoken academic discourse will be established, which will culminate into a discussion of the relevance of metaphors in spoken academic discourse. Furthermore, data, methodology, research questions and the structure of this study will be part of this introduction.

Since the publication of the seminal study by Lakoff and Johnson (1980), the phenomenon of metaphor has been re-evaluated from a mere rhetorical ornament to having essential cognitive functions that enable us to reconstruct how people conceptualise their surroundings and hence parts of their thoughts. Therefore, metaphor can not only be expected to be novel, marked, and appearing in poetic or rhetoric contexts, but metaphor can be expected to appear in all types of genres and can be expected to be highly frequent and conventionalised. This is the first reason for the relevance of the present study: metaphor can be found in specialised and less specialised contexts and has important functions therein, see e.g. Gibbs (1992), (2008), (2012), Glucksberg et al. (1992), Kövecses (2002), (2008), (2005), (2009) and Zhu (2003). The functions of metaphor in specialised discourse, such as academic discourse can be rhetorical, pedagogical or even constitute a whole research theory, see Knudsen (2003).

Following Lakoff and Johnson (1980) and later researchers, our use of metaphor is based on the nature of our own behaviour and physical experience, such as movement, directions, seeing things, or struggling. A very popular and seminal example by Lakoff and Johnson (1980) is ARGUMENT IS WAR, which expresses that verbal arguments are expressed in terms of war metaphors, such as e.g. *I'll defeat your argument*. Important here is the distinction between conceptual and linguistic metaphor. A conceptual metaphor, such as ARGUMENT IS WAR is organised in a schematic way. It always consists of a target and source domain. In this case, the target is the argument whereas the source is (the language of) war. Such a conceptual metaphor stands for many concrete utterances, phrases or words, such

as *I'll defeat your argument*. This is another practical reason besides the underlying theory, why conceptual metaphor theory as based on Lakoff and Johnson (1980) will be employed in this study. Conceptual metaphors allow classifying a large number of linguistic metaphors into categories that can then be further used in analysis.

Besides the general relevance of metaphor because of its cognitive functions, there are many other aspects that help to establish the relevance of the present study. First and foremost, spoken academic discourse as such – particularly in an international context – is under-researched as much as it is nearly omnipresent for example on international conferences. Nowadays, researchers are more mobile than in the past and numbers of domestic and international students are higher than ever; see e.g. Hyland (2009). Under-researched is also one of its key genres, the research talk, also known under the term ‘specialist presentation’ in the present study. The latter is an umbrella term that refers to both types of research talks that are the object of this study, namely conference presentations and invited lectures, also known as ‘research seminars’. Besides spoken academic discourse on its own, metaphor therein is under-researched as well. Therefore, besides the research questions presented below, this study will offer a contribution by closing a research gap in the area of spoken academic discourse and metaphor therein and by verifying findings from cognitive metaphor theory based on Lakoff and Johnson (1980) against the data used in this study, which employs corpus methods.

The data for the present study is part of a larger corpus that stems from a three-year European research project, named GeWiss (Gesprochene Wissenschafts-sprache kontrastiv), which was funded by the Volkswagen Foundation and lasted from 2009-2012. It included partners and data from the UK, Germany and Poland. Besides building a large comparable corpus of German, English and Polish transcripts, audio and video recordings of specialist-, student presentations and oral examinations, the project also aimed at contributing to the under-researched field of research on spoken academic discourse. In doing so, the GeWiss project has created a corpus of the impressive size of 126 hours or just under 1.3 million tokens that is suitable for various forms of research, such as contrastive studies about spoken academic discourse. The final corpus has been made publicly available on

the internet.¹ Furthermore, it has to be pointed out that the corpus is based on an epistemologically open approach. This means that the corpus has been built in a way that it can be analysed using both quantitative approaches, such as frequency lists or counting words while transcripts can also be exported in a reader-friendly manner so that they can equally be used for qualitative studies, or, as a third option, transcripts can also be played in a manner that they are aligned with the audio. Besides the actual corpus, extensive metadata has been collected as part of GeWiss. Apart from by genre, it is possible to search the corpus for speech events based on different variables e.g. age, gender, L1. This metadata has also been used in this thesis where relevant.

Another contribution of the present study lies in its data and methodology. The contribution is not achieved by inventing new approaches, but by recombining existing approaches in a new way. The study uses a variety of quantitative, qualitative and mixed approaches to analyse a corpus of eight fully transcribed specialist presentations, of which half are in English and the other half is in German, totalling to 440 minutes. Both the German and English speakers are L1 speakers. The approaches utilised to investigate this corpus for metaphors and their functions in their respective discourse context are corpus-based, corpus-driven, as well as mixed approaches such as corpus-assisted discourse studies (CADS), see Duguid (2007/2010), corpus linguistics and conversation analysis (CLCA), see Walsh (2012) and qualitative approaches (metaphor analysis combined with discourse studies, conversation analysis, and the metaphor identification procedure (MIP) by Pragglejaz (2007)). The contribution of the present study will be in recombining these existing approaches for the purpose of contrastively studying metaphor in spoken academic discourse.

With a cognitive view towards metaphor in mind, this study has set out to explore metaphor use in spoken academic discourse in German and English. The two major research questions this study is based on are:

1. Which types and categories of metaphor can be found in the data?
2. What are the functions of metaphors metaphor use for speakers and listeners / hearers in spoken academic discourse?

¹ The corpus is available from <https://gewiss.uni-leipzig.de> (24/06/13) after a free registration.

It is important to point out that the aims and objectives of this study go beyond merely cataloguing different categories of metaphors. The present study aims to reconstruct the communicative functions and potential effects metaphors have both on speakers in research talks and on hearers (audience, discussants). This will allow reconstructing exactly how metaphors contribute to the workings of spoken academic discourse in their respective discourse contexts.

The present study is structured based on the following chapters:

Chapter 2 gives an overview of metaphor theory. Non-cognitive approaches towards metaphor including an overview of pre-twentieth-century research and twentieth-century semantic and pragmatic metaphor theory will be discussed, followed by cognitive metaphor theory and more recent criticism of this approach. The chapter culminates into a working definition of the notion of 'metaphor', on which identification and analysis of metaphor throughout this study will be based.

Chapter 3 is the second of four major chapters that form part of the theoretical framework of the present thesis. This chapter can be seen as the theoretical 'heart' of the thesis, only to be topped in relevance by chapter 6 below. It approaches spoken academic discourse and metaphor therein by breaking it down into the notions 'discourse', 'genre', and 'academic and spoken academic discourse', which are subsequently defined. Different schools in relation to discourse analysis (DA) and genre theory will be reviewed, as well as previous research on academic and spoken academic discourse before reviewing previous research on metaphor in spoken academic discourse. There are studies that already deal with spoken academic discourse and prove the relevance of this discourse or of metaphors therein. At the same, studies that do not deal with spoken academic discourse, but with written genres will also be reviewed, provided there is a potential connection to this study. All of this is done in order to highlight which previous research results and studies are relevant or offer a suitable framework for analysing metaphors in this study.

Chapter 4 deals with epistemology, data and methodology. First, epistemology is briefly defined and discussed in order to approach the epistemological position of this study. This is followed by introducing the data and methodology for this study. The GeWiss project as the major source of data for the present study will be

introduced in detail, followed by a description of data collection, metadata and project partners, which then is followed by an overview of the GeWiss sub corpora that are analysed in this study. Finally, the data and which methodological approaches were employed for this study and reasons for these choices will be briefly discussed. This section is relatively short despite its centrality for the present study because it only mentions which methods are used and combined as well as how and for which reason this is done. The detailed overview and description of the data and meta data is done before this section in the same chapter. Various mixed methodologies, such as Corpus-assisted Discourse Studies (CADS) and Corpus Linguistics and Conversation Analysis (CLCA) are reviewed. The other theoretical and methodological approaches (discourse studies, metaphor theory, metaphor analysis, corpus methods etc.) are discussed in different chapters.

Chapter 5 will introduce corpus methods as quantitative approaches (frequency- and keyword lists, collocations, multi-word sequences). This will complete the theoretical framework for this study. Then, the quantitative data analysis will be carried out using the methods previously defined. This serves to pre-sort the data for the qualitative analysis, as well as to give a frequency-based overview of metaphor categories and metaphor density.

Chapter 6 contains the data analysis. A detailed qualitative analysis of the whole corpus will be performed with each section to be preceded by another quantitative overview of e.g. the numbers of different metaphor categories or the distribution of metaphors within the generic structure of the research talk following Ventola (2002). Towards the end of the chapter, the qualitative and quantitative findings will be summarised and discussed in a conclusion.

Chapter 7 is the conclusion of the thesis and will revisit the theoretical background and relevance of this study. Furthermore, it will answer the research questions by stating the research results of this study with respect to metaphor categories and functions for speakers and hearers. Hypotheses that have been left as recommendations for further research together with the reasons for these decisions will be formulated in the form of questions. At the same time, the discussion of these hypotheses will also be used to explore potential directions for further research.

2 Metaphor and Metaphor Theory

This chapter will give the theoretical framework for this thesis with respect to metaphor theory. Essential questions that I seek to answer with the help of previous research on metaphor are what a metaphor is, also in relation to the historical development of metaphor theory and under consideration of a broad range of metaphor-related theoretical schools. Furthermore, it will be explained to what extent metaphor relates to language and thought alongside its relevance. How a metaphor can be identified and how it can be analysed and classified in a corpus will be raised again in a more detailed manner in the methodology and data chapter (4), as well as in the data analysis chapters (5 and 6) below.

2.1 Etymology of “metaphor”

In this subsection, the etymology of metaphor will be discussed. An etymological dictionary by Kluge (2002) defines metaphor as “eine Redefigur” that was a loan word from 17th century technical terminology. It was borrowed from Latin *metaphora* and this was borrowed from Greek *metaphora* which means “Übertragung” (transfer). It can be further segmented into Greek *phérein* and Greek *meta-*. Meta- is a prefix with the original meaning “behind, between” (cf. Kluge (2002, *ibid.*)), or ‘with’, see Cresswell (2010), see also Hoad (2003). The latter meaning of *meta-* can also mean that a metaphor is a combination of two different meanings. From its Greek original meaning, *metaphor* is a “transfer to non-literal meaning”, or literally “the process of carrying [something] away” (cf. Glück (2000, p. 437)). So etymologically, movement is part of metaphor.

2.2 Early Metaphor Theory: Aristotle

This section is to include the history of metaphor theory, which will go back as far as to Aristotle (about 350 BC), and metaphor in rhetoric and poetics.² For research into metaphor, Aristotle (1952), is important, because the majority of later work is based or influenced by his views.³ Metaphor is discussed in a subsection (*The diction of tragedy*) of his work *On Poetics* (cf. Aristotle, from p. 693 on). Metaphor

² Leezenberg (2001: 15-31) gives an overview of the early history of metaphor, e.g. pre-historical and pre-literate societies. Space and the focus of this study permit no discussion of metaphor in these or other contexts prior to Aristotle.

³ This is for example expressed by Cameron 2003, p. 13: “[I]t [Aristotle’s ideas on metaphor] [are] the sources of most of what has developed since”.

was part of his descriptions of poetic language. Aristotle starts by a general definition of metaphor:

“Metaphor consists in giving the thing a name that belongs to something else; the transference being either from genus to species, or from species to genus, or from species to species, or on grounds of analogy.” (cf. *ibid.*)

As this quotation indicates, Aristotle has listed four categories of metaphor. He gives examples for each of these categories. His example for the transfer “from genus to species” is the expression “Here stands my ship”. Aristotle claims that this transference from general to specific is replacing the expression *lying at anchor*, which is more common when referring to a ship, by a particular kind of *standing* somewhere. The other direction is “from species to genus”. There, Ulysses is referred to as having committed “ten thousand good deeds”. Aristotle emphasizes that the specific and large number *ten thousand* is used to replace the general idea of a large number. For “species to species”, two phrases are used interchangeably. The examples of “drawing the life with bronze” and “severing with the enduring bronze” are quoted. The poet uses *draw* in the meaning of *sever* while both words mean to ‘take something’ away. So the third idea is a mere substitution of one phrase by another one whereas both of them convey the same meaning.

Aristotle has also formulated normative rules for poetic diction that start with the sentence “The perfection of diction is for it to be at once clear and not mean.” (p. 694). For him, ‘perfect’ poetic diction is unambiguous and clear with “ordinary words for things” (*ibid.*), but at the same time “distinguished and non-prosaic by the use of unfamiliar terms, i.e. strange words, lengthened forms, and everything that deviates from the ordinary modes of speech.” (*ibid.*). Metaphor is not directly defined here, but the context in which it is mentioned does define it. It is mentioned together with “strange words” and deviations from what Aristotle considers to be “the ordinary modes of speech”. Tracing back what this meant according to Aristotle seems to be impossible because these norms are not explicitly defined.

A part of what can be criticized in Aristotle’s thinking on metaphor can be explained by the lack of context when his theory is referred to:

“For Aristotle who was describing deliberate stylistic effects in political rhetoric, the use of metaphor was always intentional and the study of metaphor was firmly based in discourse context. In taking his idea out of their particular context of use and applying them to metaphor in general, much of the precision of Aristotle’s theory has been lost.” (Cameron (2003: 14).)

As Cameron (2003) points out, the term ‘metaphor’ was used in a much wider context in classical Greek. It could “refer to any type of expression which substituted for another, including diminutives and euphemisms, and to ways of talking about a topic domain that had not previously existed (also termed ‘catachresis’) for which there could be no literal equivalent.” (ibid.). The problem might have been that the later interpretations of Aristotle’s theory were transferred from the broader “Greek concept of metaphor to the much narrower concept of later theorists” (ibid.). So part of the criticism towards Aristotle is not even to be directed at Aristotle’s work, but at how later scholars have interpreted it.

Leezenberg also confirms Cameron’s view on Aristotle. Regarding the discussion of Aristotle’s views, Leezenberg (2001: 31) says that Aristotle’s view on metaphor is not only based on similarity, but as “deviant from literal language, and as matter of language, rather than thought.” Leezenberg (2001: 31) claims that these ideas are not fully justified because Aristotle’s remarks are not precise and detailed enough to ascribe any such doctrine or theory to him with certainty. Leezenberg deals with the different traits that are associated with Aristotle’s theory of metaphor. Leezenberg (2001: 32) states that he cannot find a general distinction between literal and figurative language in the *Poetics* section of Aristotle’s works. Rather, Aristotle states that metaphors, that which are used in the specific context of tragedy *should* be ‘uncommon’, not that they *are* to be defined as any deviation from the ordinary. Whereas it is relatively easy to state what Aristotle does not say, it is hard to find out what kind of theory he does hold, as Leezenberg (2001: 43) points out.

2.3 An early predecessor of conceptual metaphor theory: Vico

The historical overview will be completed by discussing what has happened after Aristotle (350 BC) and before Lakoff and Johnson (1980), the main metaphor theory used in this thesis. In the following sub sections of this chapter, Leezenberg (2001) is used often and quite extensively. This is the case because apart from Rolf (2005), this is the only existing, recent and comprehensive overview of metaphor theory as a whole.

One example of post-Aristotelian metaphor theory is Giambattista Vico, see Danesi (1993), Costelloe (2008) and also the discussion by Leezenberg (2001: 56). The reason why Leezenberg mentions Vico is that his views “are as original as they are neglected.” Furthermore, as will be shown below, Vico’s ideas anticipate cognitive metaphor theory, which makes his work historically relevant.

The two major aspects that Leezenberg’s discussion of Vico show are that Vico’s theory was meant as a general theory of history and that the distinction literal vs. metaphorical depends very much on the context and the corresponding historical period. According to Vico, the history of each nation has three periods while each period has its own characteristic kind of language, writing, and jurisprudence (cf. *ibid.* p. 57). The first period is the divine period. There, Vico claims that religion is an essential prerequisite. The language of this period is labelled ‘hieroglyphic’ or ‘sacred’ and “a language of gestures rather than spoken sounds”. The second period is the heroic one. There, a *repubblica* or commonwealth is formed. It has an aristocratic society and knows spoken language. Vico states that the language of this aristocratic society is ‘symbolic’ and consists of ‘poetic characters’. The interesting claim by Vico here is that this language, to be found in the *Odyssey* or *Iliad*, is highly poetic and allegorical to us, but not to the people who lived in the corresponding period. Vico even claims that this was their “most natural way of expression” (*ibid.*). Therefore, the wisdom or message of the Homeric poems is not an esoteric knowledge (like an encrypted message), “but the popular wisdom of the Greek nation during its heroic phase.” (*ibid.*). The third phase is called the human phase and marks the beginning of “civil society as we know it, based on the equality of individuals” (*ibid.*). The language of this period is considered to be “vulgar”, which means “conventional and prosaic”.

After this phase, a *volta* or recourse into barbarity is expected to happen. Then a new nation is born, “which in its turn runs through the different periods.” So Vico’s view

of history is partially cyclic. At the same time, there is no linear historical development of humanity as a whole. Different nations can be in different stages of their history at the same time. The example Vico uses is eighteenth-century Germany. He considers it to be a nation that is still in its heroic phase and the language is seen as “living heroic language” respectively.

Leezenberg (2001: 58) points out that little becomes clear about how the language of the different phases of the history of a nation develops from a predecessor. Despite that “the intimate link he [Vico] perceives between social organisation, language and thought” (ibid.) is obvious. Vico claims that the ancient people spoke radically different from us. Therefore, it is difficult, even for literate and educated people, to understand how they thought. The reason for this is that ancient poets, whom he labels “theological”, were not able to think abstractly and to describe rational and causal relations. Because of this inability, natural objects and phenomena were perceived as if they were alive, or even divine (cf. ibid.). Thunders, for example, were perceived as signals from God, merely out of fear and ignorance. Henn (1991: 31) also confirms this view. She quotes the example of iron and magnetism. The magnet seems to “love” the iron because the phenomenon of magnetism, as known in physics nowadays, was unknown then. Her conclusion about Vico is particularly important:

“Was in unserem Zusammenhang interessiert ist, daß Vico aus diesen Prinzipien schließt, daß Metaphern an den Anfängen der Sprache standen, daß an Metaphern der Stand der Reflexion abzulesen ist. Modern ausgedrückt - und ohne die Implikationen von Vicos Geschichtsphilosophie - : Metaphern haben kognitive Funktion.” (ibid.)

[What is important in our context is that Vico concludes from these principles that metaphors are to be situated in the early history of language, that metaphors reflect thinking. Expressed in a modern manner - and without the implications of Vico’s philosophy of history – metaphors have cognitive functions.]⁴

⁴ All translations are mine and written in angle brackets below the German quotations.

So according to Henn and in context of the history of metaphor theory, Vico can be seen as an early scholar who formulates a cognitive theory of metaphor. The example of the magnet that 'loves' iron and consequently pulled it towards itself, which would not be used in serious discussions about magnetism nowadays, is also an example of how scientific knowledge and with it technology influence language and thereby the way we think and speak.

The final and most important aspect of Vico is the question how he defines metaphor. First of all, Leezenberg (2001: 63) mentions other scholars who have dealt with Vico's views on metaphor. Vico describes it as a primary product of the human imagination. It is also a product of the projection of "elements from the domain of human bodily experiences onto other domains like that of natural phenomena." (ibid.). This sounds very similar to conceptual metaphor theory (see below). However, Leezenberg has also found passages where metaphor is described in a way that Leezenberg calls "referentialist".⁵ The example used to support this part of Vico's theory is Vico's statement that Latin is full of metaphors. This is the case because according to Vico, there are many words that refer to objects "according to their natural properties or sensible effects". According to this statement, Leezenberg emphasizes that

"metaphors are based on the properties of the objects being spoken about metaphorically signified rather than on the mental processes of individuals trying to understand and describe the outside world." (ibid. p. 63).

It can be said that Vico's position oscillates between his own more original position of metaphor, which is the projection of specifically human qualities onto non-living objects and the theory that metaphor is based on similarity. This was the rhetorical tradition of Vico's time, as Leezenberg points out. He also emphasized that apart from these two contradicting ideas (conceptual and referentialist views towards metaphor), there is no "full-fledged or coherent theory of the recognition and interpretation of metaphor" in Vico's works (cf. ibid.).

Before the historical overview of metaphor and semantics in this context can continue, it has to be emphasized that the projection of human qualities onto non-

⁵ Below, in the overview of 20th century metaphor theory, the notion of 'referentialist' metaphor theories will be defined, see page 12.

living objects is particularly important. It sounds like a definition of anthropomorphism and it was held to be important and inherent to metaphor by Vico, as explained above.

2.4 Overview of twentieth-century views on metaphor theory

This section will continue with twentieth-century views on metaphor theory. These can be divided into four categories: semantic and pragmatic approaches, the Davidsonian program, which says that metaphor is without meaning, and conceptualist views, which are based on cognitive semantics. This is the categorization that Leezenberg (2001) chose. It will be followed and amended as needed.

2.4.1 Semantic approaches

The semantic approaches that are to be discussed now can be subdivided into referentialist and descriptivist views and – as a third category – metaphor in generative grammar. At the same time, Leezenberg (2001: 69) points out that in some cases, authors and theories that he describes as semantic also come close to a pragmatic view. Finally, conceptualist views of metaphor that also look at extralinguistic processes of cognition and conceptualization will be dealt with, among those the views of Lakoff and Johnson (1980).

Leezenberg (2001: 69) states that referentialist views work in the way that they “describe the effect of a metaphor primarily in terms of a resemblance between the referents of the expression it contains”. So the referentialist view implies that there must be a similarity between the two referents that form a metaphor. These two referents are target and source domain in conceptual metaphor theory. Leezenberg emphasizes that Aristotle cannot be unambiguously ascribed a referentialist view (see section 2.2 above about Aristotle). The other proponents of referentialist views are Quintilian and Cicero. They came close to “a genuine referentialist view” (ibid.) and have been important for rhetoricians and philosophers ever since. Cicero (as described by Leezenberg (2001: 69f)) reverses Aristotle’s classification of simile as a subspecies of metaphor. His view is that *translatio*, a translation of Greek *metaphora*, is a condensed comparison. The metaphor depends on individual word types, not on words or sentences in context (cf. Ibid.). For Quintilian, the main

purpose of a metaphor is to express notions for which there are no words. At the same time, metaphor acquires its popularity because of its aesthetic power. Quintilian maintains that if no proper expression is in existence, the 'unknown' aspect will be clarified by the figurative expression. The example used here is the *rich harvest*. The word *rich* comes from the economic sphere and is borrowed to express the abundance of a specific harvest as there is no other term to do so. Therefore, for Quintilian, the similarity between the different referents warrants the correct interpretation of the metaphoric expression.

The most interesting question here is how Quintilian defines metaphor. He defines it "as the compression of a simile into a single word which is put into a 'strange' (Latin: *alienus*) place" (ibid.). Particularly the word *strange* suggests that Quintilian sees metaphor as deviant. This also leads to the question what the norm or literal language is for him. This is not clear. Regarding the source and target domains, Quintilian sees no constraints: the names of anything can be used with respect to something else. There are constraints, however, on what form a 'good' metaphor: "the speaker should avoid false analogy, far-fetched similarity, and vulgarity" (cf. ibid.).

Before discussing which role referentialist views play nowadays, Cicero's position will be introduced and compared to Quintilian's. Both are "in essence" the same, as Leezenberg claims: "on the whole, metaphor is a shorter form of simile, while there is this further difference, that in the latter we compare some *object* to the *thing* we wish to describe, whereas in the former the object is actually substituted for the thing" (ibid.). Leezenberg explains that the Latin text is not talking about substitution, but about something being said instead of something else. This already hints at the question how metaphors are and can be used in discourse. This fits to the main function Cicero lists for metaphors: they are used by uneducated people "naturally" (= intuitively?) and unconsciously⁶ and the reasons for its use and purposes are that the metaphor is "necessary", helps to clarify meaning, or simply because "it is more beautiful". According to Leezenberg, Quintilian gives no hint

⁶ This remark by Cicero is particularly interesting because it points into the direction of modern cognitive metaphor theorists, such as Lakoff and Johnson (1980), who claim that we use a vast amount of metaphors without being aware of it, as well as scholars like Deignan (2005) and Hunston (2002), who make similar claims with the difference that they have proved them using empirical corpora.

that metaphor deviates from a norm or is improper by definition; “only its use in particular contexts and modes of discourse may be”. Leezenberg also points out that referentialist views have dominated the literature until the mid-twentieth century and there are various recent authors who still defend it (cf. *ibid.* p. 71).

According to Leezenberg (2001), referentialist views have a number of distinctive characteristics which he sums up in three traits. The first trait is that they all stress a close correspondence between metaphor and simile or comparison. They do so “by either defining metaphor as an abbreviated or elliptical comparison, for claiming that the meaning of the metaphor is equal to that of the corresponding simile” (*ibid.*). An example of a metaphor to illustrate the identification of metaphors with similes is a metaphor like

(1) Man is a wolf. (Leezenberg (2001: 71)).

This does not mean that man is a wolf, but at most that man is “like a wolf”. So metaphor is seen as significantly weaker than a similarity statement. The reason Leezenberg (2001) gives is that a metaphor “implies rather than asserts a similarity” (*ibid.*).

The second characteristic of referentialist positions is that they have different referents that determine the interpretation of the metaphor. For example, this sentence *John is a lion* would mean in this context that John and the lion each share a property, for example bravery.

The first characteristic is that the expressions typically keep their literal reference when applied literally. At the same time, the reference determines the metaphorical meaning. This means that metaphors have had a double meaning, which consists of the literal meaning that serves as the basis and the figurative one that is derived from it. Somehow, both meanings are active. However, as Leezenberg points out, the precise relation between the literal and the figurative meaning remains unclear (cf. *ibid.* p. 72f). There are examples that show some problems of the referentialist view. The notion of similarity or comparison does not in any way explain or reduce the figurative aspect of metaphor. Comparisons may be just as figurative as metaphors themselves:

(2) Dictionaries are like gold mines. (Leezenberg (2001: 73)).

This cannot be simply explained by a property that dictionaries and goldmines share. This clearly shows that similarity cannot function as an explanatory notion. Similarity itself requires further analysis. Therefore it is legitimate to ask what theoretical advantage, if any at all, can be achieved by reducing metaphor to similarity. This is also shown by the following example:

(3) The chairman ploughed through the discussion. (ibid.).

Similarity, adding or removing the particle *like* help in no way to explain this metaphor. This clearly disproves the common assumption that metaphors can be explained as a comparison. In more general terms, *A is B* would be explained by *A is like B*, which is not the case here. Determining the literal meaning of a metaphor or explaining it by a comparison is impossible in the following three examples:

(4) John is a Don Giovanni.

(5) Sally is a dragon.

(6) Richard is a gorilla.

The reasons are that (4) and (5) do not have a referent in the sense of “a thing in reality” or a set of objects. In these two cases, the referents and their properties can hardly determine the metaphorical interpretation. As Leezenberg claims, there are “two ways out” (p. 74). Either, the referentialist can use what Leezenberg calls *intensional* in semantics. There, the properties of some possible object in some world determine the interpretation of the metaphor in the actual world. The other direction of the ‘way out’ would be claiming that this is not about objects and their properties, but rather about representations in features that are associated to them, which are involved in the assessment of similarities. These two different theoretical directions are both parts of theories that will be discussed below. The first alternative would bring the referentialist view closer to a descriptivist position, while the second would assimilate it to a conceptualist one. Example (6) shows that metaphorical interpretation often involves not the actual properties of the term that is used metaphorically, but rather the stereotypical properties that are commonly associated with it. In the example of *gorilla*, the properties *aggressive* and *violent* are associated with this animal although gorillas are actually shy and

sensitive creatures. So in this case, the metaphor is true, even though the corresponding comparison is false (cf. *Ibid.* p. 74f).

Another important objection against referentialist approaches is that metaphor often creates new similarities. Therefore, they cannot be explained as being based on already existing ones. According to Leezenberg, the similarities between the referents go far beyond physical properties that they objectively have. It is more likely that they come into being by human constructions and institutions. (cf. p. 75).

Leezenberg (cf. pp. 76f) concludes his remarks by stating that even recent statements have failed to meet the criticisms mentioned above. Similarity cannot serve as a notion to explain or reduce the figurative element in metaphor. Similarity itself requires further analysis. Furthermore, many metaphors are based on culturally based stereotypes rather than actual properties of referents. Leezenberg points out that he is not claiming that it is impossible to meet the theoretical challenges presented. However, that would probably imply changing a referentialist view beyond recognition.

The other direction in semantic approaches to be discussed here are descriptivist views. The crucial difference to referentialist views is that not the reference or extension of the metaphor determines the interpretation of it, but the sense or intension, the “descriptive information associated to it”, as Leezenberg (2001: 78) calls it. The descriptivist view bases metaphorical interpretation on the properties that are associated to the word or which are held to apply to it by the average member of a speech community; it does not involve the actual properties of the objects referred to (cf. *ibid.*).

The second key aspect of descriptivist theories is that metaphor involves a change in the meaning or sense and not just in the reference of at least one expression. For descriptivists, the metaphorical interpretation occurs on another level of meaning. It is the level of sense rather than that of the extension that plays the main role in interpretation. For example, the phrase *Man is a wolf* cannot be explained as determined by the sense of the expression *wolf* because this would lead to a false literal statement (*ibid.* p. 78).

The first feature that applies to all versions of a descriptivist view is the lack of emphasis on similarity as an explanatory notion. Rather, the opposite, namely

dissimilarity, is considered as the basis of metaphorical interpretation. In an approach similar to Aristotle, descriptivists tend to reduce simile to metaphor rather than vice versa, as Leezenberg points out. They are aware that similes need not be any more literal than metaphors. Therefore similarity plays a completely different role in referentialist and descriptivist theories. For the referentialist views, the similarity of the referents is the basis of metaphorical interpretation whereas descriptivist views see the lack of similarity, either the so-called logical position or semantic clash between the words as a factor that guarantees the recognition of the metaphor, as Leezenberg (2001: 79) points out. To return to the example with the wolf, the fact that literally man is not a wolf gives the reader the hint that the non-literal sense of the wolf is to be considered in the phrase *Man is a wolf*. Descriptivists see the interpretation as a transfer from the literal meaning to the non-literal meaning of a word. The recognition of the metaphor works in terms of the delivery of the meaning. The other typical trait of many descriptivist positions is the habit of seeing the notion of metaphor in a rather broad way, which means that various kinds of figurative language are included that were traditionally separated from metaphor, such as metonymy, simile and irony (cf. *ibid.*).

According to Leezenberg (2001: 79), there are a number of serious problems with descriptivist approaches. First of all, the feature that descriptivists have in common with referentialist accounts is assuming that there is a linguistic feature that distinguishes the metaphor from literal meaning, be it a logical clash, a category mistake, or a semantic anomaly (cf. *ibid.*). As Leezenberg (*ibid.*) points out, all of these are neither necessary nor a sufficient condition for a phrase or statement to be a metaphor. Not all metaphors consist of false statements and conversely, not all deficient sentences or false statements are automatically metaphors (cf. *ibid.* p. 80).

To disprove the claim that literal properties must be shared for a metaphor to emerge and to be recognized, Leezenberg (2001: 83) uses the following example:

(1) Juliet is the sun.

He points out that there are no properties that Juliet and the sun literally share because there are different kinds of properties for heavenly objects and adored human beings (cf. *ibid.*). Even the idea by Black (1962) and Beardsley (1962)– that cases like (1) involve “the addition or construction of new attributes” – does not

resolve this problem. The claim about the new attributes directly leads to the question what kind of entities these new associations are. Are they sets of descriptions, of properties, or of concepts? This remains unanswered in descriptivist theory.

Leezenberg's conclusion is that the main problem of descriptivist views is that they put too much emphasis on a 'defective' literal meaning as a criterion for recognizing a metaphor. The analysis of a metaphor in the descriptivist view would work in two steps: First, the incongruity of the literal is recognized. Then, as a second step, the hearer constructs the 'metaphorical sense'. This implies that the literal meaning always takes logical precedence over contextual factors. Leezenberg also stated that not all metaphors are semantically or linguistically anomalous hints at the notion that a metaphor is not a sentence type, but a sentence in context that receives a metaphorical interpretation. Therefore, Leezenberg's conclusion for semantic approaches (descriptivist and referentialist) is clear: "Likewise, the questions of precisely what a metaphorical sense is and how it can be novel remain unresolved." (ibid.).

2.4.2 Metaphor in Generative Grammar

Before dealing with pragmatic approaches, Leezenberg discusses metaphor in Generative Grammar. In the 1960s, metaphor was treated within the syntactic framework of Generative Grammar. Leezenberg points out that they "were never fully worked out, [...] interestingly foreshadow more recent developments." (cf. ibid. 94). This is the reason why it is worthwhile to discuss these approaches. Metaphor was located in performance (language use) and competence (grammar / rules), namely as grammatical deviance (cf. ibid.). Leezenberg (ibid.) uses the following example by Chomsky to illustrate this:

(1) Sincerity may frighten the boy.

This sentence (1) is seen as grammatically deviant because it violates the selection restriction, namely that the feature [+ ANIMATE] is assigned to the subject position for *frighten*. This selectional rule looks semantic, but is treated under syntactic phenomena, as Leezenberg (ibid.) points out. Another example would be applying *who* (restricted to persons) to things as in

(2) *The book who you read is a best seller.

These sentences that violate the selection restrictions are called semi grammatical because “they do not violate any strict [...] rules and are ‘analogous’ to well-formed sentences that do observe the relevant selection restrictions.” (ibid. p. 95). Consequently, the sentence can be interpreted in a metaphorical or another non-literal way. The deviance of selection rules is held to yield to a particular kind of deviance. Therefore, it might be seen as a criterion for the recognition of metaphor (cf. ibid.). However, there are also examples that cannot be explained or recognized as metaphorical in this way. Grammatically, there is nothing wrong with the sentence

(3) The rock is becoming brittle with age. (ibid.)

Instead of any kind of grammatical deviation to recognize this sentence as metaphorical, there can be a specific information and context for one possible metaphorical interpretation. One can be reached when *the rock* refers to a university professor. Therefore, Leezenberg comes to the conclusion that “extralinguistic factors like context and the actual referents, rather than violations of linguistic rules, [...] give rise to a metaphorical interpretation.” (ibid.). So similarly, to the results of his analysis of descriptivist and referentialist accounts towards metaphor, Leezenberg’s conclusion so far is also that the main criterion for deciding or recognizing metaphoricity is context and not the deviation from any kind of semantic, syntactic, or grammatical rules.

The problem that Leezenberg lists about the generativist approaches towards metaphor is that they fail to explain the process of metaphorical transfer.

“They also fail to relate the metaphorical interpretations systematically to the context of utterance, and to state consistently what exactly is being transferred: a feature, a property, or a linguistic expression.” (p. 96)

The other aspects that are problematic or missing in generativist approaches are the lack of context and more precise information on what happens in the process of metaphorical transfer and what exactly is transferred, as shown above. Leezenberg states that the approaches towards metaphor that use Generative Grammar with

their use of selectional restrictions have “disappeared quietly from the scene” (p. 97).

2.4.3 Semantics, pragmatics and their approaches towards metaphor

I will briefly define semantics in contrast to pragmatics and then raise the specific advantages and disadvantages of the corresponding approaches towards metaphor. Saeed (2003: 3) defines semantic as “is the study of the meanings of words and sentences”. Pragmatics, on the other hand, is defined by Cruse (2004: 14) as the study of meaning and functions of language that go beyond conventionalised lexical meanings, but nonetheless naturally occurring and recognisable in context. Pragmatics is concerned with researching which communicative purposes or objectives speakers (and hearers) are trying to achieve in their concrete discourse context. How can pragmatic approaches be related to the semantic approaches that were discussed previously? What are the specific disadvantages? The most important general claim of a pragmatic theory in contrast to a semantic one of a metaphorical interpretation is that “a single utterance of a metaphor does not yet lead to a change in the meaning of the words involved.” (p. 97). Instead of changing the lexical meaning of words, the semantic rules should be kept “simple, stable and compositional” and metaphor should be explained differently (cf. *ibid.*). Supporters of a pragmatic view are reluctant to consider the notion that a single utterance of, e.g., ‘man is a wolf’ can change the lexical meaning of *wolf* to include cruel human beings. At the same time, they do not see metaphor as a deviation from ‘proper usage’ or ‘saying one thing and meaning another’ (cf. *ibid.*). In pragmatic views, a pragmatic analysis always takes place. First, the hearer interprets a sentence literally and then there is a so-called ‘pragmatic reinterpretation’, as Leezenberg calls it, if the literal meaning seems to be odd, false, or unlikely to be true. A simple example is when a speaker utters ‘Man is a wolf’, which is a statement that is literally false. By doing so, the speaker intends, or means to communicate, something that can be true, namely that men (human beings) are cruel (cf. *ibid.*).

2.4.3.1 Definition of pragmatics and conversational implicatures

How does Leezenberg (2001: 98) define a pragmatic view? Leezenberg introduces pragmatic theory as a general theory of language use from the 1960s on that was crucially influenced and formed by Herbert Paul Grice and John Searle. The starting point of their analyses are utterances, which are defined as “full-blown speech acts, performed for a specific occasion for a specific speaker with specific communicative intentions” (ibid.). So both Grice (1989) and Searle (1970) see pragmatics, as opposed to semantics, as crucially involving the speaker, or more precisely, the speaker’s intention as a theoretical factor. Therefore, Leezenberg prefers to define pragmatics positively. He defines pragmatics as “dealing with regularities of language use that are guided by speaker’s intentions”. He prefers this definition to other, more negative definitions, such as the study of meaning minus truth conditions (pragmatics as the waste basket of semantics), or merely enumerating and studying factors like context dependence, speech acts, presupposition, implicature, etc. (cf. ibid.). Discussing Grice’s and Searle’s theories as examples of pragmatic approaches towards metaphor will enable us to find another potential answer to the question what kind of process is involved in metaphorical interpretation.

Grice’s theory of conversational implicature will be dealt with first with special reference to metaphor because Leezenberg (2001: 99) claims that this is one of the most influential attempts at a principled pragmatic theory. The first aspect that serves to clarify the nature of an implication is the difference between *and*, *or* etc. and their logical counterparts (‘ \wedge ’, ‘ \vee ’). Leezenberg (2001: 100) uses the following example to illustrate this:

(1) They married and had a child.

There, the meaning between the word *and* together with its logical counterpart ‘ \wedge ’ do not differ as such, i.e. what is being said. Here, the difference between what is said and what is implied becomes important. The *and* simply expresses that both events, *getting married* and *having a child*, took place. The implication of this, however, is that the child came after getting married, says Leezenberg. Another similar example is:⁷

⁷ This example was created by Prof Beate Henn-Memmesheimer and used in her introductory lecture to linguistics in 2003.

(2) Is Paul at home? – There is a blue VW parked in front of the house.

Actually, in a narrower sense, the person who answers this question doesn't even directly react to the actual question whether Paul is at home. Instead, the answer is given indirectly by an implicature. In this case, this could be statements like "When Paul is at home, the VW is parked in front of the house" and this implies "Paul always takes his car" etc.

A conversational implicature can be defined as inferences that are made based on the assumption that the speaker's utterances are in accordance with the overall goal of the conversation, e.g. supporting the other person, telling the truth etc. (see below).

2.4.3.2 Grice's Cooperative Principle

The basic assumption of rationality is called **Cooperative Principle** by Grice (1989: 26). Grice defines this principle in the following way: "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" (ibid.). The quotation shows that what is appropriate strongly depends on the context, for example on what has been said before. Grice does not give more information on what constitutes cooperative behaviour at a given stage of the conversation. Instead, he gives information about more specific assumptions of the speakers' behaviour in his four maxims (ibid.):

Maxim of Quality: Truth

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

Maxim of Quantity: Information

- Make your contribution as informative as is required for the current purposes of the exchange.
- Do not make your contribution more informative than is required.

Maxim of Relation: Relevance

- Be relevant.

Maxim of Manner: Clarity

- Avoid obscurity of expression. ("Eschew obfuscation")
- Avoid ambiguity.
- Be brief ("avoid unnecessary prolixity").
- Be orderly.

Strictly speaking, the answer in the example with Paul and the blue VW would violate the maxim of relevance. In a narrow sense, the implied information is not relevant to find out whether Paul is at home. However, just like an implicature is inference, the assumption what is relevant, true or what we have evidence for is, too.

What do these maxims express? Clearly, this is not how people actually communicate, as Leezenberg (ibid.) points out. Practically, people are always saying things that are untrue, irrelevant, or uninformative. Grice claims that his maxims are universal, not culture-specific (cf. ibid.). There are two possible ways to communicate using Grice's maxims. Either a speaker ensures to opt out of the Cooperative Principle, for example by lying or by choosing to violate one or more of these maxims in order to express something else. Then, the hearer might infer that the speaker wanted to express something else than what he said. This is how a conversational implicature comes to be. Grice (1989: 33) uses the example of a philosophy professor who writes a letter of recommendation for a student. There, he merely states that the student's English is excellent and his attendance has been regular. The professor is not opting out of the Cooperative Principle. Otherwise, he would simply not have written the letter. He just knowingly says less than is required in such a letter. Therefore, the reader would infer that the professor thinks that this student is not good at philosophy. Another interesting example by Grice (ibid.) are tautologies like *women are women* or *war is war*. These sentences are, according to Grice, totally non-informative and therefore infringe the maxim of quality in any conversational context. Of course, they are informative at the level of what is implicated. It depends very much on the hearer to explain and understand

this utterance. Leezenberg (2001: 102-104) gives more examples and explanations on conversational implicatures. Here, the focus will be on metaphor.

2.4.3.3 Grice on metaphor

Grice (1989: 34) sees metaphor as a particular conversational implicature, arising from the flouting of the first Maxim of Quality:

“Examples like *You are the cream in my coffee* characteristically involve categorical falsity, so the contradictory of what the speaker has made as if to say, strictly speaking, a truism; so it cannot be *that* that such a speaker is trying to get across. The most likely supposition is that the speaker is attributing to his audience some feature or features in respect of which the audience resembles (more or less fancifully) the mentioned substance.

It is possible to combine metaphor by imposing on the hearer two stages of interpretation. I say *You are the cream in my coffee*, intending the hearer to reach first the metaphor interpretant ‘You are my pride and joy’ and then the irony interpretant ‘you are my bane’.”

The first problem Leezenberg (2001: 104) sees in Grice’s theory of metaphor is the notion of a categorical falsity as a criterion to recognize metaphors. Leezenberg points out that Grice is careful enough to say metaphors characteristically show this categorical falsity. He does not say it is inherent to them. Categorical falsity means in this context that the literal interpretation of a sentence is false. According to logics, one counterexample suffices to disprove such a thesis – at least to disprove the assumption that it is true in all possible scenarios. Leezenberg (2001: 105) uses the following two example sentences:

(1) Life is not a bed of roses.

(2) Anchorage is not a cold city.

These two examples disprove Grice’s criterion of categorial falsity because they are also literally true. So here the question arises how they can be recognized formally – and not just intuitively – as a metaphor. (1) and (2) above are not in accordance with the Maxim of Quality because we can never be sure to have enough evidence for these statements. It still does not suffice as a criterion to recognize them as

metaphorical. Therefore, Leezenberg (2001: 105) points out that a flouting of the Maxim of Quality is neither a necessary nor a sufficient condition to recognize a metaphor. The reason why it is not a necessary criterion is that there are sentences that are literally true and a metaphor at the same time. A sentence that is not in accordance with the Maxim of Quality is not a sufficient condition either because it remains unclear how metaphors can be distinguished from other floutings of the same maxim, such as irony (cf. *ibid.*). Leezenberg wonders how Grice himself would proceed to recognize and distinguish a metaphor from other figures of speech. There are two possible ways to do this; one can either look at the context of the utterance or at the speaker's intentions. Leezenberg (2001: 105) says that Grice himself would most likely look at the speaker's intention and claim that they would differ between metaphor and irony. This again leads to the next two questions that remain unanswered: How can the hearer recognize these intentions? How can such intentions actually determine a metaphorical interpretation?

Two further points Leezenberg (2001: 107) criticizes in Grice's theory are illustrated here. First, Leezenberg classifies Grice's account as a "classical substitution view on metaphor" because of the way Grice explains the "You are the cream in my coffee" example, namely by having this utterance imply "You are my joy and pride", which means that one meaning is replaced by the other. Leezenberg also states that this leaves us with the problem of dealing with metaphors without any (obvious) literal paraphrase.

This also supports another point of criticism towards Grice's claims: "Grice's account *presupposes* a semantic analysis: we have to know the literal meaning of a statement and its literal truth value before we can attempt to reconstruct precisely what the speaker intended to convey by it." (*ibid.*). The main problem of this statement is that contextual factors are omitted. It is safer to assume that there is no one truth-value or meaning that is the first, only valid, real or literal meaning whereas others rank lower than assuming the opposite. Rather, context determines which meaning or truth condition etc. is the preferred one. The fact that contextual factors are not explicitly incorporated into the theory is seen as the main problem of Grice's theory (cf. *ibid.*). Rather, contextual factors determine the 'literal' semantic context of a sentence. Grice's account does not clarify what is 'literal meaning' or what is meant by the 'what is said' notion in more detail (cf. *ibid.*).

The conclusion by Leezenberg (2001: 118) is that metaphor does not seem to fit Grice's criteria for conversational implicature. Leezenberg claims that Grice's approach does not solve any semantic problems, such as recognising which meaning is literal and which is metaphorical. Instead, there is an additional level of interpretation, which does not add anything in terms of explanatory value. It merely presupposes than describes the processes necessary for both recognition and the interpretation of metaphorical language. Leezenberg sees no particular advantage from dealing with metaphors within Grice's framework. Later views that elaborate on Grice, which Leezenberg also discussed (pp. 108-117), do not come closer to solving the problem of dealing with metaphor within Grice's theory. The main objection Leezenberg raises against a pragmatic view on metaphor based on Grice is that metaphors do not seem to be determined by the speaker's intentions at all.

2.4.3.4 Searle on metaphor

Leezenberg (2001: 118) also discusses Searle (1979), for him "the second influential statement of a pragmatic approach to metaphor". What Searle shares with Grice is that he sees metaphor as "a matter of speaker's utterance meaning rather than word or sentence meaning". Searle's theory is classified as a "descriptivist version of a pragmatic approach", which is a major difference to Grice. Furthermore, Searle considers conventions to be of greater importance in the interpretation of metaphor. Searle elaborates the question about metaphor to the general question how any form of literal meaning works. His major question is between the "speaker's utterance meaning" and "word, or sentence meaning" where the first can be the new, different non-literal (metaphorical) meaning and the latter the original or literal meaning of words or sentences, as explained in Searle (1979: 93). Searle's approach towards describing the processes leading to metaphor in a detailed manner are evaluated positively by Leezenberg (ibid.): "Because of these attempts to describe precisely what happens in metaphor, Searle's work remains one of the valuable studies on metaphor, even if not all of his conclusions appear to be tenable." This quotation can be interpreted in the way that Searle's theory is very detailed and that it must have a certain potential to be useful and valuable as a frame of reference for the study of metaphor despite that Leezenberg does not agree with all its conclusions or assumptions. What makes Searle's theory different? Which are the specific advantages and disadvantages?

In general, Searle tries to generalize the question what metaphor is towards the question of what makes literal language, how a speaker can say one thing and intend to communicate something else. For Searle (1979: 93), metaphor is very much like other nonliteral uses of language, such as irony and indirect speech acts. He thinks that a metaphor can lead to change a word's meaning, but only diachronically, not synchronically: "to the extent that there has been a genuine change in meaning, so that a word or expression no longer means what it previously did, to precisely that extent the locution is no longer metaphorical" (1979: 100). The first problem about this quotation is the narrow definition of semantic change. The meaning of an expression could also be expanded by another meaning, which is also a change, but the consequence would not be that it "no longer means what it previously did". As Leezenberg (2001: 119) points out, Searle maintains a strictly synchronic perspective, which is needed for his strict separation between literal word or sentence meaning and metaphorical speaker's meaning. Leezenberg states that – even as an a priori meaning, this is not unproblematic. According to Leezenberg (ibid.), it implies that meanings are conventionalized and therefore no longer metaphors. This, however, clashes with Searle's own observation that metaphors may serve to fill lexical gaps and semantic needs and with the fact that he uses largely conventionalized metaphors to illustrate his principles of metaphorical interpretation (1979: 98). Searle does not give an actual argument why there cannot be metaphorical meaning at the level of sentence meaning. He gives what Leezenberg (ibid.) labels "a true but uninformative remark": "sentences and words have only the meaning that they have" (1979: 93). Leezenberg (ibid.) also discusses the example of *cut* together with *grass*, *cake* and *skin*. Are the meanings of *cut* really the same in all three different scenarios? How can it be ruled out that *cut* is seen as e.g. specifically linked to *grass* although uttered in a different linguistic context? These two questions remain unanswered by Searle.

The problem of recognition of a metaphor is that it is based on the assumption of anomaly or falsity of the sentence in its literal interpretation. Therefore, Leezenberg (2001: 120) criticizes Searle as being "even less factual than Grice". The defectiveness of the literal interpretation of the utterance is seen as the trigger for the hearer to look for a non-literal (speaker's) meaning. This defectiveness is defined by Searle as "obvious falsehood, semantic, nonsense, violations of the rules of speech acts or violations of conversational principles of communication" (1979:

114). As shown above (p. 27), this in itself is neither necessary nor sufficient to distinguish metaphor from literal meaning. Therefore, Searle relativizes his claims and says that the criterion is that there must be shared strategies, which allow the hearer to recognize whether an utterance is not intended literally (cf. Searle (1979: 120)). It remains unclear why the hearer should interpret an utterance in a metaphorical way and not in another literal meaning and how this can be recognized. All of these questions remain unanswered by Searle (cf. Leezenberg (2001: 121)). The conclusion Leezenberg (2001: 123f) has about Searle's approach is devastating. Searle's analysis, Leezenberg claims, marks no real advance over its pragmatic rivals. The most problematic aspect here is that Searle "holds on to the assumption that the conveyed meaning can always be expressed in literal terms" (ibid.). At the same time, Leezenberg says that the nature of their theories forces both Searle and Grice to do so because if they used a nonliteral implicatum or speaker's meaning to explain metaphorical utterances, their accounts became circular. Leezenberg sees pragmatic accounts as boiling down to "sophisticated restatements of substitution view that the speaker says one thing and means another in uttering a metaphor." (ibid.). Merely accepting that some metaphors cannot be rephrased would suffice to reject a strictly pragmatic approach, says Leezenberg. The problem both Searle's and Grice's approaches have is that they see the metaphorical interpretation as 'secondary meaning' i.e. derived from false or anomalous literal meaning.

2.4.3.5 Conclusion on pragmatic metaphor theory

Leezenberg's (ibid.) explanation of where this originates will also conclude this section on pragmatic approaches in metaphor theory:

"In essence, their difficulties arise from their uncritical acceptance of the folk theory of literal meaning and of the romantic view that metaphor is essentially different from literal language. Metaphorical meanings attach to sentences in context rather than to sentence types or utterances." (ibid.).

In conclusion, this quotation shows that – according to Leezenberg (ibid.) – the pragmatic views on metaphor are based on false assumptions,⁸ the "folk theory" of

⁸ Regarding false assumptions on literal meaning, Lakoff (1993: 204) lists quite a few, among them the assumption that lexicon, grammar rules etc. are all literal, which allows the reader to

literal meaning and the “romantic” view that literal meaning is essentially different from metaphorical meaning. These assumptions in connection to literal meaning are simply wrong because comparisons or ‘literal’ paraphrases can also be metaphorical. For example, one can say that somebody was *fired* and if another person asks what that means, a colloquial paraphrase could be that he got *kicked out* of the company. Thus, a metaphorical expression can be explained using another one. One metaphor can be the so-called ‘literal’ paraphrase of the other.

Now, after the overview of twentieth-century metaphor theory up to conceptual metaphor theory, conceptual metaphor theory will be discussed. It will be discussed in detail, focussing on Lakoff and Johnson (1980), because, as it will be further explained below, this is the seminal publication that popularised cognitive metaphor theory. Other views, including their own most recent comment on their metaphor theory from 2003, will be included.

2.5 Lakoff and Johnson (1980): Conceptual Metaphor Theory

In this section, the work of Lakoff and Johnson (1980) will be discussed. The definition of metaphor will be introduced as well as which functions they assign to it. After having given a general overview how Lakoff and Johnson (1980) see metaphors and their functions, there will be a special reference to truth, reality, their “experientialist” philosophy and other epistemological implications. The second part of this section will deal with potential problems and limitations of these views. More recent comments from the authors will also be considered. They are given in afterword of a 2003 edition of Lakoff and Johnson (1980). The question to what extent this theory is relevant for a corpus-based analysis of metaphors will also be discussed. Other details, such as more examples of conceptual metaphors, metonymy and how they can be classified will also be discussed.

2.5.1 Cognitive functions of metaphor

The first question to deal with in this context is why metaphor is relevant and in which context. Lakoff and Johnson (1980) claim that for most people, metaphor is

see the whole idea of literal meaning in a new light and reconsider it. Lakoff (1993: 238f) also has a section about Searle that mainly contains the observation and criticism of the assumption that every-day, conventional language is literal. Regarding this point, Lakoff is in accordance with Leezenberg.

linked to “the poetic imagination and the rhetorical flourish—a matter of extraordinary than ordinary language.” (p. 3). This is the first of the two major claims on which Lakoff and Johnson (1980) base their monograph and seminal study, *Metaphors We Live By*. Metaphor appears in the opposite of the context it is expected to appear by most people, in everyday language in contrast to poetic discourse and rhetoric. Lakoff and Johnson (1980: 3) express this in the following way:

“We have found, on the contrary, that metaphor is pervasive in everyday life, not just in language but in thought and action. Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphorical in nature.”

The claim that the conceptual system, which is vital for the way we both think and act is fundamentally metaphorical is further expanded by the concepts that, according Lakoff and Johnson (1980), “govern our everyday functioning”. This is further outlined:

“Our concepts structure what we perceive, how we get around in the world, and how we relate to other people. Our conceptual system thus plays a central role in defining our everyday realities. If we are right in suggesting that our conceptual system is largely metaphorical, then the way we think, what we experience, and what we do every day is very much a matter of metaphor.” (ibid.)

While this quotation emphasized the vital importance of metaphorical concepts for the way we think act and relate to other people, they also point out that people are normally not aware of this fact. They claim that in everyday life, people “think and act more or less automatically along certain lines.” (ibid.). What these are, they claim, is “by no means obvious”. So far, there are concepts that are vitally important for communication and for how people act in everyday life. At the same time, the question arises how they can be revealed. That is the second claim by Lakoff and Johnson (1980): 3f:

“Since communication is based on the same conceptual system that we use in thinking and acting,

language is an important source of evidence for what that system is like.

Primarily on the basis of linguistic evidence, we have found that most of our ordinary conceptual system is metaphorical in nature. And we have just found a way to begin to identify in detail just what the metaphors are that structure how we perceive, how we think, and what we do.”

This quotation explains why analyzing linguistic evidence is important. It’s the only form of evidence people can get to uncover the workings of the human mind. What happens inside is simply not accessible by any other way than accessing and analyzing its output: concrete linguistic utterances.

Lakoff and Johnson (1980) concretize their theory by a concrete example of a conceptual metaphor: ARGUMENT IS WAR. Their examples (ibid. p. 4) are (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.
- (5) I've never *won* an argument with him.
- (6) You disagree? Okay, *shoot!*
- (7) If you use that *strategy*, he'll *wipe you out*.
- (8) He *shot down* all of my arguments.”

As Lakoff and Johnson (1980) claim, their examples, which are quoted above, concretely show how “metaphor is reflected in our everyday language by a wide variety of expressions”. Lakoff and Johnson (1980) claim these examples show that the way the war terminology (which they italicized) is used goes far beyond talking about arguments in terms of war. They claim that we can actually win or lose an argument, attack other positions, defend our own, use strategies or change our lines of attack (cf. p. 4). Although there is no physical battle, Lakoff and Johnson

(1980) claim that there is a verbal battle which is reflected by the structure of an argument that consists of an argument that is attacked, a defence, a counterattack etc. Lakoff and Johnson (1980) conclude by stating that “It is in this sense that the ARGUMENT IS WAR metaphor is one that we live by in this culture; it structures the actions we perform in arguing.” (ibid.).

2.5.2 Lakoff and Johnson (1980)’s definition of metaphor

Before Lakoff and Johnson (1980) formulate the second major claim of their seminal study, they provide their definition of metaphor in their context, conceptual metaphor theory (p. 5, italics in original):

“The essence of metaphor is understanding and experiencing one kind of thing in terms of another. It is not that arguments are a subspecies of war. Arguments and wars are different kinds of things—verbal discourse and armed conflict—and the actions performed are different kinds of actions. But ARGUMENT is partially structured, understood, performed, and talked about in terms of WAR. The concept is metaphorically structured, and, consequently, the language is metaphorically structured.”

Lakoff and Johnson (1980) explain their definition of metaphor together with the examples of the concepts ARGUMENT and WAR. They mainly state that there are two different categories of “things”, in this example argument and war. A metaphor essentially means for Lakoff and Johnson (1980: 5) that one “kind of thing” is understood and experienced, not just expressed, by “another”. They emphasize that the concept and the language are metaphorically structured and that the metaphor goes far beyond the mere words and that is the very concept of e.g. an argument. Lakoff and Johnson (1980)’s argument is that arguments are talked about in terms of war because they are conceived “that way” and, consequently, people act according to the way they conceive of things (cf. ibid. p. 5).

The second important claim is expressed in the following quotation:

The most important claim [...] is that metaphor is not just a matter of language, that is, of mere words. We

shall argue that, on the contrary, human *thought processes* are largely metaphorical. This is what we mean when we say that the human conceptual system is metaphorically structured and defined. Metaphors as linguistic expressions are possible precisely because there are metaphors in a person's conceptual system. Therefore, whenever in this book we speak of metaphors, such as ARGUMENT IS WAR, it should be understood that *metaphor* means *metaphorical concept*. (p. 6).

This quotation serves to summarize Lakoff and Johnson (1980)'s second important claim, namely that human thought processes are largely metaphorical. Moreover, they emphasize that they use a much wider meaning of metaphor. They mean *metaphorical concept*, which reminds of a concept in cognitive semantics, a mental representation of a category (see Löbner (2003: 257)). The most important part of the ideas of Lakoff and Johnson (1980) is the fact that one metaphorical concept, e.g. ARGUMENT IS WAR, can stand for hundreds of concrete linguistic metaphors, i.e. expressions like *defending one's argument* etc. Hence, metaphors reflect how we think and conceptualise things.

2.5.3 Other researchers on cognitive metaphor theory

The relevance of cognitive metaphor theory following Lakoff and Johnson (1980) is indirectly supported by Alice Deignan, who terms Aristotle's position as discussed in the paragraphs above (2.1) the "decorative" view of metaphor, see Deignan (2005: 2). Research into metaphor was mainly done into those that are considered to be "novel and creative" (cf. *ibid.*). Deignan explains to what extent the decorative approach towards metaphor is not sufficient. Her two main points are underlying patterns in the usage of metaphors and the frequency of conventional metaphors (cf. *ibid.* p. 3f). One example quoted by Deignan is the expression of a business that *blossomed*. Many expressions like e.g. to *cultivate* are used metaphorically to describe situations in business, which undermines the decorative view towards metaphor because the use as illustrated by the business examples suggests underlying patterns that go far beyond singular occurrences of creative, innovative and decorative use of language. The other problem of the decorative approach that Deignan points out is the fact that conventional metaphors are highly frequent and therefore virtually ubiquitous and that at the same time, they go unnoticed. As

Deignan emphasized, this frequency and the fact that these metaphors are "so much the fabric of language" is "immediately apparent once the text is systematically analysed for metaphors." (p. 4). At the same time, Deignan states that this fact is difficult to explain or understand if metaphor is seen as a peripheral linguistic phenomenon, a mere exception of a decorative view of metaphor, which would not suffice to explain how metaphors have influenced thought. Deignan (2005), (2006) is also important because she is one of many researchers who does not only theoretically support cognitive metaphor theory, but also proves the underlying metaphorical patterns mentioned by using corpus methods.

2.5.4 Criticism of Cognitive Metaphor Theory

The two main problems, as outlined from Leezenberg (2001: 135) on, are that Lakoff and Johnson (1980) do not clearly name the theories they criticize, including the 'objectivist' view they attack and that they fail to make their 'experientialist' alternative theory clear enough. As Lakoff and Johnson (1980) do not state which theories they are actually attacking, Leezenberg has to clarify it. They are criticizing 'objectivist' semantics, which are, according to Leezenberg (2001: 135), theories that try to capture meaning in terms of such notions as truth conditions and reference and they also criticize 'objectivist' views on metaphor. Leezenberg (ibid.) states that Lakoff and Johnson (1980) are most likely to refer to theories by Grice, Searle and Davidson.

Another problem that Leezenberg (2001: 138) gives is that Lakoff & Johnson do not define central notions, such as *meaning*, *culture*, *rationality*, and *imagination*. If they are defined, then the definitions are what Leezenberg calls "careless". For example, Lakoff and Johnson (1980: 12) discuss the sentence "We need new alternative sources of energy.". They say "This means something very different to the president of Mobil Oil from what it means to the president of Friends of the Earth." However, they fail to list the different meanings and what concretely these words are supposed to mean to the parties involved. This was used by Lakoff and Johnson (1980: 12) to illustrate that context is important because it depends very much on who says what on which occasion to find out what a sentence or word means. This directly leads to the next problem that Leezenberg (2001: 139) gives: the actual process of recognizing and interpreting a sentence as metaphorical. It is only clear what Lakoff and Johnson (1980) reject. They reject the 'objectivist' views

that the 'literal meaning' must be defective or the meaning must deviate from it. They do not offer any clear alternative. Their own example, quoted from Lakoff and Johnson (1980: 16), can be used to illustrate this:

(1) She has high standards.

This sentence can be interpreted either literally or metaphorically. It can be a statement about the standards this person stacks her compact discs or about her moral norms. Lakoff and Johnson (1980) mention contextual factors, but according to Leezenberg (2001: 139), they do not even attempt incorporate such factors into their theory systematically. The final problem, as outlined by Leezenberg (2001: 147), is that the theory of experientialism by Lakoff and Johnson (1980) suffers from a noteworthy epistemological problem. If meaning is based on experiences that are internal to the human organism (bodily experiences), how can it be assured that the meaning of one individual resembles the meaning of another? How and where are concepts or representations based? This remains open as well. Leezenberg's explanations and his criticism of conceptual metaphor theory / cognitive semantics were published in 2001. How can the views of Lakoff and Johnson (2003) be related to Leezenberg's view and other problems or criticism of conceptual metaphor theory – or cognitive semantics – as Leezenberg refers to it?

Lakoff and Johnson (2003: 264) begin their section labelled "Some Corrections and Clarifications" by dealing with the distinction between orientational, ontological and structural metaphors. Now, they give up this distinction because they consider it to be "artificial". The reason is:

"All metaphors are structural (in that they map structures to structures); all are ontological (in that they create target domain entities); and many are orientational (in that they map orientational image-schemas)." (ibid.).

So all conceptual metaphors fulfil all of the three functions mentioned in the quotation above. Therefore, the definition was unnecessary or "artificial", as they labelled it. The other aspect Lakoff and Johnson (2003: 264f) criticise is the order in which target and source domain appear, which they call the "profundity of primary metaphor". As an example, the analysis of ARGUMENT IS WAR is given. They state that many readers have correctly observed that most people learn about arguments

before they learn about war. Nowadays, their explanation is different. They state that this metaphor originates in childhood with the primary metaphor ARGUMENT IS STRUGGLE. In general, children struggle with their parents physically. The physical structure is accompanied by words as language is learned. That is the basis for the primary metaphor ARGUMENT IS STRUGGLE. As they grow up, experience has taught them more extended and violent struggles like battles and war, and the metaphors are extended because of that knowledge (cf. *ibid.*).

Another type and direction of criticism has been formulated by Rolf (2005: 241). Rolf emphasises from a theoretical point of view that conceptual metaphors are subject to cultural relativity and doubts that they are in the cognitive system. He claims that conceptualisations take place in our cognitive systems and that metaphors would hence be mere linguistic descriptions that compliment what happens in our cognitive systems. While Rolf's emphasis on cultural relativity can be supported, it is not possible to finally determine at what level in the human mind conceptual metaphor or other conceptualisations take place. The human mind has to be seen as a black box and hence cannot be directly explored, only speculated about. This is particularly not possible in linguistics in contrast to neurosciences that have technological means of visualising areas of the human brain. Even with such equipment, it is not easily possible, if possible at all, to determine where in the human brain conceptualisations and conceptual metaphors take place.

2.6 Overall Theoretical Definition of Metaphor

I will now revisit some theoretical reflections on the nature of metaphor, which will culminate into formulating a working definition of 'metaphor' at the end of this section. The main theoretical base will be 'conceptual metaphor theory with a long footnote and many amendments'. This will be done based on the results of the review of different theories of metaphor. For describing language and hence analysing corpus data, as well as in discourse studies in general, cognitive metaphor theory as based on Lakoff and Johnson (1980) proved to be useful for the present study. This is the case because to a certain extent, the original form of conceptual metaphor theory, as introduced by Lakoff and Johnson (1980) is already capable of dealing with large data sets that consequently lead to a vast amount of individual expressions to analyse. All utterances that are concrete realizations of a conceptual metaphor can be subsumed under a formula that is spelt in capital letters, such as

RESEARCH IS A JOURNEY. This is one way of structuring findings in a vast, unstructured amount of linguistic data. The theoretical change in contrast to the original theory from 1980 has to be made as far as linguistic evidence is concerned. We do not know too much about what really happens inside people's minds. Hence, observations from outside, which are based on actual language use, allow the researcher to formulate theories about language as use from a 'bottom-up' perspective and not a 'top-down' view that sees language as a fixed set of rules with numerous exceptions. This system (approaches by Chomsky (1972) that are based more on introspection and the formulation of rules and less on the observation of patterns) imposes a certain view whereas the observation of patterns is more flexible. There can be various contradicting patterns, which are not seen as exceptions or irregularities.

Besides conceptual metaphor theory and metaphor, semantic and pragmatic approaches are important as well. Semantic approaches help in synchronic descriptions e.g. when an analyst wants to know what a word means at this moment in a certain context. This will then be compared to a so-called 'basic meaning' to help the researcher decide whether something is a metaphor, as Pragglejaz (2007) suggest.

Pragmatic theories of metaphor are important because they add the fact that how language is used beyond lexical meanings is sometimes crucial. A question like *can you do XX* can be used as a request or a genuine enquiry, as discussed by Grice (1989). These are the two more practical directions that were added to the overall theoretical discussion of the view towards metaphor that are used in this PhD project.

In summary, the working definition of *metaphor* is two-fold: First, there is the side of conceptual metaphor theory, based on Lakoff and Johnson (1980). Metaphor is more than merely a matter of individual words or sentences. It is a mapping from source to target domain that serves as a whole system of structuring words, thoughts and actions. It is a formula of how concepts are perceived or experience, a matter of thought, more than a matter of language. This formula is the so-called **conceptual metaphor**. The latter, however, cannot be found directly in the data, but needs to be formulated and hence constructed based on concrete expressions that constitute the metaphor, which are referred to as **linguistic metaphors**.

The second part of this working definition is based on Pragglejaz (2007). While cognitive metaphor theory allows us to reconstruct how metaphors are used to conceptualise different entities, MIP allows us to perform the first step, the basic requirement of any work with metaphor: Recognising and identifying it based on a standardised procedure. Here, a metaphor can be summarised as one or more lexical items that display a contextual difference or derivation from a so-called basic meaning, which is a meaning that can be verified by using a dictionary. This can be historically older, related to bodily action, or physically more concrete in general. Hence, a metaphor can be identified by identifying the basic and contextual meaning and by comparing these two meanings. If these two meanings differ, then a metaphor has been found. This part of the definition is more of a contextual variable than a 'hard' definition.

Furthermore, the etymology of the term 'metaphor' will also be taken into account in this working definition. Etymologically, metaphor meant 'transport' or 'to carry something away' in Greek. This can also be seen as a hint in favour of cognitive metaphor theory because metaphorical meaning and movement, embodied physical experience, are etymologically connected.

Besides the longer version above, the shorter version of a working definition of 'metaphor' will be formulated: Metaphor consists of one or more lexical items that can be recognised in their discourse context by having a contextual meaning that deviates from a basic meaning by being historically older, by involving bodily action or by being otherwise physically more concrete. Metaphors are mapped from a source onto a target domain. This mapping is called a 'conceptual metaphor' and is supported by many 'linguistic metaphors'. A conceptual metaphor enables us to reconstruct in what terms people conceptualise their surroundings and hence how they think.

3 Spoken Academic Discourse

Before research literature on 'spoken academic discourse' can be discussed in this chapter, it is necessary to define the notion of 'spoken academic discourse'. This notion will be broken down into three aspects that are expressed in the form of questions. The first question is "What is discourse?"; the second question is "What is spoken discourse?"; finally, the question "What is academic discourse?" will be discussed. Sometimes, the different aspects are related and cannot be distinguished very sharply.

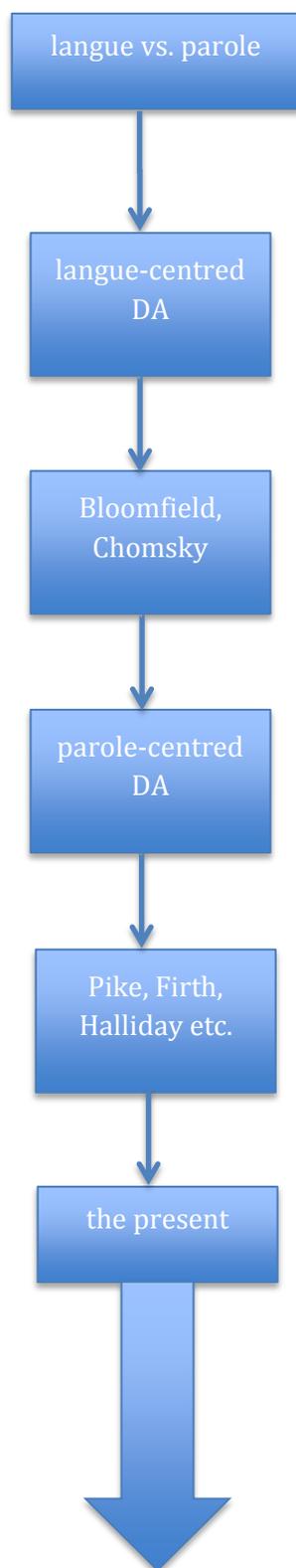
The following section will discuss why the term 'discourse' was developed at all, and which theoretical directions and factors such as context, are parts of it. The theoretical discussion will include units into which discourse can be sub-divided, such as utterances and genres. These units will be defined and how they relate to discourse as a whole will be discussed.

3.1 On 'Discourse'

This section discusses different approaches towards the notion of 'discourse' and will culminate in a working definition of 'discourse'. Even though the focus is on theoretically defining 'discourse', various theories on 'discourse analysis' will be discussed because different these different approaches towards discourse analysis are all based on different notions of 'discourse'.

3.1.1 Historical overview

First of all, when defining discourse, some historical aspects have to be taken into consideration. Discourse studies and hence the notion of 'discourse' connected to it were primarily seen as analysing spoken interaction in sociolinguistic studies in the 1970s, see Ventola (2001). The other discipline that focused on written language was called *text linguistics* (cf. *ibid.*). From the 1970s onwards, DA (discourse analysis) studies started to develop as an independent discipline. Ventola (*ibid.*) says that this could have happened earlier if the de Saussurean distinction between *langue* and *parole* had not been used as a dividing factor. For this reason, linguists influenced by Saussure et al. (1983) concentrated only on the side of *langue* and hence developed a direction in linguistics that focused on introspective theorising about how language as a system is produced without taking the other side, *parole*, the discourse side, into account. Linguists who shaped and followed such a direction were e.g. Bloomfield (1935) and Chomsky (1965), (1972).



One of the first American linguists, who was interested in links between verbal and non-verbal behaviour and culture was Pike (1954). For him, language behaviour were *chunks*, which were behaviorimes that were recognisable to members of the respective culture. This anticipates later pragmatic theories e.g. Speech Act Theory, which was discussed above in chapter 2 (section 2.2), in relation to metaphor theory.

While the developments above were in progress, another theoretical direction evolved in Britain. This perspective focuses on language in its situational and cultural contexts, see Ventola (2001: 980), Firth (1957), Firth and Palmer (1968) and Mitchell (1957/75). Firth has similar views to Mitchell, who both see meaning as constructed by interacting participants. Firth (1957) emphasised the “renewal of connection in experience” (p. 175) and that language analysed “should be related to an observable and justifiable grouped set of events in the run of experience”. Consequently, Firth (ibid.) promotes the systematic analysis of authentic discourse data (written and spoken) and how it relates to situational and cultural contexts (cf. ibid.). As Ventola (ibid.) points out, these aspects are the focus of present-day DA.

Figure 1: Visualisation of the development of DA

Figure 1⁹ summarises the previous longer section as part of defining ‘discourse’. Beginning from Saussure’s distinction between *langue* and *parole*, there were two subsequent developments in linguistics that contributed to different views of what ‘discourse’ comprises of. The diagram is not necessarily chronological, but is meant to illustrate that more langue-centred introspective views of language as a system with rules, e.g. Bloomfield and Chomsky initially dominated. Pike, Mitchell, Firth, and others followed who contributed different views towards language, which is

⁹ The visualisation is my own; the chronology stems from Ventola (2001) and was adapted for this study.

relevant for defining 'discourse', namely that it is social interaction that depends highly on its participants, settings, and other contextual variables.

As the vast amount of discourse-related research literature cannot be reviewed here, some central discourse-analytic schools from the English-speaking world, beginning with Britain and North America will be discussed. In Britain in the 1970s, there are different schools that continued the Firthian notion of contextual language studies. Halliday (1979) and what became systemic functional grammar later, see Halliday (1985), combines its contextual aspects into a theory of register and the meta functions of language (ideational, interpersonal and textual) and their systematic correspondence to situational variables of Field (what is being talked about), Tenor (participant relations) and Mode (the communication channels), see also Ventola (2001: 981). A major step in the analysis of spoken discourse was the study of recorded classroom discourse by Sinclair and Coulthard (1975). In this work, discourse was seen as a separate analytical level (in respect to language and situation) and consisted of its own ranks: *acts, moves, exchanges, transactions, lessons*. The units at each rank were further classified functionally, e.g. moves were *Initiations, Responses, or Follow-ups* (see also Ventola (2001: *ibid.*)). According to Ventola (*ibid.*), the work from Coulthard (1975) has influenced contextually-oriented and applied linguistics in the 1970s and 1980s in Britain. The 'Birmingham School' ensured that the notion of 'discourse analysis' spread worldwide.

Some more discourse-analytic schools have developed in the USA in the 1970s. An increasing number of linguists rejected Chomsky's notions of ideal speakers and hearers with perfect or ideal linguistic competences and also his view on language and communication, namely that context did not matter (cf. Ventola *ibid.*). Another important development in discourse studies was a sociologically oriented *ethnomethodological approach*. In this approach, such traditional sociological concepts as 'crime', 'sexuality', 'class', 'power', etc. are not to be seen as a priori categories, but 'detectable', 'seeable', or they otherwise emerge from the data (cf. Ventola *ibid.*). One direction in ethnomethodology that specialises on the analysis of 'talk' is conversation analysis (CA). CA will be discussed in detail in section 4.3 and not here, because CA is one of the major methodological approaches for this study. Another school with a distinctive research direction is research that combines pragmatics and philosophy, e.g. Austin et al. (1975), Searle (1971), (1970), (1979) or

Grice (1989).¹⁰ Why is pragmatics important for DA and what is the overall notion that can be associated to all pragmatic research? Both the importance and main idea that characterises all pragmatic research is that language is seen as action, not as mere words. A speech act has illocutionary force (what is done when something is said). This is different from its locutionary force (the act of saying). Besides, a speech act has perlocutionary force (what the effect of the illocution is), see also Ventola (2001: 983). The scholars, who published seminal work in pragmatics focused on different aspects. Searle (1970) looked at indirect speech acts (implicatures), see section 2.2. Grice (1989) has formulated maxims of cooperation for an ideal (not naturally-occurring) form of communication (see section 2.2). The assumption that communication and hence dialogicity can be seen independently of their respective context is criticised by Blommaert (2005) in the paragraphs that follow this overview of DA-related schools.

3.1.2 The role of context in discourse

Which role does context play in discourse? Language and hence discourse cannot be defined independently from social criteria, see Blommaert (2005). Therefore, “there is no such thing as ‘non-social’ language”, see Blommaert (2005: 10). Any utterance e.g. in spoken discourse conveys some additional sociolinguistic information e.g. one person speaks with a particular accent, reveals their gender and age, is in a particular situation and the utterances are produced in a format that has a certain gender (cf. *ibid.*) Blommaert (*ibid.* p. 11) points out that it is one of sociolinguistics’ great accomplishments that the notion of a uniform and homogeneous ‘language’ e.g. ‘English’ or ‘German’ was replaced by a fragmented one. ‘Fragmented’ means that a language is not monolithic, but falls into dialects, is influenced by sociolinguistic variation. Also, sociolinguistics has explained why this fragmentation is necessary. This can be illustrated when looking at different natures of meaning. Saussurean and Chomskyan traditions were based on the assumption that sentences produced by very different people – men, women, all ages, professions or regions could still be understood by different people. The conclusion from this fact was that there must be a ‘stable’ core of pure meaning or ‘deep structure’ that remains constant regardless of context, of how or by whom

¹⁰ These scholars have been discussed in detail alongside other pragmatic research literature in section 2.3 with special reference to metaphor, which is why they will not be discussed in a more detailed way here. Here, I will only explain to what extent these scholars form a school of DA.

sentences or utterances were produced (cf. *ibid.*). Silverstein (1977: 140) describes this assumption in the following way: “[s]urface structures are ‘the same’ at the underlying level when they achieve ‘the same’ referential effect in all of these instantiations”.

Referential or denotational, so-called ‘pure’ meaning is only one part of language. There is also indexical meaning i.e. social meaning that connects what is being said to the social occasion in which it is produced. Blommaert (*ibid.*) uses the example of addressing somebody by saying *sir*. This expression refers to a male individual, but indexes a particular social status and role relationships of deference and politeness in connection with social status. Indexicality reveals utterances as being made by a man or woman, old, young, or part of a particular group or region (cf. *ibid.*). Besides, people make character judgements about the way something is uttered e.g. whether the utterances are ‘arrogant’, ‘funny’, ‘serious’, ‘self-conscious’, or ‘business-like’. Every utterance reveals something about its pragmatic function. “Is it serious or banter? Is this an anecdote, joke, an order, a request?” (*ibid.*). All of these aspects lead to the conclusion that a sociolinguistic notion of ‘meaning’ is very complex and rich because it includes ‘pure meaning’ alongside ‘social meaning’. This complex concept of meaning is essential to any form of discourse analysis and problematic at the same time. This makes discourse analysis far more complex because it goes way beyond the mere linguistic aspects of communication towards its contextual aspects.

3.1.3 The importance of sociolinguistic variation

A second major concern of sociolinguistics is the distribution of linguistic resources in society (cf. *ibid.*). Seminal are William Labov’s studies on sociolinguistic variation in New York, see Labov (1966) and (1977). Labov has found that features that might be uninteresting or unimportant at first sight can reveal important information about the sociolinguistic background of the speaker. For example the presence or absence of the [r] sound e.g. in ‘fourth floor’ followed a pattern. It systematically differed based on the social background of the speakers. Tiny features are indexes of social stratification (cf. Blommaert *ibid.*). Therefore, not everyone in New York spoke the same ‘English’ and this finding was important because it revealed information about the people’s social background, identity and about the organisation of social structure in general (cf. *ibid.*). Hence, there is not one homogeneous and monolithic notion of ‘language’ or ‘discourse’. Instead, we look

at a collection of varieties and these varieties are distributed differently because no two human beings – even those that speak the same ‘language’ – have the same complex of varieties (cf. *ibid.*).

After having highlighted the importance of social criteria with the help of the example of sociolinguistics, the focus will be on the notion of ‘context’. As Blommaert (*ibid.* p. 40) points out, no kind of analysis can be performed without also analysing context. In order to clarify the importance of context, John Gumperz’ seminal notion of ‘contextualisation’ will be defined. It “comprises all activities by participants which make relevant,, maintain, revise, cancel [...] any aspect of context, which, in turn is responsible for the interpretation of an utterance in its particular locus of occurrence” (Auer and Di Luzio (1992: 4)). This notion was developed by Gumperz in order to explain how people ‘understand’ interaction. Any aspect, e.g. an implicit meaning, such as a non-verbal cue e.g. a gesture that was generated at the time an utterance was made is part of its context and will hence have influence on how people understand an utterance, together with the whole place and situation when it was uttered. Of course, contextualisation can also be problematic. Utterances can be ‘misplaced’, i.e. contextualised differently than intended, and cause misunderstandings, conflicts, or breakdown of communication (cf. Blommaert *ibid.* p. 42). An example of such a misunderstanding from my own experience as a schoolchild is the following situation: A group of students is standing in the corridor of the school and is waiting for the teacher. One student tells the others in a very lively manner about his encounter with a cow on a farm. Towards the end, he loudly utters “And there is the cow!” This coincides with a female teacher walking by, who takes offense and at first does not want to believe the students that this statement was not referring to her. In this example, we see that an utterance has been recontextualised by an involved person, the teacher, which caused a misunderstanding and problems for the students. In this situation, the power asymmetry between students and teachers also played a role e.g. if the teacher had complained to the head teacher about the students’ behaviour. The power asymmetry also plays a role for the necessary extensive damage repair and explanation work. The students have to make a harder effort and have to be more polite to reach the teacher, who is their superordinate than compared to apologising to one of their fellow students. The situation between students and teachers has escalated and has become embarrassing and threatening for both

sides because of a mismatch between text (parts of the student's story) and context (the whole situation, of which the teacher becomes part as she walks in). Something can only be understood in a particular context. In the example above, the lexical meaning of cow shifted from 'cattle' to 'offensive word for a woman' because the utterance fitted into the context in a particular way. The structure of the whole event has influenced how meaning was (mis-)contextualised, not only the pure lexical or denotational meanings of words (cf. also Blommaert *ibid.* p. 43).

A contextualisation is dialogic in its nature. The meaning of utterance does not solely depend on the speaker, but also on the uptake by the hearer (cf. *ibid.* p. 42). The fact that communication is dialogic is accepted by all discourse analysts e.g. Bakhtin et al. (1986 [reprinted 1996]) and Kristeva and Moi (1986). The meaning of an utterance depends on a "responsive understanding of the hearer" (cf. Bakhtin et al. (1986 [reprinted 1996]: 125)) and also evaluation, an active construction of meaning. The meaning of an utterance is hence determined in a dialogical manner, which means that it is a product of two or more minds (cf. also Blommaert *ibid.* p. 44). At the same, the dialogicity is not unrestricted. Blommaert (*ibid.*) lists three problems that reduce the scope of dialogicity. First, dialogue does not presuppose co-operativity. The prototype of a 'dialogue', is a folk category i.e. the notion that ideas are exchanged between two interlocutors in a friendly and cooperative manner. However, this does not mean that a dialogue always follows such a notion. A dialogue also means that different positions meet and can hence be a clash or conflict rather than a friendly encounter. Co-operativity has to be seen as a variable in dialogue, not as a rule (cf. *ibid.* p. 44). The second aspect is closely related to co-operativity, namely that dialogue does not presuppose sharedness. One might assume that participants in communication must have a vast amount of common ground, for example language and language variety, referential and indexical meanings attributed to words, utterances, or speech events etc. However, this is not necessarily the case. A dialogue does not have to be an exchange of similar positions. On the opposite, the non-sharedness might be more productive as a point of departure for a dialogue (cf. *ibid.*).

Thirdly and finally, a dialogue does not automatically mean that there is symmetry in contextualising power (cf. *ibid.* p. 45). The assumption that meaning is negotiated in a dialogue, which can be derived from Gricean pragmatics, suggests symmetry in contextualisation power, i.e. equal access and control over contextualisation-

relevant knowledge. However, to what extent does one have exclusive access to contextualisation spaces? Different professions, such as lawyers, doctors, politicians, academics etc. have an advantage towards non-members of these groups because the members have access to resources, such as the law, medicine, intelligence reports, scientific canons etc. (cf. *ibid.* p. 45). Other critical features are gender, class and ethnicity. Very often, the process of contextualisation is unilateral and asymmetric with somebody imposing their particular contextualisation on somebody else (cf. *ibid.*). The dialogic principle needs to be applied more carefully in analysis, taking into account that 'meaning' in communication is generated by two parties: first, there is the speaker/writer, who produces meaning. As a second step, though, this meaning has to be granted by someone else, an interlocutor, hearer or reader. This can happen either on the basis of equality and sharedness or unilaterally based on inequality, power and by force. Speaking with Austin et al. (1975), people produce conditions for uptake with words. The process for producing the conditions how words can be understood is a fully social process, full of power and inequality. Hence context is not an additional feature, it is text or discourse and defines its conditions of meaning and use.

Another important notion that is less known but not less relevant than intertextuality is entextualisation. Entextualisation refers to the process of decontextualizing discourses and associating them with a new context (cf. *ibid.* p. 47). 'Original' pieces of discourse that are socially, culturally and historically situated unique events are removed from their original context by echoing or quoting them, inserting them into a new discourse, or by using them as 'examples' or 'data' in research (cf. *ibid.*). This decontextualisation and recontextualization adds a new metadiscursive complex that replaces the original context-of-production of the material (cf. *ibid.*). The new complex suggests various aspects about the text, but mainly that it is a text, an object of study as a whole. Originally, participants do not see everything in a text as text. For example, there are metapragmatic elements (comments about and references to handling language). These can appear in the form of instructions how the discourse is to be approached (e.g. hedges, self-corrections, hesitations, interjections, false starts, explicit qualifications e.g. 'what I really mean is...', 'I don't want to say that...").

Space, place and identity also play an important role with respect to context. Often, a centre-periphery model appears to exist and people instantly understand what is

central and what is peripheral. It makes a difference if someone introduces themselves as working at the 'University of Western Kentucky' as opposed to working at 'Yale'. The differences between when these places are uttered are not purely spatial-referential. They express the different values and status attached to the different places: Yale is more 'central' than Western Kentucky (cf. *ibid.* p. 223). Another example of how space, place and identity are connected is the prestige of different accents in English. Blommaert says that Belgians (and it can be assumed that this applies to other Europeans) will make an effort to acquire an American-sounding accent of English whereas nobody will make an effort to acquire an Indian, Nigerian or Eastern European accent (cf. *ibid.*). Therefore, the value of knowledge, language skills, or any form of discourse have no absolute value as such, which can be seen as detached from context. If and how something makes sense depends on many contextual factors, among them location.

3.1.4 Units of discourse and segmentation

Now that the nature of discourse as a whole has been characterised as highly context-dependent, one question remains open: What else does discourse consist of? Both in speech and writing, one is likely to use more than one sentence to convey the necessary information, see Hoey (1983: 1). Different people interact in conversation using one or more utterances; in written texts, paragraphs form the larger units and consist of more than one sentence. All of these units can be used to reconstruct how discourse is organised (cf. *ibid.*). Therefore, the first overall criterion for what 'discourse' is can be formulated as that it goes beyond one sentence or utterance in both speech and writing. In some exceptional situations, discourse does not have to go beyond one sentence or utterance, for example in an extreme case in fictional literature, James Joyce's *Ulysses*, which features the last 30 pages without any punctuation, so that these pages are longer discourse, but technically still one sentence.

In order to define units of discourse, the notion of 'utterance' will need to be defined. This notion is part of theories that deal with approaching spoken discourse. Therefore, utterances will be discussed together with the notion of 'spoken discourse'. As Bergmann and Mertzlufft (2009: 83) state, it is essential to find a standardised procedure and comparable unit (utterance) that is not restricted to the researcher's intuition, as the latter strongly varies from person to person. This justifies the relevance of segmenting spoken discourse into utterances. The

segmentation into intonation units is suggested (cf. *ibid.*). What an intonation unit is can differ depending on which theoretical school is followed (cf. *ibid.*). Either a researcher has to ‘wade’ into the complex body of phonological literature or one has to describe such features ad hoc (cf. *ibid.*) Bergmann and Mertzlufft (2009) define an intonation unit based on the necessary criterion of a signal that is referred to as *boundary tone* or *edge tone*. If the tone goes up or down on an unstressed syllable, it is very likely that this is a signal that defines the beginning of an intonation unit. A potential signal for a new intonation unit is a pause, a breath-in or another boundary tone that will introduce a new intonation unit (cf. *ibid.*). So according to Bergmann and Mertzlufft (2009), spoken discourse can be segmented into intonation units that are not referred to as utterances, see also Himmelmann (2006). Such a form of segmentation was also the basis of the transcription conventions that are used in the research project that created the data for this study, see section 5.1.

Another approach to segmenting discourse is by Rehbein (1977), (1995), (2001); see also Fiehler (2004) and Auer (2010). Segmentation is already done during transcription, and its nature is two-fold. First, the transcription conventions Rehbein uses (see below) allow the use of punctuation, which already is segmentation into clauses and sentences, which follow conventions of written discourse. Then, the segmentation continues to divide the data into so-called *sprachliche Prozeduren* (linguistic procedures), see Rehbein (1995), see also Knobloch (2010) and Grießhaber (2000). A linguistic procedure is smaller than a speech act, which is smaller than the discourse, the whole of the material (cf. Rehbein (1995) and (2001)). The notion of ‘utterance’ will be discussed again below, in the qualitative methods section after conversation analysis, together with the issue of segmentation, see 4.3. This time, the focus will be more on the practical work with the data, on how the data for this study has been segmented. Utterances are a notion that plays a central role both in theoretical reflections on the nature of discourse as well as in practical considerations for this study, which justifies the fact that the same ideas and authors have been discussed in two different parts in this thesis, here, and in chapter 6 as part of qualitative methods.

3.1.5 Definition of ‘discourse’

The overall recognisable trend so far is that on a continuum between *spoken* and *written*, see Koch and Oesterreicher (1985), there is no monolithic single notion of

'discourse' that can cover every context, situation of interaction, genre or register, which will be discussed below, in 3.2. To summarise my deliberations thus far, it has to be pointed out that **discourse is social action by the means of language and therefore context-dependent.**

Discourse is a theoretical construct that does not exist a priori and that cannot be defined independently of context, setting, or participants. Discourse can be spoken or written and is between the two extremes of speech and written discourse on a continuum, as discussed in Koch and Oesterreicher (1985).

Discourse as a whole goes beyond one sentence or utterance. It can be sub-divided into utterances, genres, but also develop into so-called genre chains, see Swales (2004). **Discourse constitutes social action that includes professional and human practices** (Bhatia 2008). As implied by previously referring to setting, context, participants, discourse **cannot** be reduced to language, but following pragmatic schools, e.g. Austin et al. (1975), Searle (1970, Searle (1971), discourse has to be seen as social interaction, which also echoes Bhatia's views. The notion of what 'discourse' comprises can be constantly renewed by the context e.g. in the form of setting and communicative purpose. Thus, a longer sequence of monologic utterances by a lecturer given in the university classroom context would fall into the genre 'lecture' whereas the same utterances with the same context expressed by the same person at a dinner party might fall into different genre and hence communicative purpose, be it a joke, a private event etc. This is also confirmed by looking at the value of different English accents in different places. For example, a Nigerian accent is less prestigious in an English-speaking country than in Nigeria, see Blommaert (2005). Discourse is also dialogic, but dialogue does not automatically mean that interactants cooperate. A dialogue can be characterised by power differences, misunderstandings or other problems. So the overall context including the location where the discourse takes place determines the meaning of what comprises 'discourse'. Therefore, the working definition of 'discourse' concludes by saying that discourse is a highly volatile context-dependent phenomenon that breaks down into a wide range of theoretical schools on the macro level and into genres and utterances on the micro level and is dialogic in its nature. The following section will continue the discussion of the notion of 'genre' by reviewing research literature. The purpose of both sections 3.1 and 3.2 is to lay a theoretical

foundation for defining ‘spoken academic discourse’ and its relevant genres, as well as previous research on metaphors in spoken academic discourse. All of this is needed to theoretically prepare the context in which metaphors will be analysed in this study.

3.2 Genres and Genre Theory

Discourse can be broken down into different genres or registers, see Swales (1990), (2004), and Gregory and Carroll (1978). These two terms will be defined in the following paragraphs.

3.2.1 Register

The notion of register serves to explain the “common-sense observation that we use language differently in different situations” (ibid. p. 234). There are certain key dimensions of the social context, such as whether the interactants see and hear each other, whether they share the same background knowledge that will make certain means and ways of expressions more likely than others. So a lecturer might begin the lecture by saying “Well, today we will discuss XXX” whereas it is more likely for the first chapter of a textbook to begin with “In this book, it will be suggested that XXX” (cf. Ibid.). Register, or functional language variation is “a contextual category correlating groupings of linguistic features with recurrent situational features” (Gregory and Carroll (1978: 4)). Between *genre* and the longer established concept of *register*, there is a certain uncertainty, see Swales (1990: 40) and Ventola (1984), who discusses this uncertainty.

3.2.2 Genre

In addition to *register*, texts might also differ in *genre*. In the context of literary studies, *genre* is used to refer to “‘types of literary productions’, with short stories, poems, novels, and plays being the principal different genres” (ibid. p. 235). Linguistic definitions of *genre* draw on the Russian literary theorist Bakhtin et al. (1986 [reprinted 1996]). He refers to genres as “relatively stable types” of interaction. Genres can therefore apply to spoken and written interaction, both in fictional literature, academic or everyday language. Genres also differ depending on their social purpose. Language differs thus while being used to achieve different culturally established tasks; and so texts of different genres are texts that serve to achieve different purposes within culture (cf. ibid. p. 236).

Genre has also been discussed by systemic or 'Hallidayean' linguistics, see Halliday (1979) and (1985). Halliday (1985) defines three important factors that can be used to describe different parts of discourse: field, tenor, and mode. Field is the social action, the type of activity in which the discourse operates, content ideas and 'institutional focus' (cf. *ibid.*) and see also Benson and Greaves (1981). Tenor is the role structure, status and the role relationship among participants, including different permanent and temporary relationships, both regarding to their speech roles and socially significant relationships they are involved in (cf. *ibid.*). Mode is the symbolic organisation, namely what part the language is playing, what participants are expecting from the language in the concrete situation, which status or function it has, the channel (prototypically speech or writing or a combination), and also the rhetoric mode, namely what is being achieved in terms of being persuasive, expository, didactic, and the like (cf. *ibid.*). Halliday (1979) says that the field, tenor and mode act collectively as determinants of the text through the specification of the register; at the same time, field, tenor and mode are systematically associated with the linguistic system through the functional components of the semantics (cf. *ibid.* p. 122). As Swales (1990: *ibid.*) points out, field is associated with the management of ideas, tenor with the management of personal relations, and mode with the management of discourse itself. These categories provide a conceptual framework for analysis (cf. *ibid.*).

The main terms that were discussed here are *register* (context of situation) and *genre* (context of culture). They identify the two major layers of context that have an impact on text and are consequently the two main dimensions of variation between texts (cf. Eggins & Martin *ibid.* p. 251). This theory is "inherently dialogic and interactive". A text consists of both the realization of certain types of context, and reflects in the sense enacting cultural conventions in different situations. Texts are not "neutral encodings of a natural reality but semiotic constructions of socially constructed meanings" (*ibid.*). Therefore, Register and Genre Theory (R>) should not be limited to a mere "description of linguistic variation between texts" (*ibid.*), but it should help to expose how texts serve different interests by constructing social life through discourse "including the interests of the discourse analysts themselves" (*ibid.*). So even a meta-perspective on discourse analysis (e.g. which role the analyst plays in the process of research, whether they are biased e.g. epistemologically etc.) should be included where appropriate and possible.

3.2.3 Discourse community

One term that is used in Swales (1990)'s *genre* definition is *discourse community*. The definition of a *discourse community* is preceded by the notion of a *speech community*, see Swales (1990: 23). The early notion of a speech community was that it implies shared linguistic rules, see Bloomfield (1933). Over thirty years, later, Labov (1966: 7) emphasises 'shared norms' rather than shared performance characteristics. At the same time, though, he concludes that "New York City is a single speech community, and not a collection of speakers living side by side, borrowing occasionally from each other's dialects" (ibid. p. 7). Others, such as Fishman (1971) see a speech community as comprising of people who share functional roles that determine if utterances are appropriate (cf. Swales (1990: 23)). Why does the notion of *speech community* not suffice as an alternative to *discourse community*? Swales (ibid.) says that shared linguistic forms, shared regulative rules and shared cultural concepts will not make the notion of discourse community and its definition unnecessary. The reason why the notion of 'speech community' cannot replace 'discourse community' is that *speech* is a restrictive notion in two ways: First, the medium of speech is not the only medium communities use, because communities also heavily engage in writing (cf. ibid.). Besides, speech is not the only factor for a community. The other factor is literacy. Literary activity implies that locality can be taken away by literacy because members of a community are more likely to communicate with other members in distant places, which causes them to be more likely to respond to writings rather than speech from the past (cf. ibid.). Swales (ibid.) discusses six criteria that he sees as necessary for a group of people to constitute a discourse community. The first criterion for a discourse community is that it has a "broadly agreed set of common public goals" (cf. ibid.). Goals can be formally inscribed in documents, as is the case with organisations and clubs, or they may be more implicit. The goals are *public* because spies might join speech and discourse communities for subversive purposes while more ordinary people may join organisations with private hopes of commercial or romantic advancement (cf. ibid. p. 25). A discourse community can consist of overtly adversarial groups, as is the case with senates and parliaments. At the same time, these adversarial groups may share a common objective, such as striving for improved government (cf. ibid.). It has to be emphasised that the shared goal and not the object of study is the defining criterion of a discourse community even

though the former often subsumes the latter, but not always (cf. *ibid.*). If, for example, the shared object of study is the Vatican, then this does not mean that students of the Vatican in history departments, the Kremlin, dioceses, birth control agencies and libertarian theology seminars form a discourse community (cf. *ibid.*).

The second criterion is that a discourse community “has mechanisms of intercommunications among its members.” (*ibid.*). The participatory mechanisms or media vary and include meetings, telecommunications, correspondence, newsletters, conversation, and many more. Discourse communities can exist even despite having members who “neither admit nor recognize that such a community exists” (*ibid.*).

The third criterion also refers to participatory mechanisms “primarily to provide information and feedback” (*ibid.* p. 26). A prerequisite for belonging to a discourse community is making use of the informational opportunity. Swales claims that if for example a member of the *Acoustical Society of America* pays the subscription fee, but does not read any of these publications, then they are not a member of the discourse community (cf. *ibid.*) even though they are formally members. Even though Swales does not make this explicit, it might make sense to distinguish between more and less active members of a discourse community because in the example of a society members who do not read the newsletters, they are to be seen as part of the discourse community, but less active, than seeing them as only formally or not a member at all. The information exchange also has secondary purposes, which can vary according to the common goals: these could be to improve the performance of a football team or orchestra, to make money in a brokerage house, or to improve research performance in an academic department (cf. *ibid.*).

Fourth, a discourse community makes use of one or more genres for various purposes e.g. for achieving aims of the community (cf. *ibid.*). A discourse community has developed and continues to develop discursal expectations (cf. *ibid.*). These can involve whether a topic is appropriate, the positioning of discursal elements as well as the roles of texts within the discourse community. Discursal expectations are connected to genres, which “are how things get done, when language is used to accomplish them”, see Martin (1985: 250).

The fifth criterion for a discourse community is that besides owning genres, it has specific lexis (cf. *ibid.*). Specialisation can involve lexical items widely known to the

community in special or technical ways, as is the case in information technology discourse communities, or by using highly technical terminology, as in medical communities (cf. *ibid.*). One part of specific lexis is community-specific abbreviations and acronyms. Such acronyms (e.g. ESL, EAP, TOEFL etc.) stem from the need for an efficient communication exchange between experts (cf. *ibid.*). It is very likely that well-established members of a discourse community use lexical items that puzzle outsiders. If one might understand everything as an outsider, for example when listening to a group of new members, then the latter would not yet constitute a discourse community (cf. *ibid.* p. 27).

Sixth and last, a discourse community needs sufficient and suitable members with content and discursal expertise (cf. *ibid.*). Memberships in a discourse community constantly change. Individuals enter as apprentices and leave by death or in other less involuntary ways (cf. *ibid.* p. 27). Swales concludes by pointing out that “survival of the community depends on a reasonable ratio between novices and experts” (*ibid.*).

3.2.4 Genre knowledge

Related to the notion of a discourse community is genre knowledge. In general, genre knowledge refers to the ability to participate successfully in genres. It is defined by Berkenkotter and Huckin (1995: ix):

“We use the term genre knowledge to refer to an individual’s repertoire of situationally appropriate responses to recurrent situations - from immediate encounters to distanced communication through the medium of print, and more recently, the electronic media.”

So genre knowledge is a skill that enables individuals to appropriately deal with recurrent situations with different levels of distance whether “immediate encounters” (face-to-face- communication) or distance communication through different media. The framework around the notion of genre knowledge by Berkenkotter and Huckin (1995) revolves around five principles: These principles are: (1) dynamism, (2) situatedness, (3) form and content, (4) duality of structure, and (5) community ownership. Shalom (*ibid.* p. 58) applies these principles to the academic conference, which will be shown below.

First of all, genres are not static, fixed entities but dynamically changing and are hence classified as:

“dynamic rhetorical forms that are developed from actors' responses to recurrent situations and that serve to stabilise experience and give it coherence and meaning. (Berkenkotter & Huckin 1995: 4)”

Dynamism can be seen in the conference poster genre. It evolved from advertising in order to attract potential buyers for a product (cf. Shalom *ibid.* p. 58). Then, the poster was used to present research with a strong focus on results and other newsworthy information (cf. *ibid.*). Genres are continually developing and changing and new forms of expression are demanded, "in response to their users' sociocognitive needs" (Berkenkotter & Huckin 1995: 4). Besides being dynamic diachronically, genres are also used in a dynamic way by actors and are always open to potential change (cf. *ibid.*). The second aspect is situatedness. This context plays a crucial role in understanding and enacting a genre:

“Our knowledge of genres is derived from and embedded in our participation in the communicative activities of daily and professional life. As such, genre knowledge is a form of 'situated cognition' that continues to develop as we participate in the activities of the ambient culture. (Berkenkotter & Huckin 1995: 4)”

Situatedness depends on exposure to and experience in participant roles and increases with it, (for example, the presenter of a paper at a conference or a discussant who asks questions or comments on the presentations) (cf. Shalom *ibid.* p. 59). Consequently, through enacting different genres of a discourse community in the conference setting, the academic novice acquires the necessary skills to do so (cf. *ibid.*).

The third important aspect in the context of genre knowledge is form and content. Discipline-specific conventions exist, so the number and type of slides used in presentations depends on the subject. Moreover, subject matter and presentation type will influence the concrete form and also to a certain extent the content of the presentation (cf. *ibid.* p. 60). The whole genre knowledge is situated knowledge based on different factors:

“Hence, genre knowledge will be situated knowledge of form and content in which the user has a keen sense of appropriacy to communicative purpose(s), situation and the specific moment in time in which it is enacted.” (*ibid.*).

Two other important aspects complement this context-dependence of the communicative purpose and specific moment in time. There, a genre is enacted: duality of structures and ownership.

Duality of structure means that the user of a genre constitutes and reproduces the social structures involved at the same time (cf. *ibid.* p. 60). The genre is used to create meaning. Genre is not seen as a monolithic concept that restricts the user, but as something flexible that can be exploited according to the user's communicative purposes (cf. *ibid.*). Such a flexibility can be seen in how conference organisers reflect new ways of using genres, for example with posters, see Shalom (1993).

The last aspect to be discussed here is ownership. Ownership has to be seen in the context of genre theory. A discourse community owns certain genres (albeit not exclusively), which is one of the conditions of a discourse community, see Swales (1990: 26). Therefore, Shalom (*ibid.* p. 61) concludes that if discourse communities own genres, then the best means of finding out more about a discourse community is through instantiation of its genres:

Genre conventions signal a discourse community's norms, epistemology, ideology, and social ontology.
(Berkenkotter & Huckin 1995: 4)

Overall, there is a connection between the statuses of academics in a discourse community and how skilful and familiar they are in handling the genres involved (cf. *ibid.*). It is important to point out that genre knowledge is an essential requirement for members of a discourse community to communicate. While Berkenkotter and Huckin (1995) have focused on written genres, one of Shalom's (*ibid.*) main findings is that their five principles of genre knowledge can also be applied to spoken genres. In an academic conference, it is equally important to handle spoken conference genres in order to be successful at a conference and to access community-based knowledge (cf. *ibid.*).

3.2.5 Definition of 'discourse community'

Above, the notion of *discourse community* has been defined based on six criteria, which will be used to formulate a working definition of this term that will precede the definitions of *genre* that will culminate into a working definition of this notion. The main prerequisite of a discourse community is that it is defined more by shared practices than by a shared object of study. So different professionals (e.g.

journalists, theologians, historians) that study the same object, e.g. the Vatican, are not to be seen as one discourse community because they do not share common practices, objectives and communicative goals (see also genre knowledge above). However, would scholars from different theoretical directions e.g. theology, history, linguistics etc. that all study the Vatican, for example, still not be seen as one discourse community? If all of these scholars are academics in different fields and might meet on an interdisciplinary conference on the theme *Vatican*, then one might say that researchers in general, even from different fields, form a discourse community, the discourse community of academia. Being academic researchers, they follow common practices, public goals etc. If there is an exchange between these researchers, whether in speech or writing, for example, if specialists from different subjects listen to each other's conference talks or read each other's publications, then one can even say that there is an overlap between their respective specialised discourse communities. Besides shared media, information and communication tools (written and spoken), such as talks, magazines, newsletters, a discourse community has specific lexis and consists of a mix of established expert members and novices. The latter also implies a high degree of fluctuation in membership of the community: the continuous joining of novices as apprentices and experienced members are leaving, by death, for retirement, or other reasons e.g. a change of interest. A discourse community unites various contradictory aspects: experts and non-experts (novices), very different genres for different purposes, different specialisms or foci among its members. So a discourse community consists of shared communicative practices and objectives, has members and is an umbrella term for a community of very different people, interests and genres. According to Bizzell (1992: 22f), a discourse community also plays a role in forming the world view of its members. If discourse communities overlap, conflicts may arise (cf. *ibid.*). Worldviews can be acquired e.g. by learning conventions and dominating views within the community.

3.2.6 Definitions of 'genre'

After *discourse community* has been defined, definitions of *genre* will be compared, which will culminate into a working definition of *genre*.

Swales (1990: 58) claims that "genre comprises a class of communicative events, the members of which share some set of communicative purposes". Such purposes are recognised by the expert members of the parent discourse community (cf.

ibid.). The purpose again constitutes the rationale for the genre. This rationale “shapes the schematic structure of the discourse and influences and constrains choice of content and style.” (ibid.). The exemplar or prototype shows similarities in terms of content, structure, style and intended audience. If all of these expectations are fulfilled, then the parent discourse community sees the realisation of the genre as prototypical (cf. ibid.).

Bhatia (1993: 11) states that “genre analysis as an insightful and thick description of academic and professional texts has become a powerful and useful tool to arrive at significant form-function correlations which can be utilized for a number of applied linguistics purposes, including the teaching of English for specific purposes”. So this quotation emphasises the practical, descriptive and teaching-oriented side of genre analysis, which makes use of the notion of *genre*.

The following view of *genre* presented by Bhatia (2002: 5) also focuses on what analysing genre means:

“analysing genre means investigating instances of conventionalised or institutionalised textual artefacts in the context of specific institutional and disciplinary practices, procedures and cultures in order to understand how members of specific discourse communities construct, interpret and use these genres to achieve their community of goals and why they write the way they do.”

This quotation emphasises that genre analysis goes well beyond language analysis; it includes the institutional and disciplinary context, institutional practices etc., which helps to reveal communicative purposes and why people write (and speak) the way they do. Bhatia (ibid. p. 4) also says that genre analysis has to be seen as a multi-disciplinary activity beyond linguistics (both applied and computational). Genre analysis is also part of discourse analysis, studies of communication and rhetoric studies, sociologists, to name only a few. Genre analysis has to be seen as the study of situated linguistic behaviour (cf. ibid.). Genre analysis is part of DA but differs from other DA approaches epistemologically because it aims at describing the structure of different linguistic material and focuses on formulating patterns e.g. finding out the moves employed in different genres. Genre analysis e.g. Swales (1990) also wants to extract generalizable patterns from texts for pedagogic purposes, e.g. for teaching students about academic genres, which is not the case for most other DA approaches e.g. sociolinguistics, CA etc. Depending on which

theoretical framework one uses, genre analysis can begin with either the textual data or the discourse community (cf. *ibid.*).

Further definitions of genre reveal similar trends that are shared with the paragraphs above, but also shift more towards cultural factors and discourse communities. Gillaerts and Gotti (2005: 10) argue that “genre can be seen as a culturally determined communicative event or as construct for use in analysis and research”. Important is the notion of being culturally “determined”. However, it might be more appropriate to speak of influence, as it is ‘softer’ than determination, as the notion of determination appears to imply that something has to happen according to a ‘hard’ logic, e.g. when A happens, then B has to happen. Furthermore, over 30 years of discourse studies have also shown that ‘hard’ deterministic logic does not always work, see e.g. Blommaert (2005).

Fairclough (1995: 114) says about genre that it is “a socially ratified way of using language in connection with a particular type of social activity.” So Fairclough (*ibid.*) focuses on social activity and the fact that genre is socially ratified, which means that it is based on (implicit) mutual agreement among members of a community or group.

3.2.7 Working definition of ‘genre’

After the different definitions of *genre* above, which included the notion of *discourse community*, a working definition of *genre* will now be formulated. Semantically, a genre is one class or category that can include an infinite number of concrete realisations. For example the genre ‘research talk’ includes an infinite number of concrete realisations of talks and a genre theorist aims to include all possible kinds of research talks in their description, not only ‘typical’ or ‘prototypical’ talks. Genres are communicative events with specific communicative purposes (e.g. moves), which are recognised and applied by the members of the respective discourse community, in which the genres are used. So what a genre is, which genres are used and which qualities they have, significantly depends on the discourse community, on context and institutional practices. Finally, an additional aspect of *genre* is that they are not static or constant, but to be seen as more flexible notions. Therefore, it makes sense “to present such genres not as specific norms to be conformed to, but as more general points of reference within which room for manoeuvre is possible and indeed desirable” (Widdowson (1998: 10)). So the ideas (points of reference) of what constitutes a genre are at the same time

flexible in the sense that they offer room for ‘manoeuvre’, which means that genre characteristics can vary.

3.3 Academic discourse and ‘spoken academic discourse’

Spoken academic discourse is a subset of academic discourse. Therefore, the notion of ‘academic discourse’ will be defined first.

An overarching definition of spoken academic discourse (also referred to as ‘academic speech’) will be given based on Lee (2001: 51). First of all, Lee states that academic speech goes beyond what might be seen as a potential prototypical definition for laypeople, namely “the language used by professors in lectures” (ibid.). It seems to be slightly easier to define the spoken part than written academic discourse because it is a form of interaction that can be defined based on its setting. The genre-based view includes any research-related or academic spoken discourse that occurs in a university setting (cf. ibid). This can be summarised by Lee’s (ibid.) definition: “In other words, academic speech is the language which is used by the discourse community of scholars and students for (mainly) academic purposes.” Lexically, spoken and written genres cannot be reduced to specialised lexis, as the review of selected research literature below will demonstrate. It is also difficult to find an overarching or monolithic definition because (spoken) academic discourse consists of a variety of genres.

The centrality of language in the form of a variety of genres in the academic context is further emphasised:

“Only through language, whether in the form of a dissertation, viva, essay assignment or unseen exam, can students consolidate and display their learning to university gatekeepers and so progress to graduation and beyond. Discourse, then, is at the heart of the academic enterprise; it is the way that individuals collaborate and compete with others, to create knowledge, to educate neophytes, to reveal learning and define academic allegiances. Its study is therefore a rich source of information about the social practices of academics, students and society itself.” (ibid. p. 2)

Language is central in assessing the student’s academic competence and its analysis can hence reveal the background of social practices, academics, students and society as a whole.

Bhatia (2002) discusses a genre-based view of academic discourse, which is an umbrella term for a phenomenon that depends on its setting (the university) and on disciplines, genres, and communicative practices. This is accompanied by a generic and disciplinary variation on a wide range (cf. *ibid.* p. 8). This trend is confirmed by Hyland and Bondi (2006), who discuss variation across disciplines and genres of academic discourse, both spoken and written. For spoken academic discourse, it was found that hedging devices (uncertainty markers) were more common in the humanities and social sciences than the 'hard' sciences. It was also found that other lexical items, such as discourse markers, play a more central role in life sciences because there, the speaker refers to concrete results on slides. For the humanities, the opposite is the case: abstract ideas dominate, which results in less use of visual aids and hence less deictics. To what extent these findings apply to other speakers or speech events is left as a recommendation for further research (cf. *ibid.* p. 314). Regarding meta discourse in written academic discourse (a wide range of research articles, e.g. science, humanities) a study has been conducted by Fandrych and Graefen (2002) under the name of *text commenting devices*, which have functions, such as organising the discourse of the writer in advance, and other functions. The same phenomenon with the focus on *thing* and *point* has been examined by Swales (2001) and labelled *meta talk* for American spoken academic discourse. While text commenting devices and evaluative strategies can be found in academic discourse (written and spoken) in a wide range of disciplines and vary in their frequency, the question of academic vocabulary has been discussed by Hyland and Tse (2007: 235), who

“argue that the different practices and discourses of disciplinary communities undermine the usefulness of such lists and recommend that teachers help students develop a more restricted, discipline-based lexical repertoire” (*ibid.*).

Their main point is that academic vocabulary cannot be generalised beyond disciplines, but is restricted to the respective discipline. Hence, the teaching for non-native speakers of English should not teach general academic vocabulary, but focus on discipline-specific vocabulary (cf. *ibid.* and Nesi and Gardner (2012)).

Communication is a crucial part of the work in academic communities,¹¹ both from the point of view of reporting research progress and for students to understand

¹¹ It can be assumed that is the case for all discourse communities.

their disciplines, teaching and learning successfully and to establish a career (cf. Hyland (2009: viii)). Furthermore, the influence of academia, e.g. research results, appears daily on television, in newspapers, advertising etc. Research results are used as an argument of authority, a certain discourse of 'truth' (cf. *ibid.*), which can be seen in strong opposition to the discourse of politics or commerce, which is seen as partisan and critical and in a cynical way (cf. *ibid.*). Another aspect mentioned is that the growing interest in academic discourse is pedagogical because it presents considerable difficulties for students, particularly because disciplines change and develop (cf. *ibid.*). These difficulties are not restricted to students. Academics are not immune either to difficulties caused by the changing nature of discipline-specific communication, which means that one has to learn to use language in new ways (cf. *ibid.* p. ix). Such difficulties can affect the whole range of an academic's set of competence, which includes the ability to deliver lectures, to carry out administrative work, to participate in meetings, to present at international conferences, and, above all, to conduct and publish research in English (cf. *ibid.*).

This great variety regarding challenges to communicative competences inside and outside academia was accompanied by research into academic discourse and fed into the English for Academic Purposes movement (cf. *ibid.*). The variety of different qualities of academic discourse and research related to it also help to challenge the notion of a monolithic 'academic English', see also Hyland and Tse (2004).

Which qualities are common to all of academic discourse? First of all, its setting, the university or 'academy', as Hyland (2009: 1) refers to it. Furthermore, using specific spoken and written genres, such as textbooks, essays, conference presentations, lectures, research articles are used to teach, and hence create knowledge, report research results, or in short words, "enable universities to get on with the business of teaching and research" (cf. *ibid.*) and see also Gee (1996).

3.3.1 Importance of academic discourse

The importance of academic discourse can be explained by three major reasons, according to Hyland (2009: 3). First of all, there is a growing diversity of students entering universities because of widening access policies; furthermore, increased attention is given to learning and teaching by funding bodies, and the emergence of English as the international language of scholarship, which results in a high number of international students (cf. *ibid.* p. 4). The growing number of students and the more diverse student body is further illustrated by numbers, namely that for

example in the UK, almost 40 per cent of the eligible age group attend university, and in contrast, only 2 per cent attended 50 years ago. Therefore, this created a student body, which is far more diverse in terms of age, gender, and social class (cf. *ibid.* p. 4).

The third reason for the growing interest in academic discourse is the fact that a subset of it, academic English, has grown to become an international academic lingua franca. It is predicted that by 2050, more than half of the world's population are expected to understand English, which then can be seen more as a basic academic skill than a mere language, particularly because almost 50 per cent of postgraduates in Britain are international students and there is also evidence that students in overseas universities are completing their PhD theses in English where they have a choice (cf. *ibid.* p. 5); see also Wilson (2002) for an example of the dominance of English with special reference to the Finnish perspective. Another important aspect that Hyland (*ibid.*) emphasises is that English also dominates as a language for publications, which can be seen in e.g. the fact that 68 per cent of the publications indexed by *Ulrich's Periodical Directory* in 2007 are in English. (cf. *ibid.*). The other reason why it is important to study academic discourse is that, – as detailed epistemological discussions (above, section 3.1) reveal, there is no direct way of accessing knowledge and truth. Hence, the discourse is always central and mediates between the researcher and outside realities. Studying academic discourse is the only option, as it is impossible to step outside the beliefs or discourses of our social groups, as Hyland (2009: 12) points out.

3.3.2 Role of terminology and specialised vocabulary

What role does terminology and specialised vocabulary play as part of academic discourse? The literature shows that academic discourse cannot be reduced to specialised terminology, as Ehlich (1999: 6) points out. Ehlich introduces the notion of 'Alltägliche Wissenschaftssprache' (everyday academic discourse), which is also discussed in Fandrych (2006), Skrandies (2011) and many others. Specialised terminology forms a part of varying size of academic discourse. With everyday academic discourse, Ehlich refers to everyday language that is used in an academic context in a way that causes more problems for newcomers than specialised lexis does. Ordinary academic language consists of phrases, idioms, nouns, or verbs that also appear in non-academic contexts, so-called everyday language. Ehlich's analysis of texts composed by students of German as a foreign language (pp. 10-21) reveals

that the students did not have problems with specialised terminology, but with ordinary academic language, e.g. expressions like *change* or that a theory *dominated, approach, context*. From the point of view of a learner, the academic and non-academic nuances in words like *context* are more of a problem to a non-L1 speaker than to an L1 speaker of the respective language. Ehlich deals with German, but it can be assumed that the principles developed by Ehlich can be applied to any other language. Hence, Ehlich claims that without a solid basis of everyday language, academic communication is not possible.

3.3.3 Other aspects of (spoken) academic discourse

In general, as far as previous research is concerned, research into spoken academic discourse is still in its infancy, as for example Reershemius (2012: 864), Hyland (2009) and Nesi (2003) point out. An overview of research literature on spoken academic discourse will follow. Nesi (2001: 202f) discusses the lexical density of spoken academic discourse and comes to the conclusion that spoken discourse has a lower lexical density, meaning that more words are used to express something. Another reason for interaction being less lexically packed is the fact that interlocutors need more time to 'pack and unpack' or code and decode the information from the respective turns or utterances (cf. *ibid.*).

What else constitutes (spoken) academic discourse? Tognini-Bonelli and Camiciotti (2005) discuss evaluative strategies, meta discourse, and other aspects in academic discourse, in both spoken and written academic discourse.

Simpson and Mendis (2003: 423) look at idioms in spoken academic discourse. They found out that the idioms found in the Michigan Corpus of Academic Spoken English (MICASE) significantly differed from the idioms found in textbooks. It was found that only 25% of the idioms from the textbooks could be found in the MICASE corpus that consists of actual instances of spoken academic discourse, e.g. Mauranen (2001). Mauranen deals with discourse reflexivity (discourse about discourse, or meta discourse). Fandrych and Graefen (2002) deal with text commenting devices, which is a related phenomenon. Biber et al. (2002) is an earlier study using the same corpus as Biber's study from 2006 (the TOEFL 2000 Spoken and Written Academic Language Corpus). This study also confirms the position that in contrast to written academic discourse, there are fewer studies on linguistic features of spoken academic discourse (cf. *ibid.* p. 12). Biber (2006) has conducted a study that gives a comprehensive overview spoken and written

academic genres, which is based on a different corpus, namely from the TOEFL 2000 Spoken and Written Academic Language (T2K-SWAL) Project.

Two articles in Ädel and Reppen (2008) deal with different features of spoken academic discourse. Walsh and others discuss vague language in the same edited volume. Vague language consists of expressions that are used to shorten or simplify contributions of speakers or to signal uncertainty, or to promote a shared space and hence understanding to understand that the other interlocutor understands, for example "... race is [...] inherent in the [...] blood and your appearance **and everything**. That is that wrong?" (ibid. p. 26). The authors of this article state that such forms of vague language occur in spoken academic discourse, but less frequently than in casual conversations, which is another finding that distinguishes spoken academic discourse from other forms of discourse.

Based on the selection of research literature on spoken academic discourse reviewed above, the following aspects have to be highlighted: Spoken academic discourse is a complex and multi-faceted phenomenon that resists an overarching definition. Such a definition was formulated at the beginning of the chapter to approach *spoken academic discourse*, which is a subset of academic discourse as a whole and consists of utterances that are used in a specific setting, by experts and novices in academia (e.g. lecturers and students). The review of the selection of research literature showed a very wide variety of studies that deals with very small and specific aspects of (spoken) academic discourse, and not with discourse as a whole. This is the case for meta discourse, vague language, idioms, specialised lexis, and others. All these phenomena were found to play an important role in academic discourse within the context that they were studied.

Spoken academic discourse falls into different genres, which will be discussed below in 3.3.1.

3.3.4 Genres in spoken academic discourse and the specialist presentation

One major part of spoken academic discourse are genres that have instructional purposes and / or are used for assessment, as Hyland (2009: 96 and 123) points out. These discourses contain both written and spoken genres (e.g. lectures, seminars, undergraduate textbooks). Student discourses can involve undergraduate or postgraduate students. These discourses contain both oral (e.g. presentations) and written genres (e.g. essays, dissertations). This combination and sequence of

different genres can be referred to as a genre chain (cf. Swales (2004)). A different term for the same phenomenon is genre set (see Freedman and Medway (1994)). Other spoken genres are mentioned here in order to offer an overview of spoken academic discourse that is as complete as possible. These genres include class sessions, office hours, study groups or on-campus service encounters, see Biber et al. (2002). The genres mentioned all share the fact that they do not play a role in this study because it focuses on specialist presentations.

In general, spoken academic discourse as a whole is still under-researched, see Reershemius (2012), Hyland (2009), Limberg and Geluykens (2008), Nesi (2003), Flowerdew (2002). This also applies to the genre that will be discussed below in 3.3.2., 'the specialist presentation', in which the relevance and context of the genre will be discussed.

The specialist presentation is the genre of the primary data analysed for this PhD thesis. As spoken academic discourse cannot be defined as a whole without dividing it into genres, there is no monolithic notion of a specialist presentation. It has to be seen as an umbrella term, which refers to invited colloquia or lectures by established academics in university settings and conference talks at the same time. Both of these genres have the main communicative purpose of discussing work in progress, discussing existing publications, or reporting other (new) research results, see Swales (2004).

3.3.5 The 'specialist presentation'

The first genre that will be discussed in the context of the umbrella term 'specialist presentation' is the colloquium. Swales (2004: 189) sees a colloquium as an opportunity for an invited senior academic to present scholarly work of likely interest to their audience (cf. *ibid.*). Furthermore, the academic acculturation of graduate students is also seen as one major function of such colloquia (cf. *ibid.*). Together with the research students, academic staff of a department forms an intellectual collective unit as the audience of the talk. In addition to this function, there is the purpose of raising the university's profile in front of the central administration and academic peers by inviting a famous academic speaker, organising a regular weekly or fortnightly colloquium (also referred to as a 'research seminar series'), and it even can have an effect on potential prospective graduate students the institution might want to recruit (cf. *ibid.*).

The main purpose of such colloquia, whether with internal (graduate students, staff members) or external speakers (experienced academics), is intellectual discussion (cf. *ibid.* p. 195), exchange of ideas and research results. This is the case both for student or staff colloquia and was also found in all older studies that Swales cites (cf. *ibid.*).

There is another aspect specific of colloquia, namely the aspect of hierarchy and egalitarianism and a potential dilemma between these two aspects. Partly, humour is being used to overcome such hierarchies between the respected academic speaker and his audience and to make the whole talk more informal, as discussed in Reershemius (2012); similar findings were revealed based on a different corpus in Nesi (2012). However, the dilemma that both Swales (2004: 195) and Billig et al. (1988: 86) discuss, remains: "An egalitarian pattern within an inegalitarian social structure is fraught with dilemmatic aspects". Billig continues by stating that in a colloquium, thoughts and ideas should be discussed on their own merits, but it has to be taken into consideration that the participants have very different levels of authority and prestige (cf. *ibid.*). She identifies three main dilemmatic features among others (also discussed in Swales (2004: 195)):

1. "Although being passionate about ideas can be exciting, it can also be uncomfortable.
2. Discussion can be so highly abstract and intellectualized that engagement is inhibited; on the other hand, if the discussion is very concrete, that striven-for intellectuality may be diminished.
3. Similarly, a humorous and lighthearted event may undermine sustained engagement with the issues, while a deadly serious climate may lead to boredom and the dull parading of previously established viewpoints."

From the dilemmas quoted above, one can see that very contradictory goals have to be balanced when giving any kind of talk, particularly as part of a colloquium, or research seminar series. Inclusion and exclusion, abstract academic language and explaining things concretely and in an easy-to understand manner have to be satisfied at the same time. Inclusion is achieved by making research results easy-to-understand whereas a very abstract and complex discussion would cause exclusion. Furthermore, authority plays an important role. In a strictly stratified society, in which the charisma of authority is recognised for its own sake, an authority can behave in an uninhibitedly authoritarian way (cf. Billig et al. (1988: 65)). This applies

to both institutional and intellectual authority. In a democratic society, which is meant to be organised in a fundamentally egalitarian way, authority cannot be acted out in such a straightforward manner. It is restricted. The following metaphor is used. Teachers in a classroom are compared with a captain, who goes down to the crew and discusses the course. However, at the same time, it has to be emphasised that the teacher still has authority and the notion of authority has not been abandoned altogether. Authority is simply exercised in a different manner (cf. *ibid.*). This happens indirectly as the teacher is simply the only person in a position to decide on the overall course of action. Billig (*ibid.*) uses a ship metaphor, with the teacher as captain: the person who has the compass, maps and the power to ring the ship's bell (cf. *ibid.*). The challenge of exercising authority in an egalitarian society leads to the dilemma of exercising an egalitarian pattern within an inegalitarian social structure (such as the student-teacher situation, cf. *ibid.*).

Another aspect that was mentioned in the research literature about colloquia is dealing with hierarchies and how they can partly be overcome by egalitarian patterns of communication. There is the dilemma between inclusion and treating students equally on the one side and the remaining hierarchy between experienced academics and novices, the students on the other side. The following aspects express contradictions that need to be resolved in the context of a colloquium talk. It needs to be decided how passionate one needs to be about ideas presented because being passionate can be exciting, but also uncomfortable. Besides, it needs to be decided how abstract and complex the discussion is. If it is too abstract, then engagement with the audience is inhibited. If it is too concrete, it will be less intellectual. Finally, the speaker needs to solve the dilemma that a light-hearted and humorous atmosphere can get in the way of engaging with issues effectively, whereas a deadly serious atmosphere makes the talk dull and therefore less interesting. Humour, particularly, was identified as one strategy that serves to manage these dilemmas. However, the dilemmas discussed suggest that different strategies in colloquium talks are not appropriate or inappropriate per se, but that the 'dosage' (how often) and the way how the strategies are combined with each other determine the success of an academic talk.

As Swales (*ibid.* p. 196) points out, a good colloquium discussion can also be characterised using Bakhtinian terms to explain how utterances are not isolated (indifferent), but connected and influenced by each other:

“The very boundaries of the utterance are determined by a change of speech subjects. Utterances are not indifferent to one another, and are not self-sufficient; they are aware of and mutually reflect one another. These mutual reflections determine their character. Each utterance is filled with echoes and reverberations of other utterances to which it is related by the communality of the sphere of speech communication.”

Utterances mutually reflect on each other. Other utterances are repeated and echoed based on previous ones. It is important to highlight that both a conversation in the sense of a dialogue (talk-in-interaction) and a monologue e.g. a talk have to be seen as a sequence of preceding and following utterances that continuously influence each other, see also the discussion and definition of the notion of ‘discourse’ above, in 3.1.

The following important aspects of what the literature had to say about colloquium presentations, also referred to under the umbrella term of *specialist presentations* are discussed here. First of all, colloquium presentations are a research genre with the main purpose of discussing work in progress, existing publications, or reporting research results. The speakers can be internal to the hosting university, either graduate students or members of academic staff. Alternatively, an external famous and well-established academic researcher can be invited as the speaker. The audience consists of academic staff and graduate students. Besides communicating research topics and findings among researchers, the genre of a colloquium presentation also has other communicative purposes that serve a university’s publicity. The prestige of a department and the whole university can be positively influenced by a research colloquium. This form of publicity can even help with finding prospective students for the institution.

The next task to be tackled will be defining the genre of a conference presentation (CP) with the help of research literature. Hyland (2009: 78) indicates that there is a wide range and not just one type of CP. As discussed above, Hyland (ibid.) also supports the notion that a CP can range from an invited one hour plenary to a short parallel paper. The type of research presented varies greatly as well. So there can be reporting on work in progress, or a post-publication overview, which can be delivered to audiences of various sizes, homogeneity and expertise (cf. ibid.). Hyland also emphasises that the CP should be seen as a distinct genre. It is written to be spoken (at least in the note form; or a script is read out). If based on

previously published work, it is closely related to this text. At the same time, it contains distinctive features of orality, humour, and other aspects that are not found in a research article, for example. So the CP contains elements of both modes, spoken and written (cf. *ibid.*). The other aspect Hyland deals with is the wider presentation context.

The important part to be highlighted here and also mentioned by Hyland is that in Räsänen (2002)'s crash safety conferences study, the conference is the end point of a long genre chain (including written publications) to be discussed at the conference. The whole written-out paper and the slides have to be discussed at the conference. In other conferences, this order is almost reversed and the whole process of approval is simpler, which means that abstracts alone are submitted and written articles follow months (or years) after the conferences took place as part of a book or proceedings (a selected or complete set of publications), (cf. *ibid.* p. 80). Hyland also mentions that the plenary usually focuses on already published work (cf. *ibid.*). The interesting information, which was not discussed in detail in other literature that I read about the CP, is the style. For this purpose, Hyland quotes Dudley-Evans (1994), who identified three different types of presentations that are connected to the respective styles of talking. Dudley-Evans (*ibid.*) distinguishes between a 'reading style', which means that a speaker reads from notes, a 'conversation style', which is more informal, and a more expansive, performer-oriented 'rhetorical style' (cf. *ibid.*). These categories reveal the tension between a talk being a highly reflective text similar to written research genres, while at the same time, there is the immediate presence of the audience at the talk, which means that a presentation can be seen as a more interactive text (cf. *ibid.*). There is a trend for the speaker to shape the talk in a more interactive way that shapes the message to connect with the immediate context (cf. *ibid.* and see Swales *ibid.*). Swales (*ibid.* pp. 82f) discusses a wide range of research on academic presentations, which reveal distinctive aspects of presentations, the reason for these aspects being the fact that they require interpersonal management and real-time text organisation. These factors include a greater use of active verbs, more than passive constructions, so-called informal boundary markers, such as *OK, right, now*, see Webber (2005), and more humour and self-irony, see Reershemius (2012) for a very recent study.

3.3.6 Academic conferences

Whilst trying to define the conference presentation (CP), it has to be pointed out that the genre of the CP cannot be separated from the broader conference experience (see Ventola (2002) and Shalom (2002)). Shalom points out on the one hand that there is not too much that can be generalised about a conference as there are so many different types and functions of conferences while on the other hand defining some key procedures and communicative functions of conferences and CPs therein. She points out how inherently diverse and complex a conference as an object of study can be (cf. *ibid.* p. 52):

“Conferences may be annual or biennial meetings of a professional association, with or without a general theme or they may be specific - often interdisciplinary - symposiums which vary in size, prestige and location. While conferences may share common features relating to their structure, and to some extent their function, any conference is a one-off real time event that will be experienced subjectively by the ‘conferees’ (Lodge 1985).”

This quotation points out the great inherent diversity of all types of conferences that differ in size, prestige, purpose, motto etc. At the same time, there are possible shared features between different conferences, such as structure and function, which will be further discussed below. At the same time, it is emphasised that each conference – and there seems to be a similarity to drama – is a unique performance, or a “one-off real time event” as Shalom puts it (*ibid.*). Every ‘performance’ is unique, be it different versions of a play or conferences of the same organisation on different years. For example, the BAAL (British Association for Applied Linguistics) conference is not the same, but a different conference in 2012 than in the previous year. However, those conferences do show certain common features, including the structure and function of the event.

Regarding the function and purpose of a conference, Shalom (*ibid.*) remarks: “This event is held by a particular discourse community for the purposes of furthering the community's aims, research and publications.” So the research and publications are mentioned, and also the community's aim and the discourse community. Furthermore, Shalom (*ibid.*) uses genre theory, as defined above, to further define distinctive qualities of CPs. From the macrogeneric perspective, a CP can be seen in the context of a sequence of events that precede and follow the actual conference and the CPs held on it:

“PRE-EVENT

call for papers -> submission of abstracts -> evaluation of abstracts -> drawing up of programme

THE CONFERENCE

opening plenary -> sessions and social programme -> closing plenary

POST EVENT

submission of papers -> evaluation of papers -> conference proceedings/publication”

This quotation, taken from Shalom (2002: 53) shows the complex time line around the conference and the actual CPs. In general, one can see that a sequence of a large variety of genres precedes and to a certain extent prepares the actual CP.

Regarding the situation and function of the academic conference, Shalom (ibid. p. 54) notes:

“It has been seen that the academic conference event is situated in the middle of a time chain representing significant genre activity on the part of the members of a discourse community. The academic conference functions as a gatekeeper of research, a forum for presentation and discussion, and a distributor of information about research process.”

This underlines that the genre activity at an academic conference is extensive and it has to be pointed out that the conference is in the middle of the time line presented above, following an extensive genre chain and lengthy preparations, and the conference also might precede publications that are produced after the conference.

3.3.7 The generic structure of a CP

With reference to the sequence of genres on an academic conference, further information is available about the generic structure of the CP. The CP has to be seen as part of a section, a smaller part ‘conference within the conference’ that specialises in one aspect or theme on a larger conference. If the conference is smaller, such as a symposium or workshop-like event, then the following generic elements still apply, with the only exception being that a smaller event is not subdivided into sections.

Actant	Part of the generic structure
Section at a conference	

Chair	Opening the section
Section paper	
Chair	Introducing the speaker
Speaker	Thanking for introduction
Speaker	Contextualising the paper
Speaker	The paper and its generic structure (e.g. introduction, materials & methods, results, discussion, conclusion)
Speaker	Thanking the audience
Audience	Thanking the speaker (non-verbal)
Chair	Thanking the speaker
Discussion	
Chair	Opening the discussion
Discussant	Question / comment
Speaker	Answer / response
Chair	Closing the discussion
Sequence recommences: section paper & discussion	
Chair	Closing the section

Table 1: Generic structure of a talk within a conference section, based on Ventola (2002: 29)

As Table 1 shows, a CP consists of various parts, ranging from thanking the chair by the speaker via the main part of the paper (with an introduction, materials & methods, results, discussion, conclusion) until the end of the paper. There, the speaker thanks the chair. A discussion may or may not follow the CP. This depends on how the respective conference is organised. At some conferences, several papers are discussed together after a sequence of several papers without a discussion between them. At the very end of a section, the chair closes the section by summarising for example with ideas and a discussion of results. Of course, the parts of the generic structure of a CP only refer to CPs that are given on conferences that are large enough to have sections. Sections are also referred to as *parallel sessions*, which are different sequences of papers to take place at the same time. The generic structure presented in Table 1 reflects the expectations of the audience from both the speaker and the chair at a conference (linguistically and non-linguistically). The social activity, which forms part of the generic structure, is typical

within a certain context, the context of an academic conference (cf. Ventola (2002: *ibid.*)).

Going back to the main purpose of this section, defining a conference presentation, one can also wonder what a conference is. Can it be limited to its constituents, the genres it comprises of? Obviously, as this rhetorical question points out, it cannot. To quote Shalom (*ibid.* p. 57): “In sum, the academic conference event is far more than simply an expression of the different genres that make it up.” Or, to speak with Bateson (1979: 86), who focuses on epistemological reflections:

“The aggregate is greater than the sum of its parts because the combining of the parts is not a simple adding but is the nature of a multiplication or a fractionation, or the creation of a logical product.”

This is a very simple and clear observation in this quotation. Here, an analogy to mathematics is used to illustrate that two elements are combined into something new using an operation, or logics, which would then produce a logical product. The same can be said about the genres used at a conference. It is not sufficient to produce the individual genres that form part of a conference separately, it is necessary to know how to use them within the discourse community in the culture, which in other words constitutes genre knowledge.

3.3.8 The graduate seminar

Another related genre is the graduate seminar. Weissberg (1993) presents the graduate seminar as a key oral genre for students. The term seminar refers both to the student’s thesis or dissertation defence, which usually takes place between them and their committee and to a symposium or colloquium where a student presents their research in front of all interested members of their academic departments (cf. *ibid.* p. 23). While Swales (1990) classifies them as ‘other research genres’, Swales (2004) puts them into a dedicated section on spoken genres about ‘research talks and research talk’. While the claim made in the introduction of the journal issue in which Weissberg’s article appeared in 1993, namely that spoken research genres are under researched, one can say nowadays that there has been a considerable development and that at the same time, a claim of research into spoken academic discourse being in its “infancy” is still valid. Hyland (2009) emphasises that in contrast to the research article, the CP is under-researched (cf. *ibid.* p. 78). As the main reason for this fact, Hyland sees the technical difficulties of acquiring and

transcribing spoken data at a conference (cf. *ibid.* p. 79). In order to analyse the data, a certain amount of metadata has to be collected and processed in a manner that it can be used for the subsequent data analysis.

From an epistemological 'common-sense' perspective, one can state that a vast number of isolated publications (based on small corpora) and vast research projects that produce spoken academic corpora and publications based on them (MICASE, BASE, GeWiss) raise more questions than the ones they have answered.

Weissberg (*ibid.* p. 24) claims that he fills a research gap because neither the thesis/dissertation defence nor the graduate seminar has been directly examined as a genre (cf. *ibid.*). Weissberg (*ibid.* p. 25) also discusses certain dilemmas in graduate seminars. On the one hand, the students are formally introduced with biographical remarks, their past and/or on-going research, and with some humorous references to the student's personal eccentricities or outside interests. This points into the direction that, to a certain extent, students are treated as peers. At the same time, these students are clearly hierarchically below established academics because the presiding professor strictly limits their participation and jokes about each student's peculiarities (e.g. hobbies). This joking was only one-way, because academic staff joked about students, and not vice versa, as Weissberg observed (cf. *ibid.*)! Even the nature of questions asked further showed the ambiguous status of the graduate students. This was the case for both who asked them, namely academic staff and also for the contents of the questions. Usually, faculty members posed questions and students almost never did. Some questions were genuinely aiming at unknown or missing information e.g. why a student used a certain methodology or speculative (e.g. how a student sees their further research progress). While such questions could happen at a conference as part of an exchange among peers, others could not. There were also so-called "display questions" (*ibid.* p. 25) that were used to test the speaker's knowledge, and hence are unlikely to appear outside the asymmetrical student-teacher relationship.

3.3.9CPs and the academic novice

Similar to Shalom (2001), Ylönen (2003) discusses conference presentations from the perspective of an academic novice. She puts a particular didactic focus on her work and compares a written paper to a video recording of a conference talk. She takes as an example the differences in how written and spoken work in German as a foreign language is assessed in Finland and Germany. In Germany, oral performance

is valued more whereas in Finland, written output is seen as being more reliable and 'objective' for the evaluation of the student's performance. Ylönen sees the importance of teaching novices in academia so that they can be on the level to give academic conference talks because the latter is a requirement in some degree programmes in Germany (cf. *ibid.*). In conclusion, Ylönen has found that different research cultures define genres differently. One of Ylönen's findings is that in contrast to articles, research talks include more orientation towards the audience and interactive features. The speaker mentions other speakers, develops their topic based on what happens at the conference, and the audience is taken into consideration during the talk (cf. *ibid.* p. 255). The trend that the spoken research genres, whether conference talk, invited lecture, or talk by a postgraduate student, have more interactional features, and are a more dynamic, audience-dependent genre than a written publication, has been confirmed by other research literature. Shalom (*ibid.* p. 63) discusses another peculiarity of the novice expert presenter, the PhD student, in this case a native speaker of English. This student is involved in self-positioning within the discourse community, emphasising that she is doing her PhD together with mentioning her supervisor and institution. So at the same time while positioning herself as an academic novice, the student mentions the supervisor, an established academic, who has published widely in his field, she can establish an explicit link with this person and the institution (cf. *ibid.*). At the same time, the link to the supervisor and institution is a protective one, as there is a public connection between them and the student. That would also cause a protective effect from potential criticism at the discussion because the supervisor is present and direct criticism of the work of the student would cause him to lose face. Other strategies from established academics to position themselves in relation to their audience exist, for example emphasising that what they present is work in progress, or a more content-oriented mode of presenting while at the same time attempting to offset criticism by emphasising that mainly an overview of a set of observations is given (cf. *ibid.* p. 65).

3.3.10 The CP and its setting

Furthermore, the main setting for the CP, the conference itself is characterised as ephemeral by Swales (2005: 197), which is also supported by Bublitz et al. (1997: 122):

“The conference situation creates a momentary feeling of intellectual companionship and sense of common understanding and experience, but unfortunately its effect may remain very short-lived and local.”

So on the one hand, the conference offers various opportunities of exchange and cooperation between academics, but on the other hand, such experiences are rather short-lived and local, restricted to the setting of the conference and the points in time when it took place. At the same time, there is interconnectedness, i.e. one speaker is referring to another conference presentation etc. According to Ventola (2002), neither the term *genre* nor the term *intertextuality* suffice to grasp the complexity of the “universe of discourse” at an academic conference presentation, see Swales (2004: 197). Ventola’s alternative concept is semiotic spanning¹² and it remains unclear if such a concept is better, helpful or necessary to capture how conference discourse and other discourses interrelate (cf. Swales *ibid.*). He doubts the usefulness of such a concept because it cannot be finally proved because Ventola’s data is highly specialised, about a German eighteenth-century explorer and discoverer (cf. *ibid.*). Swales (*ibid.*) also gives an overview of early research into conference presentations. In this early research, the only common trend that can be identified is the diversity. Complex multimodal semiotics started off in science, but has spread to other disciplines, such as the humanities (cf. *ibid.* p. 198).

The great variety and contingency of the CP genre is relativized by Swales (cf. *ibid.* p. 200). The two most important aspects are that a CP can be less spontaneous and context-dependent, not only based on whether a speaker reads a script, but depending on the question whether the talk is based on a finished, written publication. At the same time, the genre of the CP does not have to be homogenous even within a disciplinary context. There do not necessarily have to be fixed rules on how ‘the’ prototypic CP has to be given because the CP is highly contingent.

¹² Semiotic spanning is discussed in Bublitz et al. (1999: 102). It functions between various instances of genres within the speech event e.g. between a paper and its discussion. This is also the case when the following discussion builds on previous papers in different sections of the same conference. Semiotic spanning can also happen when parts of conference papers become part of other genres e.g. dinner-table talk. Semiotic spanning also exists between the talk, its source materials and the written-up version of the talk (cf. *ibid.*). So “semiotic spanning” refers to a wide range of connections between different genres; it creates the discourse of the conference or research discourse as a whole, see also Konzett (2012: 274).

One potential research gap that Swales has identified about the CP is that they come from fast-moving fields like physical and health sciences as well as various branches of linguistics. Therefore, the question whether the findings can be applied to other disciplines remains uncertain (cf. *ibid.* p. 203). Swales (1990: 186) merely stated that the main differences between a research article and the CP were rhetorical “but not reduced to insignificance as a consequence”. More than a decade later, in his 2004 monograph, *Research Genres*, he comes to the conclusion that his previous observations were “unenlightening” and that the use of visuals, provisionality and time constraints serve to characterise the CP as a distinct spoken genre and communicative situation (cf. *ibid.* p. 203).

3.3.11 Visual aids

Another trend is visual aids. An early research publication about this specific medium of the CP is Dubois (1980). She deals with the function of slides in *biomedical speeches*, which are conference presentations. Slides are the sole visual aids in biomedical talks (cf. *ibid.* p. 46). In this discipline, the slides contain a survey of research literature, hypotheses, summaries, and conclusions (cf. *ibid.* p. 46). Also, photographs of laboratory animals are common on such slides (cf. *ibid.*). The main function of the slides that was identified is compressing information, shortening aspects on the slides that cannot be said in the allotted twelve minutes of these conference presentations (cf. *ibid.* p. 48). Furthermore, besides expressing aspects in a brief way, which is shorter than spelling them out verbally, slides also serve to visually show complex aspects that are not easy to verbalise. The conclusion of this paper will conclude the literature review of in this section because it summarises the main functions of slides in biomedical research talks:

“Slides play a critical role in biomedical speeches. In addition to providing visual interest and reinforcement of key points, they carry the crucial information of the body of the speech, information which is often not imparted orally by the speaker.”
(*ibid.* p. 50).

So slides can add a certain useful redundancy to a talk by reinforcing the main points, carrying crucial information, particularly such information that is not orally pronounced by the speaker.

Hyland (2009: 84f) confirms this as a distinctive quality of a CP. Handouts and visuals are widely used in CPs to illustrate claims and to cause research findings to

appear less abstract. Situations in the findings are illustrated in a way that the audience can participate from the perspective of the researcher. Furthermore, the use of video in such a context can also be used to add persuasive power to the presentation (cf. *ibid.*). The latter was illustrated using research on crash safety presentations by Räsänen (2002). The centrality of visuals, particularly slides, has been discussed in a quantitative manner in Rowley-Jolivet (1999). Her corpus has revealed that on average, one slide was used every 50 seconds in the 90 CPs in her corpus, including the disciplines oncology, petrology and physics. Slides are also used to encourage the imagination of the audience because direct access to the data is given. The same can be said about other graphical representations. Graphical representations, such as photographs, can give direct access to raw data, and can hence serve to reinforce the newness and immediacy of what is being presented, as discussed in Rowley-Jolivet (2002). Besides complaining about the ways PowerPoint has introduced commercial styles into academic presentations, Myers (2000: 184) discusses its powerful impact on the relationship between discourse and the presenter:

“[T]he written text, produced by the machine, has become the star; I am reduced to an unseen voiceover of my own lectures [...] it marks a shift in what Goffman (1981) called footing; that is, I am seen as the animator rather than the source of the utterance. Instead of my speaking with the aid of some visual device, the text is speaking with my aid.”

The quotation stems from the context of a longer paragraph where Myers (*ibid.*) discusses the general consequence of commercialisation at his university. This quotation discusses the lecturer’s role in his own lecture. He is reduced to somebody who does not play a central role in the discourse. The text is the main actor and is speaking with his aid.

3.3.12 Conclusion and summary

This section about the detailed review of research on the conference presentation¹³ will be concluded by the following quotation from Hyland (2009: 86):

“In sum, the conference presentation is a key research genre. Not only does it situate knowledge claims

¹³ The literature review has focused on the CP because most available research literature that is relevant for this study deals with the CP. The term ‘specialist presentation’ is used as a generic umbrella term for the data analysed in this study. A ‘specialist presentation’ can either be a CP or an invited lecture, given by an external academic at the host university.

closer to their source than a published article, but it is also central to both the knowledge-making practices of academic communities and its members sense of participation and belonging. It appears, moreover, that the CP is a complex, multi-semiotic event in which oral and visual, formal and informal, prepared and impromptu discourses all co-occur. It is a genre where co-presence, interaction and risk reside so that the whole becomes an expert rhetorical accomplishment where the speaker projects a competent, accessible person while relating cutting edge information to meet the real-time processing and interactional needs of a live audience.”

Hyland’s concluding remark for his chapter about the CP also serves best to summarise the main trends of this chapter of the PhD thesis. The quotation is particularly useful because the main trends in it confirm the main trends identified in this chapter. Firstly, there is the centrality of the CP as a key research genre. It presents research results that are not yet as fixed as a published article and sometimes allow insight into data or the researcher’s own thoughts and practices that differ from an article. Furthermore, both the review of previous research and Hyland’s quotation highlight that the CP is a mixed genre. It is multimodal, using visual aids and handouts. It is written to be spoken (notes) and combines planned and impromptu action together with formal and informal discourses. To a certain extent, a conference talk can be characterised as a complex, interactive rhetorical accomplishment that deals with cutting edge research information in both senses, meaning both that it is very recent and presented in a very dynamic manner. Finally, in contrast to a written publication, the interactional needs of a live audience have to be taken into consideration (cf. *ibid.*)

3.4 Metaphors in Spoken Academic Discourse

In the following section, previous research both on metaphor in spoken and written academic discourse will be discussed. This overview will be divided into two parts. First, there will be a more general research overview of any form of metaphor in any form of academic discourse, including written discourse. Then, as a second part, the focus will be narrowed down to spoken academic discourse, coming as close as possible to the genre of the specialist presentation, which includes conference talks and invited lectures (see above, 3.3).

3.4.1 Functions of metaphor in academic discourse

Besides the categorization suggested above, the review of research literature also follows a chronological order where it appears suitable. The first publication therefore is Gross (1983) who gives an overview of metaphors in political arguments compared to scholarly articles, which were composed by scientists and philosophers of science. One of the main trends that this paper reveals is that analogical reasoning is used in both political speeches and research debates (articles). Franklin Delano Roosevelt uses a war metaphor in a speech, asking Congress to grant him political powers that are reserved for wartime in order to deal with an economic crisis. Gross's (ibid. p. 38) analyses show that in the political speeches he studied, an appeal to rational reasoning or arguments is avoided. The war metaphor does not persuade by its rationality, but by its emotional force. The examples Gross used for analogy in scholarly arguments stems from written academic debates between Thomas S. Kuhn and Sir Karl Popper (cf. ibid. p. 40). Roosevelt's military analogy works mainly through the emotional force it contains whereas analogies in the philosophy of science are carefully extended and elaborated. The focus is put on rationality. They are only successful if their force is rational and its legitimacy fully depends on the understanding the analogy creates (cf. ibid.).

3.4.2 Metaphors in spoken academic discourse including university teaching

There is a great variety of potential communicative functions of metaphors, particularly in favour of using metaphors of movement. For example, Wooffitt (2005: 101) discusses the *trail* as a metaphor in an acceptance speech for a Nobel Prize.¹⁴ The example stems from Woolgar (1980: 253) in Knorr et al. (1981): "The trail which ultimately led to the first pulsar...". Woolgar argues that the objectivity of this scientific discovery in astronomy (a pulsar) is established through the metaphor, a description of a trail, which refers to a scientific discovery. It suggests movement, similar to in a *road* or *path* (cf. ibid.). So metaphor can have the function of establishing objectivity in scientific discourse. How can this be done and why? The objective existence of the pulsar can be established by expressing a certain distance to the new phenomenon and that it needs to be approached:

¹⁴ Such a speech is not a main genre of academic discourse, but a genre that is peripherally related to academic discourse because a Nobel Prize acceptance speech also discusses research results and its consequences, which is why it cannot be seen as unrelated to academic discourse.

“We would suppose that an entity of our own creation might be fairly readily at hand at the time when it was first noticed as existing. But ‘the first pulsar’ is to be understood as having a pre-existence, a quality of *out-there-ness* which required that it be approached.” (Woolgar 1980: 256, original italics)

So objectivity can be concretely established by expressing distance, or a certain ‘out-there-ness’, as Woolgar puts it. The next question Woolfitt (ibid.) raises is how and by which descriptive practices such an ‘out-there-ness’ can be expressed. Woolfitt (ibid.) states that the main means to establish such objectivity or distance is reported speech.

Evans (1988) deals with metaphors in university lectures in the field of business. He compared two groups of students, those that were taught using metaphors and those without metaphors. The results of this study confirmed that students taught using metaphors were better at making appropriate inferences than those without. The only explanation given was that metaphors helped students to apply knowledge to novel situations in the classroom setting (cf. ibid. p. 98). In the article, the question was also addressed whether the positive results in other studies that Evans has discussed could be transformed from the laboratory setting to an actual university classroom. The study was conducted using two groups of undergraduate students of Business Administration. They were participating in an actual lecture that was part of their degree programme (cf. ibid. p. 93). Three analogous examples were used: body weight before and after diet, miles per gallon before and after tune-up, and grade point average before and after participating in study skills training (cf. ibid.). It was found that such scenarios from informal everyday life experience helped the students to transfer knowledge and experience to formal decisions in business using statistics (cf. ibid. p. 95). Existing knowledge schemas can be elicited through metaphor and extended to reasoning in the field of business decisions. Furthermore, metaphors have helped to connect new and existing knowledge (cf. ibid. p. 98).

Similar trends are confirmed by Juchem-Grundmann (2009). The difference here is that first of all, a dedicated section is given to defining metaphor following Lakoff and Johnson (1980) and related theories (see chapter 1 for more). So this paper follows a cognitive metaphor approach and has the explicitly stated ‘mission’ to apply the results of more than 25 years of cognitive metaphor research to foreign language teaching (business English). This again leads to the next difference of this

paper to the previous one by Evans: it deals with teaching English as an L2, an international lingua franca in business (cf. p. 49). This article sees the relevance and urgent necessity for dealing with metaphor in teaching particularly for the reason that it follows a trait even early psychological research has revealed, namely that the human mind constantly wants to associate and connect different aspects in a meaningful way, see Bartlett (1967: 227): new aspects with old ones, abstract with concrete ones and known with unknown aspects. It is claimed by Juchem-Grundmann (ibid.) that metaphor can help simplify the teaching of vocabulary as it helps to overcome the inherent arbitrariness of lexical items (cf. ibid. p. 50). However, this looks more like a theoretical preliminary discussion that precedes a potential research project on how metaphors can help to enhance and optimize the teaching of business English vocabulary. Having said this, it is not intended to devalue these reflections; it should just be emphasized that this article has to be classified as preliminary and theoretical, which is greatly relevant in its own right. Moreover, it suggests how a practical study could be conducted in order to measure which and how many metaphors are used in existing textbooks and how this can be improved, e.g. organizing metaphors together with word fields and avoiding relatively arbitrary vocabulary lists (cf. ibid. p. 52). Furthermore, Juchem-Grundmann emphasizes that after more than 30 years of cognitive metaphor research, there still has not been much considerable impact on teaching (cf. ibid. p. 53). At the same time, Juchem-Grundmann offers a comprehensive review of existing material on teaching and metaphor, focusing on teaching business (cf. ibid.). The other important trend that this study shares with Evans (1988) is that it aims at researching metaphor and business teaching from the perspective of the actual classroom, and does not restrict it to the laboratory (cf. Juchem ibid. p. 56). Juchem-Grundmann (2009)'s study has a similar design to that of Evans (1988). Juchem-Grundmann also uses two groups of students, 85 individuals in total. It is not stated if they are undergraduates or postgraduates. The difference to Evans here is that the students are exposed to exactly the same lecture with the same linguistic material containing metaphors, whereas Evans had two different lectures, with and without metaphors. The difference in this study (Juchem-Grundmann 2009) for the metaphor group in contrast to the control group is that the first are taught using different, metaphor-inspired didactics regarding vocabulary teaching and visuals used in class. The practical differences in class do not have to be so

great, which can be seen on how tasks in class were changed. Instead of asking students to underline everything that has to do with money, the metaphor-based didactics asked the students to underline all words that have to do with water, based on the conceptual metaphor MONEY IS A LIQUID (cf. *ibid.* p. 58). Furthermore, in the metaphor group, the conceptual metaphor was made explicit using analogies e.g. by stating that money is as important to the economy as water is to life, namely vital (cf. *ibid.*). The main conclusion the author draws is that there is a great potential for metaphor in teaching.

Juchem-Grundmann (2009) can be directly related to Low et al. (2008), who deals with metaphor use in three UK lectures. This study shares with Juchem-Grundmann (2009) since it deals with foreign students, who are non-native speakers of English; but they are in a different setting, being exposed to lectures in the UK higher education system. Low formulates implications for English for Academic Purposes (EAP) teaching in connection with metaphors from previous research. The previous research and some studies that are not mentioned in Low's paper because they were published after it, include studies by Littlemore (2001, 2003, 2006, 2011). Littlemore (2001) specifically deals with the problems for international students caused by metaphor, as well as her paper from (2003). This paper focuses on the difficulties and misunderstandings that Bangladeshi students of public administration face when attending lectures in the UK. Her paper from (2006) emphasises the relevance of metaphor to all levels of second language teaching from beginners to advanced. The most interesting finding of Littlemore (2011)'s paper states that international students in undergraduate lectures in the UK had difficulties with words and over 40 per cent of these words involved metaphors. At the same time, the students were only aware of four per cent of cases when they did not understand words.

Low et al. (2008) can be seen as an empirical pilot study to identify metaphors in three UK lectures, answering empirical questions about how widespread metaphors are and how they appear, whether in certain patterns or clusters. He found that metaphors occur in isolation, are relatively unconnected, and that few of them are elaborated or extended in any way. Metaphors did not appear at major areas of topic change in the lectures. There was a distinction between formal and conversational lectures and it was found that the latter used metaphors more

frequently, creatively, and also used more salient metaphoric idioms (cf. *ibid.* p. 451).

Further teaching-related research on metaphor includes studies that look at how metaphors can be used in science education, e.g. Coll et al. (2005), and Keränen (2005). Keränen discusses ways to support learning and metaphors that help to clarify abstract concepts for the teaching of computer science. Coll et al. (2005) discuss the role that metaphors have for reflecting (and hence understanding) analogies and scientific models. Both papers share the trend that metaphor is central to learning and teaching and that metaphors are central to developing and understanding concepts in science or computer science. The literature so far shows that in didactic or learner discourse, metaphor is already being used as a tool for teaching. Metaphor enables students to develop a metacognitive awareness to reflect their own understanding of things, e.g. cf. Coll et al. (2005: 184). Graefen (1999) and Fandrych (2006) deal with problems that learners of German as a foreign language have to face. Graefen (1999) discusses some diachronic reflections, namely that certain expressions in academic discourse are of metaphorical origin. For example, understanding is connected to seeing things, experiencing, learning and teaching are historically connected to travelling, or more in general, to physical movement (cf. *ibid.* p. 150f). In the case of German language education, Graefen (1999) shows that teaching, learning, and gaining knowledge are metaphorically connected to the concepts of travelling and movement, but also historically related to actual movement. Furthermore, the paper deals with the contrastive dimension of metaphor research and asks two central questions. Both deal with specific types of metaphor and ask whether they are as widespread in other European languages as they are in German language teaching. She asks this question regarding visual and spatial metaphors, to what extent metaphorical expressions are directly translatable (cf. *ibid.* p. 162f).

3.4.3 Metaphor in written academic discourse

Further research on metaphor in academic discourse concentrates on written genres in the sciences. One example is Michael (2001). He focuses on the public understanding of science with special reference to biotechnology and new genetics. Animal-related metaphors have been found as central device for identity creation (cf. *ibid.* p. 212): before the enlightenment, animals were associated with human qualities, e.g. dogs could symbolise fidelity and courage (cf. *ibid.*). This changed in

the 19th century when urbanisation developed and it is said that then, humans and animals were less close and this caused a more romantic view towards animals (cf. *ibid.*). Because of a greater distance between humans and animals, animals were on the one hand more highly valued because nature was further away from people, whereas on the other hand, with butchery and freezing, animals were increasingly commodified (cf. *ibid.*). Michael (2001) also gives an overview of symbolic uses of animals in public discourse (cf. *ibid.* p. 213). All in all, animals can be used to depict a wide range of contradictory identities (cf. *ibid.* p. 205), see also Nesi (1995). The connection to academic discourse is that both Michael's and Nesi's research have revealed that animals have a long history of being part of idioms and that culturally-specific associations with animals can cause misunderstandings for international students engaging in academic discourse. Therefore, animals are one type of metaphor that are likely to appear in academic discourse.

3.4.4 Other types and functions of metaphors in academic discourse

Which other metaphor types and functions appear in academic discourse? To answer this question, various types of pedagogic and theory-constitutive metaphors will be discussed.

Tannen (2002: 1659) discusses the metaphor INTELLECTUAL ARGUMENT IS WAR. Research and arguments are framed as rivalling warrior camps. So Tannen (*ibid.*) comes to the conclusion that the acculturation of graduate students in the agonistic academic can be seen as "battle training" (*ibid.* p. 1662). This metaphor goes back to Lakoff and Johnson (1980) and their metaphor ARGUMENT IS WAR. Tannen's metaphor is one specific instantiation of it. The function is Tannen's metaphor is pedagogic. It is quoted here to show a concrete example a pedagogic metaphor that serves to illustrate the adverse conditions graduate students face in an academic environment and hence need to be prepared for.

3.4.5 Theory-constitutive and pedagogic metaphors

Besides Knudsen (2003), who deals with theory-constitutive metaphors and compares them to pedagogic metaphors that serve to explain science to a lay audience, Gessinger (1992) also deals with the function of theory-constitutive metaphors.

Gessinger (1992: 44) points out that analogical (= non-metaphorical) paraphrases in academic discourse are not as effective as metaphors. He says that the passion for the subject matter or theory can be lost (*Lustverlust*) and that even the sense or meaning can be lost as well (*Sinnverlust*). In order to describe mental structures, Fodor (1983: 38) in *Modularity of Mind* compares the human brain to a computer:

"I want to argue that the current best candidates for treatment as modular cognitive systems share a certain functional role in the mental life of organisms; the discussion in this section is largely devoted to saying which functional role that is. As often happens in playing cognitive science, it is helpful to characterise the functions of psychological systems by analogy to the organisation of idealised computing machines."

So according to Gessinger (1992: 45), the process of symbolisation is comparing the human mind to the Turing Machine (a type of computer). This is only possible after the different mental thinking processes have been compared to more concrete structures, which Fodor has previously done when he metaphorically introduced his 'modular cognitive systems'. Without this concretisation of the brain structure inductive insights into the workings of the brain via the help of an analogy with computers are not possible (cf. *ibid.*). Gessinger also emphasises that this way sensualising and concretising of scientific concepts is not only useful and necessary for researchers. The author of a metaphoric expression connects their assumptions about the quality of the matter to their own experiences and observations. These then form the empirical basic of a new view of findings. As long as this matter has not been sufficiently defined within the theory, metaphors assure its 'manageability', or the 'connections back to the lived-in world', or, to put it more simply, the author still knows, what they are talking about (cf. *ibid.*).

Similar to Gessinger's observations, Boyd (1979:357f) argues that metaphor does not harm scientific precision, because this is "an extremely plausible but mistaken understanding of precision in science." (*ibid.* p. 358). Metaphor helps to introduce new terminology or modify existing one, which can both be seen as theory-constitutive functions of metaphor (see also *ibid.* p. 360). An important aspect is the absence and impossibility of a literal paraphrase for the theory-constitutive metaphors: it simply does not exist. An example of such a metaphor is a *black hole* in space. When viewed from the Earth, the *hole* looks darker than anything else on the sky. However, there is no literal expression that can refer to this phenomenon

because scientists simply do not know what is happening inside of a *black hole*. Another function discussed by Boyd (ibid. p. 370) is that metaphors also help to highlight where further research becomes necessary at an early stage of formulating theoretical terms. Boyd claims that at this early stage, various computer-like qualities are applied to human cognition, which later can become the objects of further investigation (cf. ibid.). The fact that theory-constitutive metaphors introduce the terminology for future theory construction is seen as a programmatic feature of such metaphors by Boyd (cf. ibid. p. 371). Another important claim is that the repeated use of such metaphors “may result in an increase in their cognitive utility rather than in a decline to the level of a cliché.” (ibid.) Consequently in science, metaphors that are frequently used, discussed and modified are not likely to become so-called ‘dead’ metaphors, which is metaphorical in itself, or a cliché, which becomes more formulaic or even meaningless. Boyd (ibid. p. 381) also discusses ostensive (pointing) reference fixing. The ‘imprecision’ metaphor is sometimes accused of playing a vital role in “the socially coordinated discovery and communication of knowledge; indeed, the employment of terms of this sort appears to be essential to scientific inquiry (and rational inquiry generally).” (ibid.). It is essential to reference that it cannot always be clearly identified what words refer to is, or in Boyd's (ibid. p. 382) words: “Nondeterminate referential connections between words and features of the world are essential components of reference.” And so are metaphors. As a conclusion (ibid. p. 401), Boyd states that theory-constitutive metaphors refer to something despite being potentially impossible to define “the relevant aspects of similarity or analogy between the primary and secondary subjects of these metaphors”. Metaphors are referential, but “it is unlikely that such expressions always refer to a single definite kind [i.e. referent].” (ibid.).

In the same edited volume (from p. 409 on), Kuhn refers back to Boyd's contribution. The part where Kuhn states that theory change is accompanied by a change of the relevant metaphors is important (cf. ibid. p. 416). When the network of similarity attached to nature changes, this change is seen as substantive or cognitive, not purely formal or linguistic (cf. ibid.).

Gessinger points out that the previously discussed aspects served to argue that theory-constitutive metaphors were irreplaceable. These points cause Gessinger (ibid.) to elaborate on his initial hypothesis on metaphor:

"Metaphern sind eine besondere Form anschauenden Denkens - oder einer sprachlichen Extension der Sinne und in gewissen theoretischen Kontexten deshalb nicht ersetzbar, weil sie die notwendige Versinnlichung des Gegenstandes garantieren."

[Metaphors are a particular form of illustrative thinking – or a linguistic extension of the senses and hence irreplaceable in certain theoretical contexts, because they guarantee the necessary sensualisation of the referent.]

Gessinger (pp. 47f) also discusses how, in his view, metaphors in academic discourse are to be distinguished from literary metaphors. Gessinger's characterisation of metaphors in academic discourse appears to echo Boyd's views on theory-constitutive metaphors discussed above (see p. 97). He quotes Nietzsche, who stated that literary metaphors that had been in use longer are like coins that have lost their picture. This means that a metaphor becomes something more formulaic and less innovative, the more often it is used. In contrast to that, Gessinger says that theory-constitutive metaphors are deliberately created for permanent use. If possible, they should spread to all people and texts of the scientific community (cf. *ibid.*). Theory-constitutive metaphors only become obsolete if the part of the theory that they serve to express has been made explicit enough or if the whole theory is at stake. In the first case, the metaphor would cease to offer new perspectives; in the second case, these new perspectives would be wrong, which can be used by critics, such as Whitney in order to get to the 'hard core' of the theory. Not without a reason are metaphors the preferred means in any war of paradigms (cf. *ibid.* p. 47). This leads Gessinger to further amend his hypothesis about metaphors in the following way:

"Metaphern mit theoriekonstitutiver Funktion können, wenn sie nicht beizeiten durch explizite definitorische Aussagen ergänzt werden, zur Rekonstruktion konstitutiver Teile der Theorie verwendet werden." (*ibid.*).

[Metaphors with a theory-constitutive function can, if not occasionally complemented by explicit definitions, be used to reconstruct constitutive parts of the theory.]

Furthermore, Gessinger (*ibid.* p. 48) illustrates another potential function of theory-constitutive metaphors: they can be re-used in other theoretical contexts. At the same time, in the context of a change of paradigm, theory-constitutive metaphors

can be used to deconstruct the theory they refer to. Chomsky wanted to replace the ‘bad’ notion of learning a language by the metaphor of linguistic abilities that ‘grow’ like an organ (cf. *ibid.* p. 49). Chomsky is criticized for this use of metaphor because language learning would not follow the same natural, organic and deterministic rules as growth and function that an organ does. So here, the metaphor is the main medium for creating intertextuality by referring to other theories and metaphors (cf. *ibid.* p. 50).

3.4.6 Metaphor categories

Another central study on metaphors in academic discourse is Fandrych (2005). In this study, the use of metaphor in research articles is analysed contrastively between English and German. Fandrych (*ibid.* p. 24) gives a tabular overview of his findings. A selection of these findings concentrating on spatial (path etc.) and visual metaphors (e.g. to *see, show*) will be shown in the table below:

Category ¹⁵	German	English
(1) WAHRNEHMEN/ FOKUSSIERTEN (PERCEIVE/ FOCUS)	betrachten, sich konzentrieren auf, sehen, zurückblicken auf	consider, observe, see, focus (on), reflect
(2) BESSER WAHRNEHMBAR MACHEN (MAKE STH CLEARER, TO CLARIFY)	klären, verdeutlichen, deutlich machen, erhellen	Make clearer, clarify, shed light on s.th., illuminate
(3) ZEIGEN (SHOW)	andeuten, aufzeigen, demonstrieren, zeigen. vor Augen führen	demonstrate, indicate, point out, show
(4) GRAPHISCHE DARSTELLUNG (GRAPHICAL ILLUSTRATION)	illustrieren, skizzieren	illustrate, outline, sketch
(5) GEGENSTAND/ FRAGESTELLUNG KONSTITUIEREN (innen →	aufdecken. -werfen, heranziehen, herausarbeiten. -heben, -	raise an issue, single out, identify a question

¹⁵ The names of categories were spelt in capital letters in Fandrych’s article. The translations into English are mine.

<p>außen; unten → oben; hinten → vorne) (IDENTIFY A TOPIC/ QUESTION (inside → outside; down → up; back → front)</p>	<p>stellen, -streichen, nahe legen, offen legen</p>	
<p>(6) GENAU ANALYSIEREN (außen → innen) (ANALYSE PRECISELY outside → inside)</p>	<p>eingehen auf, vertiefen, untersuchen</p>	<p>analyse s.th. in depth, get to the core of s.th.</p>
<p>(7) WISSENSRAUM/TEXT- RAUM GESTALTEN (EXPRESS KNOWLEDGE/ TEXT SPACE)</p>	<p>abgrenzen, anfügen. - führen, aufführen, - greifen, einführen, -leiten, vorausschicken, zurückführen</p>	<p>extend, graft sth. onto an argument, define the limits of an argument</p>
<p>(8) TEXT- ARGUMENTATIONS- ENTWICKLUNG BESCHREIBEN (Weg zurücklegen) (DESCRIBE DEVELOPMENT OF TEXT AND ARGUMENT (cover the path, journey or route of an argument)</p>	<p>ausgehen von, zu . . . kommen, nachgehen. umgehen. verfolgen. zurückkommen, zuwenden; suchen, finden</p>	<p>arrive at, take the next step, lead to, return; find; begin with; conclude; start with; how the conclusion of argument was reached; the logical process of the development of that argument</p>
<p>(9) THEORIE-/BEGRIFFS- ENTWICKLUNG BESCHREIBEN (bauen) (DESCRIBE DEVELOPMENT OF THEORIES/TERMS)</p>	<p>die Grundlagen beschreiben, rekonstruieren; entwickeln</p>	<p>frame an approach in ..., construct a theory; develop a theory; explain/ describe the development of the theory from foundations, first principles; reconstruct the theory from its foundations</p>

Table 2: Overview of Fandrych (2005: 24f) – metaphor categories

Table 2 shows the selected overview of metaphor categories that Fandrych and Graefen (2002) found in their corpus of a total of 824 examples from a corpus of 17 English and 19 German language research articles from a wide range of disciplines from the humanities, to sciences and social sciences (cf. *ibid.* p. 23). Out of the 26 categories Fandrych discovered in the data, only nine categories are shown here that have relevance for metaphor research. One cannot say with certainty that the other categories are irrelevant to metaphor research, but the categories selected here concentrate on the central focus of this thesis, the use and function of metaphor in spoken academic discourse. Other functions, such as text commenting devices etc. cannot be discussed in this context due to space constraints. Another reason why the categories listed in the table above were selected is that they form central cognitive categories that are also present in academic discourse as well as part of cognition and (metaphorical) language in general, as the rest of the review of relevant research literature below will show.

Fandrych (*ibid.* p. 26) says that the spatial-directional category (Example (5) in Table 2 also contains a category of physical movement. This means that the research process is conceptualized and presented as something spatial and dynamic. As Fandrych points out, the verb *herausstellen* (literally 'to take out', but it actually means 'emphasise' or 'bring out clearly') presents the notion that a research result is taken out from a 'hidden area' and presented. Only through this act of 'taking out' the knowledge and understanding of the research results can the explanation attain the status of 'research findings'. (cf. *ibid.*). This even implies a certain paradigm, one could say, close to positivist thinking. The metaphor of movement implies that the result, knowledge, fact, or truth exists independently from the researchers and their argument, but that recovering the ideas and findings requires physical work (cf. *ibid.*). So action operates on the level of a certain space of knowledge (Wissensraum, see *ibid.* p. 27). Another important aspect Fandrych points to in this context is deictic reference, as discussed in Redder (2000). Redder has written a comprehensive review of research on deictic expressions and their functions. The most important aspect in this context is that a deictic expression has to be understood as an act of linguistic pointing in space (*here, there* etc.) and partly – if not completely – has to be interpreted in a metaphorical way. A certain vagueness of deictic expression is seen as another defining criterion (cf. *ibid.* p. 286).

Category (7) and (8) in Table 2 can be discussed together. Both categories refer to language in a space, where the text (or discourse in the sense of ‘interaction’ or ‘talk-in-interaction’ in spoken discourse) can be seen as a space (referred to as *Textraum* above, translated as *textual space*). The examples describe an argument or refer back to it, which is expressed in German as *zurückgreifen* (literally ‘to reach back’) for something. So these categories are also expressing arguments as directional movement in space, or less theoretical and abstract, as covering a distance, or travelling. The central term and theoretical assumption here is *Wissensraum* i.e. *knowledge space*. This expression is defined and discussed in detail by Redder (2000). The main aspect here is that the text can be conceptualized as a space, both mentally and linguistically. This space can be referred to using spatial, temporal, or object-related expressions (here, there, above, now, previously, later, below, this etc.). Knowledge can also be structured in a spatial or temporal manner and using deictic expressions, one can refer to spaces that are far or near, as discussed by Redder (2000) in detail. Fandrych (2005: 28) uses the term *Textraum* as a central term for discussing the spatial metaphor categories that include or are used together with deictic expressions (cf. *ibid.*), which is (7) and (8) in Table 2 above. The same can be said about category (6), which describes the development of a theory. It has a movement in space from outside to the inside, which means that progress in explaining something means spatial movement to the inside, to the core, as if research topic is a fruit or vegetable that has a core, for example to single out, or in German: *offen legen* (*disclose, reveal, make transparent*). Example (8) also shows the process of research work with an implied teleology. A distance is being covered and there is a beginning and an end point, e.g. to *return* to something, or an article can *take the next step* (cf. Fandrych *ibid.* p. 30). The latter always seems to imply anthropomorphism or personification, as taking a step usually means that intentional physical movement is involved, which either requires a human agent or at least that another human interprets a concrete movement or development as intentional human action. Furthermore, the metaphor of path and movement can be extended in another specific way, when it is said that a development or rules are being followed (*verfolgen*), then this metaphor turns the abstract entity into something concrete, dynamic and non-permanent or volatile (cf. *ibid.* p. 31).

Categories (1)-(4), on the other hand, are visual metaphors with similar implications to the spatial categories with metaphors of movement. The different kinds of visual metaphors imply that truth is hidden – and – as visual expressions are used – that findings, facts, truths, or research results are concrete, visible entities. For example, in a research context, things can be *seen, shed light on, shown, illustrated*.

In his (2006) paper, Fandrych deals with metaphor in written academic discourse in a similar manner. The main difference is that he focuses on didactic problems for learners of German as a foreign language at German universities. He looks at extracts from the learners' writing and explains why metaphors can be a particular challenge for learners, namely because they have a certain idiomatic weight on a lexical level, and they can be misunderstood as well. Regarding types of metaphors, Fandrych (2006) also comes to the conclusion that mainly verbs of movement are used in the context of a spatial environment (e.g. *etwas genau betrachten* = to look at something in a precise manner). This is a visual metaphor that also constitutes a movement in space, namely implying that be precise equals looking close, which means one has to physically *come close* to the issue, which is conceptualized as a concrete, hence visible entity. Fandrych uses a corpus of 32 research articles to explore similar categories to his paper from 2005. Metaphors need to be systematically discussed and made explicit in teaching. They cannot be usually accessed or even created by the students, as is also the case for formulaic expressions or other items of vocabulary. Such expressions sound unidiomatic if used in the wrong context (cf. *ibid*). The latter is the main reason why metaphors are problematic in learning and teaching, as Fandrych (*ibid.*) points out. Furthermore, Fandrych states that explicit contrast and bilingual learning and teaching opportunities should be sought after and seized in regards to metaphor. Finally, a larger corpus for more systematic work is needed. Fandrych's remark refers to written academic discourse. However, this conclusion can be transferred to spoken academic discourse.

The final study in this section is Meißner (2009), who discusses figurative verbs i.e. those that contain or participate in formulating metaphors in everyday academic discourse. She draws on the views of Ehlich (1999)'s concept of an everyday or general academic discourse (German: *Alltägliche Wissenschaftssprache*). This is everyday language as part of academic discourse (nouns, verbs, phrases idioms that also occur in non-academic contexts), which causes greater difficulties for students

than specialised terminology (cf. *ibid.* p. 9). Such a kind of academic discourse can be contrasted to a more specific discipline-dependent kind. Besides, Ehlich (*ibid.* p. 15) shows how parts of everyday academic discourse are a pitfall for misunderstandings for learners of German as a foreign language when they deal with articles or other research genres. He shows a long list of examples of how the term *Forschungsgegenstand* (research topic) is misunderstood by the non-native German-speaking students in their writing. This again is used to illustrate the centrality of everyday academic discourse. Meißner also shows that metaphors and everyday academic discourse in the form of verbs are interwoven, and that metaphors play a central role therein.

This is the context of Meißner's analysis of metaphors (cf. *ibid.* p. 95). She points out that there has not been any empirical research conducted yet that allows quantitative conclusions about metaphor in German academic discourse (cf. *ibid.* p. 96). The aspect that directly relates to my study is her methodology, the way she actually looks for the metaphors. Meißner (p. 100) has compiled a list of the most frequent nouns in her corpus of various disciplines. Searches for these nouns in her corpus give enough material while at the same time limiting the sample of the corpus to a manageable number of examples and enable her to determine if the expressions she has found are metaphorical. Her main findings should be put into the context of conceptual metaphor theory, based on Lakoff and Johnson (1980). Meißner's empirical study confirms the metaphorical mappings that were discovered thirty years ago without being based on corpora of naturally-occurring discourse. Meißner found verbs of position, movement, spatial constructions etc. For example, there is the expression *sich einer Sache zuwenden* (literally: 'turn towards something' = to focus on something). Meißner has composed a list of the figurative verbs (cf. *ibid.* pp. 100-102) and gives more information on their context.

3.5 Conclusion and Summary

The main purpose of this chapter was laying the foundation for the theoretical framework for this study. The main ideas of this chapter will be summarised and a connection between previous theoretical chapters and the methodology (5) and the data analysis chapter (6) will be made. First of all, this chapter (4) dealt with the phenomenon of spoken academic discourse, which was broken down into different aspects, on which research was reviewed. The chapter began with a review of discourse-related research literature and culminated into a working definition of

discourse. Discourse is a theoretical construct that does not exist a priori and that cannot be defined independently of context, setting, or participants. Discourse can be spoken or written. As a whole, discourse usually goes beyond one sentence or utterance. It can be sub-divided into utterances, genres, but also develop into so-called genre chains, see Swales (2004). Discourse constitutes social action that includes professional and human practices (Bhatia 2008). As implied by previously referring to setting, context, participants, discourse **cannot** be reduced to language, but following pragmatic schools, e.g. Austin et al. (1975), Searle (1970, Searle (1971), discourse has to be seen as social interaction, which also echoes Bhatia's views.

Discourse is related to the notion of 'genre' as individual genres or genre chains (Swales 2004). Semantically, a genre is one class or category that can include an infinite number of concrete realisations. For example the genre 'research talk' includes an infinite number of concrete realisations of talks and a genre theorist aims to include all possible kinds of research talks in their description, not only 'typical' or 'prototypical' talks. Genres are communicative events with specific communicative purposes (e.g. moves), which are recognised by the members of the respective discourse community, in which the genres are used. So what a genre is, which genres are used and which qualities they have, significantly depends on the discourse community, context and institutional practices. Finally, an additional aspect of *genre* is that they are not static, but flexible notions.

Literature on academic and spoken academic discourse has also been reviewed in this chapter in order to reveal trends and to formulate a definition of 'spoken academic discourse'. While an overarching definition proves difficult because (spoken) academic discourse falls into a wide range of disciplines and genres, there are certain qualities that have been found to apply to (spoken) academic discourse as a whole. The discourse can be defined by its setting (the university), communicative practices and purposes. The main function of academic discourse at the university is teaching and research. Academic discourse has a written and a spoken component. The latter it is a form of interaction that can be defined based on its setting, its purpose, and actants, namely that the discourse is used by members of its discourse community mainly for academic purposes.

Another important aspect was an epistemological reason for the importance of not only studying discourse in general, but specifically academic discourse. There is no

direct way of accessing knowledge and truth. Hence, the discourse is always central and mediates between the researcher and outside realities. A priori realities or 'facts' are either not accessible or non-existent. Therefore, we are left analysing discourse, as the 'real' or 'actual' reasons why academic discourse is the way it is must remain hidden, like a black box.

Different publications also stated that research into spoken academic discourse is still in its infancy, which is a claim I would like to support as another major result of the review of the research literature. As far as this study is concerned, the most important result is that this claim also applies to research talks, or specialist presentations.

An overview of different genres in spoken academic discourse has been given, together with a review of literature about the specialist presentation. A 'specialist presentation' is an umbrella term for research talks. It can either be a conference presentation or an invited lecture that is given by external scholars at the host university. The communicative purpose of both of these types of specialist presentation is to inform fellow researchers about research results and to discuss them. The research can already be published or can be work in progress. While unlikely for an invited lecture, speakers at a conference presentation can either be established academics or novices to academia i.e. postgraduate research students. Another purpose of research talks is publicity, which is a concept that works into both directions. The speaker gets additional attention for their research while the host university or the conference organiser has additional prestige by having the speaker speak at their institution, which can also be important when research performance in a department is monitored. A conference or other academic event offers various opportunities of exchange and cooperation between academics, but such experiences are rather short-lived and local, restricted to the setting of the conference and the points in time when it took place. With the specific example of the conference talk, one technical reason why spoken academic discourse is under-researched can be illustrated. Acquiring and transcribing spoken data at a conference or other academic events poses a major practical, technical and financial challenge for any interested researcher and is much more difficult than analysing written texts that are already published.

The review of relevant research literature on metaphor in (spoken) academic discourse was structured in the way that it began with more generally-relevant

literature i.e. metaphor in any academic context, which was seen as relevant or related to this study while later narrowing the focus down onto spoken academic discourse. A wide range of functions and categories of metaphor in different academic settings and discourses has been identified. For example a study by Woolgar (1980) has identified that in a Nobel Prize acceptance speech, the concepts of *trail*, *road* and *path* were very prominent. Metaphors of movement and distance were used there to establish the objective existence of an astronomical phenomenon, a pulsar by presenting it as something that 'out there' and hence needs to be approached in order to be further explored. Objectivity was hence expressed in terms of distance.

Two studies about metaphors in teaching business classes in a university setting, Evans (1988) and Juchem-Grundmann (2009), revealed that metaphors made learning and teaching in a university setting more effective i.e. by helping students to connect scenarios from their own experience to the concrete tasks they were given in class, which contributed to more effective reasoning for the purpose of solving business cases. Metaphors have been shown to help with problem solving, by connecting new aspects with old ones, abstract with concrete ones and known with unknown aspects. It can be assumed that this general function of a metaphor is not restricted to one type of setting or discourse, e.g. business lessons at the university. This general cognitive function of a metaphor is a principle that can be applied in any setting or type of discourse. Furthermore, for the teaching of vocabulary, metaphor can help to help simplify the teaching of vocabulary by reducing the inherent arbitrariness of lexical items.

Directly related to the previously mentioned study is Low et al. (2008), who looked at the functions and use of metaphors in two UK university lectures. They have found that international students have difficulties understanding metaphors in the lectures he analysed. In her study, Littlemore (2011) has found that over 40 per cent of the words of the undergraduate lecture she analysed contained metaphors and led to misunderstandings for international students. At the same, it was found that students were only aware of four per cent of the cases when they did not understand words.

Knudsen (2003) has formulated the theory that metaphors can have theory-constitutive or pedagogic functions. An example of the first is a *black hole* in astronomy, which stands for a dead star that has such a strong gravity that it pulls

everything to its centre. It is *black* because it is darker than anything else in the sky. It was termed a *hole* because of its strong gravity that let everything that came close it be pulled into it, similar to things on earth that fall into a hole. Besides, it was unclear what was at its centre. So the missing knowledge about what is happening inside also contributed to researchers calling it a hole, which also expresses the gap in knowledge about it. This notion cannot be accessed without the metaphor; hence it constitutes the underlying theory. A pedagogic metaphor can be any metaphor that is used to explain or clarify any other concept. For example, in school, an electrical circuit is often compared to water that is pumped around¹⁶ in order to clarify the circular motion of a circuit, namely that it is closed and that electricity 'flows' back to where it came from. In this analogy, an electric current is compared to pressure generated by a water pump. In general, a pedagogic metaphor can help to clarify, simplify, concretise and hence enhance abstract concepts to learners.

Philosophers of science like Richard have also firmly supported the use of metaphor in academic (particularly scientific) discourse because it does harm, but aid scientific precision. A theory-constitutive metaphor like the *black hole* can help modify existing or introduce new scientific terminology and hence does not harm precision in science in any way.

While the research literature so far has shown the general relevance and the widespread use of metaphor as a teaching device, the following research can be seen as seminal for my study because it shows the importance of metaphor in academic discourse. Fandrych (2005) discusses text commenting devices in a contrastive study that compares German and English research articles. Many of these devices are metaphorical and the most important categories have been summarised in this chapter. The main categories as identified by Fandrych (2005) were spatial-directional, movement, visual metaphors and anthropomorphism. Knowledge is constructed in spatial terms, which is in accordance with deictic expressions (Redder 2000). Fandrych's article also claims that metaphors need to be systematically discussed and made explicit in teaching. Fandrych (2005) states that the research process is conceptualised in terms of movement and objects in space. Research results are 'hidden' and must be 'revealed'. Texts and knowledge are

¹⁶ This metaphor stems from a physics textbook that was in use at the time when I was a high school student.

expressed in spatial terms. Both findings hint at the notion that research requires physical work.

Graefen (1999) has found that teaching, learning, and gaining knowledge are metaphorically connected to the concepts of travelling and movement, but also historically related to actual movement. She also deals with difficulties of to what extent metaphors can be translated and whether the same types (visual and spatial metaphors) appear in other languages. Fandrych (2006) focuses on potential difficulties of learners with metaphors. Students can either misunderstand metaphors or they might attempt to create their own novel metaphors, which often sound unidiomatic or out-of-context. Both Graefen's and Fandrych's work has shown that metaphor is central in academic discourse, but also has potential for misunderstandings and other difficulties for students.

The literature reviewed in this chapter has shown the centrality of metaphor in academic discourse, whether as a pedagogic device in the sense of clarifying and concretising abstract theoretical concepts, as a teaching device, as theory-constitutive metaphors or simply as an essential part of understanding academic discourse. The findings from previous research have proved the relevance and centrality of metaphor in academic discourse while at the same time; the review of literature about spoken academic discourse has helped to identify a research gap that further underlines the necessity and relevance of this study.

Finally, how does this chapter relate to other chapters in this study? This chapter is the second last part of the theoretical framework for this study. With an overview of metaphor theory and a working definition of 'metaphor' (chapter 2), the literature review here (chapter 3, which has dealt with discourse studies, genre theory, (spoken) academic discourse and a review of literature about metaphors in spoken academic discourse), only three chapters and for this thesis as a whole are left: chapter 4, which will deal with data and methodology for this study, and chapter 5, which will deal with quantitative (corpus-based and corpus driven methods) as well as qualitative methods (corpus-assisted discourse studies, conversation analysis etc.). Chapter 5 will also perform the data analysis and discuss the findings of this study in detail. Finally, chapter 6 will summarise results and formulate an overarching conclusion for this study as a whole.

Next, chapter 4 will follow with the purpose of discussing epistemological questions, data and methodology for this study.

4 Data and Methodology

This chapter introduces data and methodology of this study. It is subdivided into three parts: The first part (4.1) concerns epistemological reflections that introduce epistemology and briefly reflect on how researchers can create knowledge by making sense of research results.

Second, the data analysed will be described, sub-divided into a project description (4.2.1.), technical remarks on creation and processing of the corpus (4.2.2), and the corpus used in this study (4.2.3).

Thirdly, section 4.3. explains the methodological design of the study. It is justified why e.g. inductivism should be used in the context of metaphor analysis together with corpus-based discourse studies and what Popper's objections to inductivism can mean to this study.

4.1 Introduction to epistemology

Epistemology is the theory of knowledge and will be further defined in this section. There are questions (based on Cohen et al (2008:47)) that can be part of a definition of epistemology, such as "Who defines traditions and disciplines of knowledge?" and "How is knowledge (including scientific 'facts') constructed socially"? According to Cohen et al (2008: 7): epistemology concerns "the very bases of knowledge – its nature and forms, how it can be acquired, and communicated to other human beings. How one aligns oneself in this particular debate profoundly affects how one will go about uncovering knowledge of social behaviour."

Two distinctive epistemological approaches are introduced by Baszanger and Dodier in Silverman (2011: 11), who speak about the important distinction between *in situ* and *a priori* and "the need to remain open" while at the same time emphasising the need for an empirical approach. Openness towards new data is needed (so-called *in situ* studies), while at the same time, the opposite is possible, which is studying activities based on previously defined items and rules (*a priori codified studies*). While introducing this distinction, they highlight that there is a certain tension between the fact that in an anthropological tradition, other cultures "cannot be understood in the light of pre-existing knowledge" and that human activities are contingent and continually negotiated, as seen in an interactionist tradition. The third approach is the "observation how people handle the contingencies of a given

situation (ethnomethodology)” (ibid.). Baszanger and Dodier (ibid.) speak of an epistemological tension which they discuss further in the following quotation:

“The principle of openness to what cannot a priori be a *priori* pre-codified results in the basic tension underlying *in situ* studies. The flexibility required by this openness conflict with the need to maintain at least a minimum of method in the conduct of the study; that is, a certain guide for the behaviour of both the fieldworker and the people observed, depending on the plan of the study. This duality is an implicit part of the general situation of the *in situ* fieldworker.” (ibid.)

The main aspect that is illustrated by the quotation above is the fact that there is no ‘epistemological absolutism’, i.e. there can never be only one correct position to follow epistemologically and even if there were, it would not be possible because there is a tension between conflicting positions that has to be managed so that neither exactness in procedure or categories that have been a priori found to be important are neglected, as well as a certain openness, also demanded by the nature of observing and analysing social interaction, which is central to *in situ* studies (cf. ibid.).

4.2 Introduction to the data sections

The following sections will introduce the data for this study by clarifying how the data for this study was collected, how it was processed, and which corpora were used in this PhD study. First, section 4.2.1 will introduce the project that provided the data for this study. Then, in 4.2.2, some technical remarks will be formulated elaborating how data was acquired, transcribed, converted, which software was employed, and other necessary prerequisites for preparing and analysing the corpus for this study. Finally, in 4.2.3, a tabular overview and description shows the corpus used in this study, which consists of two comparable German and English sub corpora of transcripts of academic talks that were held at universities in Germany and in the UK.

4.2.1 Project Description: GeWiss Project

In the following, background, aims, objectives and funding of the project from which the data for this PhD study was taken will be introduced. The project name **GeWiss** is an acronym that stands for ‘gesprochene Wissenschaftssprache kontrastiv’ (spoken academic discourse in contrast). The GeWiss project has been

funded by the Volkswagen Foundation and its duration was from January 2010 until September 2012.¹⁷

The GeWiss website¹⁸ explains the aims and objectives of the GeWiss project, namely identifying key practices in spoken academic discourse on a contrastive dimension. Researchers at Aston University focus on analysing specialist presentations in German and English with special reference to humour and metaphors.

Besides audio and video recordings, an extensive set of meta data has been collected. The meta data categories that have been used for the project corpus are available in the appendix, in 9.4. Potential new projects with the aim of either analysing or expanding the GeWiss corpus have been discussed in Schmidt and Wörner (2012).

The GeWiss project has collected data following the criterion of authenticity. Therefore, this concept will be briefly introduced here. Authenticity of data is a major factor for linguistic research to achieve credibility and to determine to what extent research results can be applied. A common position across a wide range of approaches is inductivism, which means that research results and categories should emerge from the data as opposed to e.g. invented examples. The notion of inductivism is also compatible to the notion of authenticity that aims to keep researcher bias and influence to a minimum. Authentic data for research can be defined as data that has not been generated specifically for the purpose of a study, as discussed by e.g. Weijenberg (1980). Weijenberg says that e.g. service encounters, such as selling food items in a store would be most authentic if recorded by a hidden recorder because there was no interference by researchers or other staff. While this idea is interesting as a thought experiment that helps to illustrate the idea of maximising authenticity by minimising interference in actual interaction, it is not feasible to conduct covert recordings in reality. Ethics has to be taken into consideration, which is why the closest to the imagined covert recording of actual interaction is recording real speech events in their natural settings after previously having informed the actants and obtained consent from them. This is

¹⁷ <http://www1.aston.ac.uk/lss/research/research-projects/gewiss-spoken-academic-discourse/> (14/04/13) as well as in German on <https://gewiss.uni-leipzig.de/de/projektbeschreibung.html> (14/04/13).

¹⁸ <http://www1.aston.ac.uk/lss/research/research-projects/gewiss-spoken-academic-discourse/> (08/05/13).

what was done in the GeWiss project. To comply with data protection and research ethics, all main actants (speakers in talks, examiners, lecturers, exam candidates) had to sign consent forms prior to the event that was recorded.

In the following paragraphs, authenticity in connection with data analysis will be discussed, namely which notions of 'authentic' texts help to establish which specific advantages can be gained by using both corpus linguistic (quantitative) and discourse analytic (qualitative) approaches. Which criteria does textual material have to fulfil in order to qualify as 'authentic' from the perspective of corpus linguistics? Virtanen (2009: 1056) discusses the notion of 'raw data' in the corpus and states that this is an 'illusion' because – particularly in the area of spoken corpora – there have been too many steps between data collection and analysis in order to still refer to it as 'raw' at all (cf. *ibid.*). The specific problem of authenticity of a spoken corpus is that the data in the form of transcripts has gone through a process of interpretation, the transcription. Something that could come close to a solution of the problem of authenticity in spoken corpora is the following idea (cf. *ibid.* p. 1057): Audio and if possible video recordings should be included with a spoken corpus so that they can be compared to the transcriptions.

The discussion of authenticity in corpus linguistics will continue by discussing what aspects both corpus linguistics (CL) and discourse analysis (DA) approaches share. The first aspects to consider are ethical issues alongside some others (*ibid.* p. 1065):

“There are ethical issues that are common to both areas. Data collection involves a balance between, on the one hand, authenticity, naturalness and representativeness, and on the other hand, ethics, metalinguistic awareness and availability. In this respect corpus design can profit from the experience of linguists of different orientations.”

So both CL and DA share ethical issues and a desire for naturalness, authenticity and representativeness while it is pointed out that corpus design can profit from DA linguistics, particularly with special reference to the notion of 'context'. The notion of context strongly differs from CL views. For DA, it is important to have the original context, e.g. the newspaper with surrounding articles. If an analyst finds the newspaper article in a new context of the corpus that was created with, then the new context differs from the original one. Such differences will be of importance to discourse researchers, as the environment of an article, the setting so to speak; might play a role for the analysis. Similar aspects are also raised in Stubbs (2001)

with reference to critical discourse analysis (CDA), as well as in Biber (1993), (1994) and Biber and Conrad (2001), Biber and Jones (2009) and Schiffrin et al. (2003), Scherer (2000), Hunston (2002) and O'Keeffe and McCarthy (2010). Particularly focused on spoken corpus design and on an overview of existing spoken corpora is Wichmann (2008).

Decisions on spoken corpus design also include decisions on segmentation. In general, segmentation is the process of dividing discourse into units that are smaller than the whole of the given material. For written texts, there are paragraphs, clauses and sentences, see also Himmelmann (2006). Even written texts can be segmented into utterances, as Stoll (1998) showed. For spoken discourse, another layer of complexity emerges. Spoken discourse has to be transferred from audio- or video recordings into texts. This process is called **transcription** and the results of such a process are called **transcriptions** or **transcripts**. The act of segmentation can begin during transcription. This is the case e.g. with the GAT and GAT 2 conventions. GAT stands for *gesprächsanalytisches Transkriptionssystem* (conversation-analytic transcription system), see Selting et al. (1998) and Selting et al. (2009). The basics of a GAT 2 transcription will be explained with the help of the following figure, a screenshot from a transcript opened in the Partitureditor, part of the EXMARaLDA (Extensible Markup Language for Discourse Annotation)¹⁹ package.

3 [00:06.0]	4 [00:09.6]	5 [00:11.3]	6 [00:12	7 [00:13.0]	8 [00:13.9]	9 [00:14.4]
erm (.) we_re very pleased to welcome professor kylie house	(1.7)	from erm °h	(0.4)	er who_s professor of	linguis	linguistics at
					<i>stumbles over "linguistics"</i>	

Figure 2: Extract from a transcript, part of the English sub corpus

Now, with the help of Figure 2,²⁰ segmentation will be defined for the specific context of the transcript that was created with the GAT 2 conventions. In this transcript, two types of segments can be identified. The first more technical type of a segment is in the top grey line of the picture and has a number (e.g. 2, 3 etc.). The length of this segment is by default 2 seconds, but can be made longer at the discretion of the transcriber. The other part of segmentation that also happens during transcription is deeply rooted in the GAT 2 conventions, namely intonation units. As Selting et al. (2009) emphasise, this form of transcript as displayed in Figure 2, represents “an iconic reflection of the temporal sequence of events in real

¹⁹ www.exmaralda.org/ (16/02/13).

²⁰ source: communication T1, English sub corpus. See data overview in 4.2.3.

time". The latter refers to what is being said in the communicative event, in this case a research talk. As part of this linear sequence of transcribed spoken discourse, one can see intonation units, for example the name at the beginning of Figure 2, which then is followed by a pause, to be followed by the rest of the transcript.

A second type of segmentation stems from the theory of *funktionale Pragmatik* (functional pragmatics), see Rehbein (1977), (1995), (2001) and Fiehler (2004). As Rehbein (2001) emphasises, the transcription and analysis of the data is not a decisionistic one-to-one transliteration of the spoken discourse into a priori categories, but a process that consists of several stages (cf. *ibid.* p. 927). Segmentation is already done during transcription, and its nature is two-fold. First, the transcription conventions allow the use of punctuation, which are already segmentation into clauses and sentences, following conventions of written discourse. Then, the segmentation is continued to divide the data into so-called *sprachliche Prozeduren* (linguistic procedures), see Rehbein (1995). A linguistic procedure is smaller than a speech act, which is smaller than the discourse, the whole of the material (cf. Rehbein (1995) and (2001)).

The transcription conventions endorsed by Rehbein (see references above) are called HIAT (Halbinterpretative Arbeitstranskription). HIAT transcriptions are also orthographic (unless the research is about phonetics, then there would be an additional phonetic transcription) and the 'partitur' transcription shows the parallel actions of verbal and nonverbal communication. Other aspects, such as phonetics and intonation, can be easily added (cf. *ibid.* p. 930). The main advantage of such transcription conventions is the fact that they show simultaneous events of speaker and hearer. Rehbein (*ibid.*) even maintains that the combination of the partitur notion using HIAT conventions is the only system with this advantage. However, this is not the case; the partitur notation using e.g. the GAT 2 conventions has the same advantage of showing the simultaneity of communicative events of speaker and hearer while also allowing to annotate any aspects a researcher might be interested in. Based on the publication dates, one can see that HIAT is the older system and that Rehbein had the idea of using a partitur-like notation first, and after that, the GAT systems were developed. One major criticism of Rehbein (cf. *ibid.*) towards conversation analysis remains true: Among other typical simultaneous events in discourse, conversation analysis attempts to force overlaps into an unsystematic line-by-line notation.

Now, that two transcription and segmentation conventions (GAT2 and HIAT) have been compared, the GeWiss corpus will be introduced, followed by more detailed remarks on how the GAT2 conventions were adapted for the GeWiss project.

An overview of the whole GeWiss corpus will be presented here. The GeWiss corpus consists of three main genres: specialist presentations, student presentations and oral examinations. Here, only the whole GeWiss corpus of specialist presentations will be presented here because the other genres are not used in this study. Besides, more information on the corpus as a whole including the genres that are not discussed here is available online in the corpus handbook.²¹ More information is summarised in Table 3 below (see also pp. 4f in the handbook, see footnote 21):

size of the whole GeWiss corpus with all genres in all three languages (English, German and Polish)	1,273,529 tokens
Total duration of the corpus recordings	126:05h
Total number of communications (genres), subdivided into:	371
Specialist presentations	58
Student presentations	89
Oral examinations	224
Total number of main speakers ²²	462
Genders in the corpus	
Female	330
Male	132

Table 3: Overview of the whole GeWiss corpus

Size	44,316
Duration	5:06h
Number of specialist presentations	5
Number of speakers	6
Female	2
Male	4

Table 4: Overview of the English L1 speaker's sub corpus (GeWiss)

²¹ <https://gewiss.uni-leipzig.de/open.php?url=Handbuch.pdf> (18/04/13). A registration is required in order to be able to access the resources, which include the GeWiss corpus.

²² *Main speakers* refer to the main actants in the respective genres i.e. speakers in a talk, examiners and candidates in an exam, and lecturers (during student presentations).

When comparing the duration in hours (h), it turns out that the sub corpus of all talks that were held by L1 speakers of English equals to about four per cent of the whole GeWiss corpus. The data used in this study (see 4.2.3 below) is a subset of the corpus outlined in Table 4.

All data was transcribed with GAT 2, the second version of the GAT transcription conventions, see Selting et al. (2009) that enable and facilitate the analysis of the corpus both from a conversation-analytic perspective and others. GAT stands for 'gesprächsanalytisches Transkriptionssystem', which means discourse and conversation-analytic transcription system (cf. *ibid.*). The advantages for GAT 2 are that it is

- Claimed to be usable in Conversation Analysis, Discourse Analysis and Interactional Linguistics because orthographic conventions are followed, which maximises readability
- easily accessible for novices of transcriptions for the same reason
- structured into different levels: GAT 2 offers a simple initial level of transcription: the minimal transcript, which mainly notates the wording of discourse, but can also be expanded to more detailed level later (all cf. *ibid.* p. 3).²³

The transcription conventions are based on Selting et al. (2009) and the conventions have two main functions. First, they represent the exact and precise wording of what is said in the spoken events that form the basis of the transcripts. This includes deletions, clitisations, regionalisms, compound nouns, abbreviations and numbers. The notation also includes markers of hesitation or non-verbal reactions to the discourse, such as pauses, laughter, breath-in and out, unintelligible passages, and non-verbal events or actions.

The adaptations of the transcriptions conventions to English follow the conventions in Selting et al. (2009) and Selting et al. (2011). There were some adaptations specific to the GeWiss project,²⁴ which concern the following phenomena. For the purpose of easier searchability of the corpus, short forms and clippings were standardised, e.g. *cos*, *cuz*, *cus*, *cause* for *because* were all transcribed as *cause*. For clitisations,

²³ The more detailed levels of transcription using GAT2 will not be discussed here, as they have no relevance for this study.

²⁴ These and the following paragraphs about transcription conventions are based on a GeWiss corpus handbook, which is available from <https://gewiss.uni-leipzig.de/open.php?url=Handbuch.pdf> after a free registration at <http://gewiss.uni-leipzig.de>.

apostrophes were substituted by underscores (_): *i_m, we_ll, don_t*. Less conventional forms that were strongly influenced by processes of assimilation and reduction were noted as one word, e.g. *wanna (want to), gimme (give me)*. The orthographically correct spelling e.g. *want to* was put into the comment tier of the transcript.

Compound nouns were spelt according to the Oxford English Dictionary. When something was spelt in the transcript, this was realised by noting down the individual letters, separated by spaces, e.g. *m a*. Unlike in the German transcripts, this is realised by a syllabic spelling of the letters. In the comment tier, the pronunciation is given in a syllabic notation e.g. *emm ay* for *M.A.* and the acronym is explained, e.g. *Master of Arts*.

Hesitation markers are reduced to as few as possible variants: *er, erm, um; hm_hm, hm, yeah, no*. Any hesitation markers that strongly deviate from these forms are noted in the form they are realised: *yep, nope*.

Other potential research directions that the GeWiss corpus offers are mainly on the contrastive dimension. The corpus enables to compare German language use and cultural factors in academic settings internally across Germany, the UK, and Poland. Furthermore, the contrastive dimension can also be between L1s and L2s. So questions such as how German as an L1 and L2 differ can be explored, as well as the same question between English L1- and L2 speakers. Furthermore, the teaching of German for academic purposes (GAP) can be enhanced using an empirical basis like the GeWiss corpus, which has so far been missing and hence constituted a real gap in research (more information in footnote 17).

4.2.2 Data collection, post-processing, meta data and project partners

Depending on the individual situation of the three project partners (Aston University, Birmingham, UK; Leipzig University, Germany; Wroclaw University, Poland), audio and video recordings were conducted within the first two project years (late 2009 and in 2010). Each partner was responsible for their own recordings, for planning and organising the collection of audio and video data, as well as for collecting meta data.

The data was transcribed using the EXMARaLDA software.²⁵ Extensive metadata is available in a database, called COMA (corpus manager). Procedures, conventions and the software mentioned were standardised in this project with all project partners to maintain consistency. On the other hand, it is open to the individual researcher's choice how the data will be analysed, which theoretical framework, methodology, research questions, and software are used.

The final corpus has been made publicly available, online on a website.²⁶ Search options based on metadata allow the researcher to look for criteria such as the speaker's L1, gender, as well as genre, language of the transcripts. Full transcripts, audio files and concordance search is publicly available online. If the search functions are going to be expanded, then this will be announced on the website, see footnote 26.

Here, the concrete procedure for identifying, coding, if necessary annotating, and finally analysing metaphors in the corpus of this study will be outlined. The first step was converting all transcripts, which were in the EXMARaLDA format (.exb files) to the MS Word rich text format (.rtf files). Then, I highlighted all metaphors using different colours for different categories. In MS Word, it was difficult to add annotations without distorting the formatting of the transcripts (so-called *partitur* view). Therefore, I started using professional software for qualitative analysis, which is called QSR NVivo 9.²⁷ This allows extensive coding according to different categories (so-called *nodes*) and also allows annotations that can be as long as the author wants, while the coded or annotated content is highlighted in the text. This allows the author to easily and quickly see to which passage the coding or annotation refers. In order to be able to use NVivo, two additional steps were necessary: first, converting the transcripts to HTML (.html), then to plain text (.txt), in order to be able to import the transcripts into the software. Then, identification and categorisation of the metaphors via coding and annotations were done. This was used as an overview from a quantitative perspective to determine how many metaphors of which type were in the corpus and how they were distributed.

²⁵ <http://www.exmaralda.org/> (14/04/13).

²⁶ Since 14/03/13 as publicly announced on an EXMARaLDA-related mailing list, exmaralda@mailman.rrz.uni-hamburg.de, by Thomas Schmidt, the corpus is publicly available after registration and approval by project staff under: <https://gewiss.uni-leipzig.de/> (14/04/13).

²⁷ See <http://www.qsrinternational.com> (23/03/13).

Then, the qualitative analysis of the corpus has been carried out (see 6.). This was realised by going through the transcripts manually in MS Word 2010. There, metaphors were highlighted and examples were entered into a document and written up immediately to ‘secure’ them i.e. avoid forgetting about relevant examples. The following section (4.2.3) discusses the GeWiss data that were used for this study.

4.2.3 GeWiss-sub corpora analysed for this study

The data for the metaphor analysis in this study consists of eight fully transcribed talks that fall into an English and a German sub corpus of four talks each. The total of the corpus comes to 440 minutes, which equals corpus size of just fewer than 100,000 tokens (96,568). What follows is a tabular overview, Table 5 and Table 6.

	Talk	Speaker	language	Topic	Dura- tion (min.)	Tokens
	T1	S1	English	Small talk can be a big business	64	15,988
	T2	S2	English	Technology in learning and teaching	49	21,924
	T3	S3	English	Recent findings about idiolects	62	14,433
	T4	S4	English	Nationalism, tribalism, and ethnic politics: why is there sometimes but not always conflict?	60	11,607
	Total English				235	63,952
	T5	S5	German	Radio to make. Sprachliche Handlungen und sprachliches Lernen bei der Produktion von Podcasts im Kontext DaF/DaZ	45	7,221

	T6	S6	German	L1-Transfer im DaF-Erwerb der deutschen Hauptsatzstruktur. Eine Interventionsstudie mit italienischsprachigen Universitätsstudenten	45	9,408
	T7	S7	German	Globish only oder Mehrsprachigkeit? Zur „multilingual awareness“ von Wirtschaftsstudenten	40	8,832
	T8	S8	German	Dialektpflege, Dialektliteratur und Dialektlexikographie im Spannungsfeld von Prestige und Stigma als Wirkungskomponenten bei der Konstruktion von Sprachräumen	75	7,155
<hr/>						
Total German					205	32,616
<hr/>						
Total	8	8			440	96,568

Table 5: Data for the qualitative Analysis

Speaker	L1	Gender	Age	experience	Educated in	Works in	Setting of talk
S1	English	female	55	experienced researcher	UK	New Zealand	Research seminar series of an English university
S2	English	male	56	experienced researcher	UK	UK	Research seminar series of an English university

S3	English	male	n/a	experienced researcher	UK	New Zealand	Research seminar series of an English university
S4	English	male	67	experienced researcher	USA	USA	Research seminar series of an English university
S5	German	female	34	experienced researcher	Germany	Germany	Conference at a German university
S6	German	female	34	experienced researcher	Germany	Germany	Conference at a German university
S7	German	male	57	experienced researcher	Germany	Germany	Conference at a German university
S8	German	male	65	experienced researcher	Germany	Germany	Conference at a German university

Table 6: Speaker overview and sociolinguistic background information

Regarding metadata, Table 5 shows the Talk number e.g. T1, the speaker, e.g. S1, the topic and the length in minutes and tokens. Table 6 shows meta data for each speaker, namely their age and gender, their level of experience, their place of education and work as well as the setting of the talk. As Table 5 shows, the topics range from linguistics to didactics, or a combination of both, such as T2, which combines reflections about technology and language on a linguistic foundation. Comparability regarding the length in minutes and tokens was the major criterion for the selected data. For the English data, all talks have a length of about one hour, ranging from 49 to 64 minutes. In the German sub corpus, the talks range from 40 to 75 minutes in length. All speakers of the English data have English and the Germans German as their L1 respectively. I selected only L1 speakers for this study because this ensured that it was not necessary to explain differences between L1 and L2 speakers in metaphor use, which is not part of this study. In the English data, three out of four talks had a male speaker and one was female. In the German corpus, genders are divided equally. Regarding the total number of tokens, the English corpus is almost twice as long as the German corpus, which is the case

because of the longer duration of the talks. The table does not show the genres of the data. For the English data, these are invited talks as part of a research seminar series at the university. The German talks are all conference talks.

4.3 Data and methodology for this study

The following sections will discuss data and methodology used in this study, with special reference to combined methods that employ both quantitative and qualitative approaches (4.3.1). Other aspects discussed are Conversation Analysis (CA), see 4.3.2, metaphor identification / MIP (4.3.3), automatic metaphor extraction (4.3.4), and a conclusion for section 4.3 and the whole of chapter 4 (4.3.5).

4.3.1 Combining qualitative and corpus methods

Qualitative methods follow an interpretivist paradigm that seeks to uncover detailed aspects of an object in the context of its discourse. This again is what studying metaphors in discourse needs, as an exclusively quantitative paradigm would neither help to identify metaphors nor to explain their functions in discourse. So the qualitative approach is simply the only choice the metaphor researcher has in order to go beyond counting and ‘collecting’ metaphors as if collecting butterflies, as Schmitt (2011) observed.

In the following, the benefits of combining different methods into one combined approach will be discussed. The approaches can be as different as methods with a quantitative focus (corpus linguistics, henceforth CL), qualitative methods (discourse analysis, henceforth DA, conversation analysis, henceforth CA), and others. The benefits of combining these very different approaches cannot be taken for granted despite a wide range of publications dealing with combined or mixed methods, cf. e.g. Duguid (2007, 2010), Walsh (2006, 2010, 2012). The latter will be further explored below, focussing on concrete major themes, namely corpora and discourse studies, conversation analysis with corpora and finally: corpora and metaphor analysis. In the following I will introduce the approaches mentioned, beginning with corpora and discourse studies.

Baker (2006: 10) contributes to explaining the specific advantages of corpus-based approaches in combination with discourse studies and claims that corpus approaches help to ensure “a high degree of researcher self-awareness and agency.” This is the case because the corpus has corrective influence against a

researcher's intuition. It can prevent the researcher from making wrong conclusions based on a priori intuition by providing real-world examples. These examples can help to confirm or disprove a priori hypotheses. Baker notes that the world is constantly perceived from a particular viewpoint; research is always constructed to a certain extent, which is referred to as a cognitive bias. Baker's claims that a corpus cannot entirely eliminate, but can help to reduce cognitive biases in research:

“By using a corpus, we at least are able to place a number of restrictions on our cognitive biases. It becomes less easy to be selective about a single newspaper when we are looking at hundreds - [...] overall patterns and trends should show through.”
(ibid. p. 12).

As this quotation points out, the corpus helps reduce cognitive biases by highlighting overall patterns and trends in the data. So of course, corpus-based research could be manipulated in the same way any other research could. Baker (ibid. p. 12) discusses the bachelor / spinster example. One could say purely based on frequency that single men are discussed more often in a corpus of newspaper articles than single women. However, if more context is considered, one can see that sometimes, *bachelor* refers to women. This again demonstrates how closely qualitative and quantitative methods are related and how important it is to combine them. One can conclude by stating that no research is free of bias, but corpora help to minimise such biases.

Similar aspects are discussed in connection with the compatibility of corpora and discourse studies in Ädel and Reppen (2008: 1-4). They point out the danger of potential loss of important contextual information of discourse because corpus linguists spend a considerable amount of time computerising their data (e.g. converting websites to plain text, which includes formatting, layout and other elements, such as advertisements are lost, my own example). The latter could be termed as prematurely excluding data from a corpus, which some corpus linguists also see as problematic.

4.3.2 Conversation Analysis

Conversation analysis is particularly suitable for analysing spoken discourse, which is why it will be included as part of this review of discourse-related research. CA will be discussed as another approach that is part DA. Consequently, everything that will be mentioned below as specific to CA equally applies to DA. The major

questions to be dealt with in this section are what conversation analysis (CA) is, how this can be applied to analyse spoken interaction, to define terms such as utterances, segmentation, and finally, how CA approaches can be combined with corpus methods. The latter has been known under the name of CLCA, O'Keeffe and Walsh (2012). Publications using this approach will be reviewed with special reference to the present study.

A more detailed review of conversational analysis will be formulated in the following section. Sacks et al. (1974) look at the 'mechanics' of turn-taking, which are seen as key features of the recordings of naturally-occurring interactions they studied, see also Wooffitt (2005: 41). Recordings of interactions were authentic in the sense that they were not specifically created by researchers for the purpose of the research; see also Weijenberg (1980). This notion of authenticity has to be seen in contrast to Austin's Speech Act Theory, which works with intuitively invented examples. So in Austin's Speech Act Theory, the researcher relies on their own experience and knowledge (cf. Wooffitt *ibid.*). The authenticity of the data in CA can also be seen as contrasting to artificial lab settings that were and are employed to generate data for studies in psychological approaches to communication (cf. *ibid.*). Another reason in favour of recordings of naturally-occurring talk-in interaction is that they are relatively easy to obtain and allow the analyst to transcribe and retranscribe their data as often and as detailed as necessary, as well as permitting repeated listening for the analysis (cf. *ibid.*).

The way that CA works is that a collection of cases (conversations / any instances of talk-in-interaction) is examined (cf. *ibid.*). Findings can even be based on one sequence of turns, of which a detailed analysis has revealed interesting properties (cf. *ibid.*). Mainly, the objective of such research is to provide an account for interaction practice that is based on a consideration of a number of instances. Therefore, after something has been found that is analytically interesting, it becomes necessary to return to the corpus from which the initial instance was taken from or even to consult additional corpora (if they are available and relevant) in order to determine if there are more sequences with similar properties (cf. *ibid.*). Then, the whole account needs to be formalised by looking at details of the target exchange, such as examining the sequential context of the phenomenon, e.g. what turns precede and follow that exchange or which other patterns can be identified for a systematic analytic description.

Seedhouse and Richards (2005: 251) discuss the CA view of language and the emic perspective. They state that CA's primary interest is characterized as being in social action and less focused on language itself. In linguistics, the focus is on the question how aspects of language are organised to each other (cf. *ibid.*). CA, on the other hand, is interested in the forms of organisation of social acts in interaction, but also in how social acts are 'packaged and delivered' in linguistic terms (cf. *ibid.*). Seedhouse (*ibid.*) identifies the central and "fundamental" CA question as "Why this, in this way, right now?" Talk is seen as social action, part of an unfolding sequence, and is part of a particular pattern (cf. *ibid.*). The central distinction that Seedhouse introduces here is between etic and emic, as defined by Pike (1967: 37):

"The etic viewpoint studies behaviour as from outside of a particular system, and as an essential initial approach to an alien system. The emic viewpoint results from studying behaviour as from inside the system."

Of course, neither of these two perspectives can be seen as inherently superior to the other, neither social actions from the emic perspective, or language from the etic perspective. CA does not make an explicit claim in favour or against any of these views either, see Seedhouse (*ibid.* p. 252). However, CA has the aim to portray social action from an emic perspective (cf. *ibid.*). For CA, emic is not from a participant's perspective, but "the perspective from within the sequential environment in which the social actions were performed." (*ibid.*). The social world emerges from participants "employing the context-free interactional architecture in context-sensitive ways." (*ibid.*). For example, the norms of turn taking in conversation (Sacks et al 1974) specify that one speaker usually speaks at a time and that turns may be exchanged when a turn-constructive unit is complete; this constitutes the context-free machinery (cf. *ibid.* and Seedhouse *ibid.*). In the example of mother-child interactions, these norms might not be followed, but the significance of this finding can still be established by referring to the norms of turn-taking. So a mother repeats words before the turns of the child, which then leads to or can lead to the interactions to precisely follow the model of turn-taking by normative reference to it (cf. Seedhouse *ibid.* p. 253). Hence, the central point is that interactional organisations (turn-taking, sequence, repair and preferences) are formulated in context-free terms, but are employed by participants in a context-sensitive way to display their social actions (cf. *ibid.*). So analysts are to understand

the gap between the context-free model and its context-sensitive implementation, as well as its social significance (cf. *ibid.*). So the CA-related emic perspective cannot be dis-embedded from sequential context and the concrete utterances (cf. *ibid.*). This sequential context provides the interface between context-free architecture and its context-sensitive implementation. This is also the reason why CA sees interviewing participants post-hoc as not helpful to providing an emic perspective as understood here. The study of the concrete, complete and naturally occurring talk-in-interaction can be identified as the main concern of CA.

One important aspect in CA is reliability. First of all, the quality of the data plays a central role, the technical quality of recordings, the adequacy of transcripts, as well as the question to what extent results of a study are repeatable and replicable (cf. *ibid.* p. 254). How CA studies present their data is crucial in this context (cf. *ibid.*). CA has the standard practice of including transcripts of the data, and increasingly, audio and video files are made available via the web (cf. *ibid.*). All of this helps to make transparent the process of analysis to the reader. Therefore, this process together with the analytical procedures followed helps to verify the validity of the researcher's claim because the study is repeatable and replicable (cf. *ibid.*). It is also common for CA researchers to go to workshops to discuss and analyse their data there before having their drafts reviewed for publication (cf. *ibid.*).

Validity can be further distinguished between internal, external, ecological, and construct validity (cf. *ibid.*). Internal validity "is concerned with the soundness, integrity and credibility of findings." (*ibid.* p. 255). The main question is whether the data proves what the researcher claims or whether there are alternative explanations (cf. *ibid.*). There are several aspects that can be linked to the emic, the participant's perspective, which can be reconstructed from the participants, who document their social actions by normative reference to the interactional organisations (cf. *ibid.*). Hence, CA practitioners appear to be 'obsessed' with describing details in the interactions, which is essential for the emic perspective. This is the first aspect typical of CA because the emic perspective can only be held up by referring to all, even the smallest, interactional details. Secondly, in order to maintain the emic perspective, the reference to existing theories of society, language, psychology etc. is omitted, as this would replace the participant's with an analyst's perspective unless the orientation of the participants to such a theory can be proved from the concrete interaction. This is a parallel to Grounded Theory (e.g.

Glaser and Strauss (1967), Bak (2011), Kelle (2005) and others), who also emphasise that their categories of analysis emerge from the data and hence are not a priori categories. Thirdly, CA avoids a priori assumptions of the importance of external social, cultural and other factors, such as gender etc., which are not directly relevant to the concrete unit of talk-in-interaction. Again, here it has to be proved in the concrete instance if and which characteristics are procedurally relevant for the concrete details of the interaction (cf. Seedhouse *ibid.* p. 255f).

External validity refers to what extent findings are generalizable, which is seen as a weak point of qualitative research in general, so generalizability beyond the specific research context or case study is difficult (cf. *ibid.*). CA studies work on the micro and macro level simultaneously, so they work on the particular and the general at the same time. The next important aspect is ecological validity. Ecological validity is concerned with whether the findings of a study can be applied to people's everyday life or whether the findings came from a laboratory setting (cf. *ibid.* p. 257). The latter is not necessarily a contrast, as findings from laboratory settings can be applied to real-life settings, but this needs to be made explicit. CA practitioners typically record naturally-occurring talk in its original and authentic social setting. This helps to develop an emic, holistic perspective in order to reveal how interactants use interactional organisations (cf. *ibid.*). Therefore, CA studies can be seen as exceptionally strong in contrast to other methodologies as far as ecological validity is concerned (cf. *ibid.*).

The term construct validity is concerned with epistemology and ontology (cf. *ibid.*). The main aspect from an ethnomethodological approach in a phenomenon is interpreted from their point of view (cf. *ibid.*). The most important aspect about construct validity is that the

“constructs to which the participants themselves orient during interaction, rather than those that may be pre-specified in a priori fashion by analysts. [...] Ontologically, CA studies what the interactants themselves make relevant or talk into being. The constructs studied are therefore those that have reality for the interactants.” (*ibid.* p. 259).

Because of the emic perspective CA tries to develop, quantification can be seen as peripherally relevant to a qualitative CA methodology. As Seedhouse (*ibid.*) observes, quantification has been part of CA studies, e.g. by stating that one interactional phenomenon is more frequent than the other (cf. *ibid.*). While CA is

not against quantification as such, it is against premature quantification as Schegloff (1993) points out, particularly in this would divert our attention from the detailed analysis of individual utterances (cf. *ibid.*). Schegloff (1993: 114) notes “Quantification is no substitute for analysis.” There are also reflections on how CA can become more quantitative, which won't be detailed here; see e.g. Heritage (1999: 70) and (1995: 404).

The last aspect to consider is triangulation, which is a combination of different methods to back up research findings from different points of views. There is no substitution for detailed and in-depth analysis of individual sequences (cf. Seedhouse, *ibid.* p. 260). Therefore, triangulation, interviews, questionnaires, observations, and other data-gathering techniques are not generally undertaken (cf. *ibid.*).

How does CA relate to context? Heritage (1984: 242) observes that “The context of a next action is repeatedly renewed with every current action”, which means that is also transformable at any moment. Hence it can be basically seen that contributions to interaction are context-shaped and context-renewing. Context-shaped are contributions or utterances cannot be understood without reference to the sequential environment in which they occur and in which participants design them to occur (cf. *ibid.*). Context-renewing are contributions or utterances create a sequential environment or template in which a next contribution will occur (cf. *ibid.* p. 261).

Blommaert (2005: 54) criticises that CA focuses on regularities in talk, which causes the analyst to identify talk in talk and that according to Blommaert, the mediating link between thing and description – the analysis – is omitted. The other aspect with regards to context that Blommaert (*ibid.* p. 55) criticises is that CA treats different types of talks, which means that the contextual differences need to be established from the internal analysis of talk, of which the sequences are very brief and restricted. Therefore, it can be said that the analysis of larger patterns of interaction across events and how they relate to single instances of talk, is neglected. Among the sociolinguistic information (also meta information) that CA neglects is the role of a speaker or hearer, institutional categories, age, race, gender, ethnicity. The ‘context’ for CA is reduced to an idealised context, in which single instances of interaction take place. The context is restricted to the immediate and direct participants’ concerns. Later recontextualisations are not taken into

consideration (cf. *ibid.* p. 56). This leads Blommaert to the conclusion that ‘talk-in-interaction’ is very often accompanied by ‘talk-out-of-interaction’ (*ibid.*).

Before combined approaches of CA and e.g. corpus linguistics can be discussed, there will be a brief overview of applications of the conversation analytic approach. For example an earlier study by Aijmer (1996) provides a detailed overview of conversational routines in English, e.g. thanking and apologising. The volume by Seedhouse and Richards (2005) applies CA to institutional setting, such as workplaces, schools, and higher education (HE) and explores how conversational practices can shape professional practice. Bowles and Seedhouse (2009) follow similar topics by also using CA to explore conversational practices in different (institutional) settings.

Previous research about metaphor and corpus based approaches will be reviewed next. The aspects discussed in the following section are metaphor identification and how metaphor-related research can be conducted with corpus-based approaches. To what extent can corpora help make the qualitative nature of metaphor studies more reliable and generalizable? Goschler (2008: 46) lists previous corpus-based studies about metaphor. The rationale behind a corpus-based approach is the necessity of empirical evidence for the corresponding metaphor theories so that they can be generalized to a certain extent. If the theories are based on individual examples that might even have been made up by the authors of the literature, then the context and potential to generalize the theory are missing, as Goschler (*ibid.*) points out. This might also be an indirect criticism of the methodology and data of the seminal study by Lakoff and Johnson (1980), Lakoff (1993) who base their arguments on invented examples without giving sources or more context than the quoted examples. This criticism is also expressed by Cameron (2012) and Ahrens (2012) while McEnery and Wilson (1996: 15) term reflections on language without empirical data “armchair reflections”.

4.3.3 Metaphor identification and MIP

As regards to metaphor identification, Musolff (2004: 64f) maintains that finding metaphors in a large amount of data can be fairly difficult. He looks at approaches such as tuning devices, which are expressions that can help to identify metaphors, for example sort of, so to speak, figuratively speaking (cf. Cameron and Deignan (2003)). However, such expressions are neither the exclusive way of identifying metaphors in corpora, nor sufficient. Musolff (*ibid.*) emphasises that databases are

'blind' and cannot directly identify metaphorical expressions without also finding non-metaphorical expressions. Random internet searches are characterised as not helpful for corpus analyses where the range and genres of material are of importance for the outcome of frequency and conceptual range of metaphor usage (see Musolff (2004: 66), Deignan (2005), Cameron and Low (1999)). The main conclusion Musolff (ibid.) draws in his chapter about corpora and the semantics of metaphor is that small, specialist corpora can be helpful in identifying metaphors because the specialised corpus minimises the amount of information the researcher has to go through. So it can be said that Musolff's arguments indirectly support the corpus and methods chosen in this PhD study because using smaller, specialised corpora for metaphor analysis is presented as heuristically most effective.

Besides the reflections on metaphor identification the first theory dedicated to this aspect is the so-called Metaphor Identification Procedure (MIP), developed by a group of researchers, Pragglejaz (2007):

"This article presents an explicit method that can be reliably employed to identify metaphorically used words in discourse. Our aim is to provide metaphor scholars with a tool that may be flexibly applied to many research contexts." (p. 1).

Their purposes are to explicate whether or not something is metaphorical and to provide a reliable tool for metaphor scholars to identify metaphors in discourse. The quality and usefulness of this method will be measured against the authors' own statements. They firstly introduce their method, apply it to an example and formulate some remarks on reporting the results of using the MIP. Their relatively long list becomes clearer when they start to apply it to an example text, see Pragglejaz (2007: 3). The whole procedure consists of four steps. First, the whole text under analysis should be read. This already shows that this is part of a qualitative analysis or the discussion of individual examples in a larger corpus. The next steps are a semantic and a lexical analysis. Lexical units should be recognized and marked, e.g. by a slash (/), similar to how it is sometimes done in a sentence to find the syntactic elements. Then, the meaning will be analysed. Establishing the contextual meaning first does this. The contextual meaning can be determined for example by describing how the lexical unit describes an entity or the situation that is evoked by the text. Then, the contextual meaning is compared to the basic

meaning, which can deviate from the contextual meaning in the following ways (cf. *ibid.*):

- “—More concrete [what they evoke is easier to imagine, see, hear, feel, smell, and taste];
- Related to bodily action;
- More precise (as opposed to vague);
- Historically older”.

Based on these criteria, the contextual and basic meanings will be compared and there will be a decision on the question whether these meanings deviate from each other. The fourth step of this procedure merely reads “If yes, mark the lexical unit as metaphorical.” (*ibid.* p. 3). This refers to the question of whether the contextual meaning (what the lexical unit concretely expresses in this text) differs from the basic meaning, which was defined by the criteria or dimensions that make it differ from the contextual meaning, as listed above.

How should the results be reported – according to MIP? Pragglejaz (2007: 13) point out that the main purpose of this method of recognition and analysis of metaphor is to have an explicit set of steps so that it is possible to locate where exactly the point or cause of disagreement among different researchers lies.

The second aspect mentioned concerns forms of meta data that could give additional information on the text, such as number of words, genre, readership etc. and as much context as possible. These aspects are also mentioned in the corresponding passage about reporting the results:

“For any metaphor identification project, we urge that researchers report their results as fully as possible by including, as much as practically possible, details about the texts studied, the readership assumed, the determination of lexical units, resources used to aid decisions in completing the steps of the MIP, specific coding decisions, who the analysts were, and the statistical reliability of the analysis. Resources that we recommend are large electronic corpora and corpus-based dictionaries.” (*ibid.*).

Researchers are urged to give as much context as possible with their results, coding discussion and even statistical reliability of the analysis. For these purposes, the Pragglejaz team (*ibid.*) recommend large electronic corpora and corpus-based dictionaries.

Pragglejaz (2007) proved to be a good method for systematising the process of identifying metaphors. It remains the only universally and easily usable metaphor identification procedure despite the publication by Steen et al. (2010: 13f), who introduces the MIPVU (Metaphor Identification VU University) procedure. It lacks the simplicity of the MIP procedure from 2007 while giving no added value for identifying metaphors. In the given passage (ibid. p. 13f), Steen explains his MIPVU procedure:

“1. Find local referent and topic shifts.

Good clues are provided by lexis which is "incongruous" (Cameron 2003; Charteris-Black 2004) with the rest of the text.

2. Test whether the incongruous words are to be integrated within the overall referential and/or topical framework by means of some form of comparison.

Good clues are provided by lexis which flags the need for some form of similarity or projection (Goatly 1997).

3. Test whether the comparison is nonliteral or cross-domain.

Cameron (2003: 74) suggests that we should include any comparison that is not obviously non-metaphorical, such as the campsite was like a holiday village. Whenever two concepts are compared and they can be constructed, in context, as somehow belonging to two distinct and contrasted domains, the comparison should be seen as expressing a cross-domain mapping. Cameron refers to these as two incongruous domains.

4. Test whether the comparison can be seen as some form of indirect talk about the local or main referent or topic of the text. (If it is not, we might be dealing with a digression.)

A provisional sketch of a conceptual mapping between the incongruous material functioning as source domain on the one hand and elements from the co-text functioning as target domain on the other should be possible. This type of preliminary conceptual analysis is useful because this is a case of direct metaphor where it is impossible to look up the metaphorical meaning of indirectly used words in the dictionary, as is possible for almost all indirect metaphor.

5. If the findings for tests 2, 3, and 4 are positive, then a word should be identified as (part of) a direct form of metaphor.”

Points one and two of Steen’s five-step procedure are very similar to Pragglejaz’s procedure hence it can be said they add nothing new but summarise the known approach by Pragglejaz into his own theory. Whether the aspects to look for in a text are referred to as "incongruous" or as basic and contextual meaning that contrast are just different names for the same thing: the two meanings in a metaphor that contrast or differ in context. Points three to four from his procedure are very general and hence not necessarily helpful from a practical perspective. Both the notions of directness vs. indirectness as well as the questions to what extent a comparison is ‘literal’ or ‘non-literal’ remain unclear.

As a conclusion, it can be said that the MIP by Pragglejaz (2007) turned out to be the most helpful method for identifying, discussing and documenting metaphor in discourse (in a corpus) in order to have a standardized and explicit set of principles that helps to locate where the potential point of disagreement is.

Lakoff and Johnson (1980) focus on cognitive explanations about metaphor, but their examples are not taken from a representative corpus in any sense. This point is also criticised by Goschler (2008: 34). Therefore, it will be ensured that corpus evidence will be exploited in this study, more than so-called ‘armchair reflections’, introspective speculation without concrete examples or evidence of actual language use, as McEnery and Wilson (1996: 15) put it.

4.3.4 Automatic metaphor extraction

Last, some methods and ideas on how to extract metaphors automatically from larger or smaller corpora will be introduced and discussed in relation to this study, based on Baumer (2007) and Mason (2004). Mason has introduced an algorithm that can automatically detect and extract metaphors whereas Baumer has suggested some ideas to further optimize this algorithm. Which advantages do both of these approaches have specifically for this study and what are their limitations?

Mason (2004)’s CorMet concept aims to identify cross-domain mappings of verbs based on the assumption that verbs that select one meaning or concept in the source domain select their metaphorical equivalent in the target domain. His algorithm is based on an established Master Metaphor List, Lakoff et al. (1991). His algorithm works with large corpora that were mined from the Internet.

Baumer's proposed metaphor identification system is based on Mason's algorithm and is also applied to teaching students critical thinking. The effort at extracting metaphorical concepts looks similar to a keyword analysis (see below). The algorithm extracts frequent verbs from the corpus and compares them to 'general' English, which is a reference corpus. It can then be determined if in each corpus a verb has a different selectional preference. This can be done for specialised texts of different domains, e.g. chemistry or the finance domain. The differences in the selectional preference, for example the verb *pour*. In chemistry or other domains, this refers to liquids whereas in finance texts, this would refer to money. Based on such a difference, a metaphor can be found. However, this implies that the whole corpus for each analysis would have to come from one domain or specialism, be it chemistry, finance etc. because the computer cannot recognise from which domain a word originates. Moreover, Baumer's ideas were published as a proposal (see *ibid.*) so no information is available on how it actually works, neither in teaching nor in research. Both approaches towards computational metaphor extraction were discussed here because having a computer automatically identify all metaphors in a preferably large corpus would revolutionise metaphor research. However, none of the two approaches towards computational metaphor extraction proved to be usable or helpful because this study works with texts from one domain i.e. academic discourse. Therefore, an algorithm that might help with metaphor identification in large corpora from two different domains is not helpful. Furthermore, the algorithms are not needed because the corpus of my study is simply not too large. In the qualitative analysis and in order to identify metaphors, the corpus has been read in full. Therefore, Baumer's algorithm would cause more difficulties than be helpful as the researcher would also have to check the metaphors identified by the computer, which is the same as reading the whole data manually. At least with respect to this study, the automatic metaphor identification algorithms have no added benefits and would only create additional risks and mistakes.

There has been a slightly more positive review of the Cormet approach by Gibbs and Lonergan (2009). The reason why Gibbs and Lonergan (2009) acknowledge the computational approach slightly more positively than is done in this study is because they discuss various different trends in metaphor research and from this perspective, everything appears to be useful. From the perspective of the fairly

narrow research focus of this study, however, all unsuitable approaches have to be dismissed after having being reviewed because the research focus is rather limited and cannot deal with all metaphor research approaches beyond an initial review. After having completed the review of corpus-based studies of metaphor, the qualitative analysis will be conducted and results of this study will be reported and discussed.

4.3.5 Conclusion on data and methodology for this study

In this section, I will explain the data for this study and justify my choice of methodological approaches that are used to analyse the data.

The data for this study consists of eight fully transcribed talks in German English, totalling to 440 minutes. The data has been described and reflections on transcription conventions and authenticity were formulated above, in section 4.2 and the subsections 4.2.1-4.2.3. The data for the GeWiss project has been collected in an epistemologically open manner, namely that the fully-transcribed data can be analysed both qualitatively quantitatively, which benefits this study.

In this PhD study, qualitative and quantitative methods are combined because a strict distinction between qualitative and quantitative has to be seen as artificial and hindering the interpretation of research results while my epistemological approach in general aims to be as open as possible and to avoid a priori decisions as much as possible in favour of making decisions on results and methods in an inductive and data-driven manner. Besides, as discussed in a detailed manner in the epistemological reflections above, there can be no pure qualitative or quantitative analysis. Either, quantitative results need to be interpreted, as any interpretation has to be seen as qualitative or qualitative results are sometimes quantified, which would add a quantitative dimension to a qualitative study. Approaches that are based on the combination of qualitative and quantitative methods are for example corpus-assisted discourse studies (CADS), as introduced by Duguid (2007) and (2010), Partington (2006) and Partington (2010). CADS utilises keyword- and frequency lists, collocation and n-grams analysis, which are combined with qualitative methods i.e. pragmatic, conversation analytic, and metaphor-specific detailed analysis of selected excerpts of transcripts, based on e.g. the Metaphor Identification Procedure (MIP) by Pragglejaz (2007), see 4.3.3. The combination of qualitative and quantitative methods ensures that inductive qualitative methods are used together with quantitatively oriented corpus linguistics methods, so-called

data-driven approaches, see 5.1. Both paradigms follow the notion that categories and results should emerge from the data, which is why my preferred approach, a combination of corpus- and discourse analytic methods combines the advantages of both paradigms.

The choice of methods for metaphor analysis in this study will be further justified from an epistemological perspective. An inductive and qualitative approach will be used to analyse metaphors in this study. This is done in order to ensure that e.g. metaphor categories or other findings emerge from data and are not imposed a priori e.g. through introspection. At the same time, Popper's reflections on the philosophy of science will be taken into account in this thesis. This is the case because Popper's view of refuting conjectures is based on inductivism, namely on observation in research. Concretely for this study, this means that observations emerging from the corpus will be made, which was collected in such a way that it is as close as possible to authentic discourse, see 4.2.1. Based on such observations, hypotheses will be formulated that can be falsified, if necessary.

Besides all emphasis on inductivism and interpretivist traditions, one can never approach data and research questions with a clean slate, not only in the negative sense of bias, but rather in the sense of Gadamer's notion of *Vorurteil* (pre-understanding), which expresses that we are always influenced by our previous experience and understanding when approaching new things. This is a general philosophical observation that can also be applied to the philosophy of science. Therefore, a compromise was found, namely that for this study, previous research on metaphors in spoken academic discourse as well as other research literature are taken into consideration while putting a strong emphasis on having categories emerge from the data, as inspired by Grounded Theory, Conversation Analysis, data-driven corpus linguistic approaches, CADS, MIP, and others.

In the following chapter, these approaches will be discussed in relation to metaphor analysis, as far as they are relevant for this study. So this chapter (4) mainly consists of an introduction to the data for this study alongside an introduction to qualitative methods. The following chapter (5), will introduce relevant methods for corpus- and metaphor analysis, performs the quantitative data analysis, and discusses its results.

5 Quantitative data analysis

This chapter deals with quantitative methods and the quantitative analysis of the corpus used in this study. First, corpus linguistic (CL) methods alongside defining the notion of a linguistic corpus and corpus terminology will be introduced. The methods and terminology discussed below is not necessarily restricted to quantitative in the sense statistics-based methods, but to computer-based methods that significantly increase speed and reliability of the results of the automatic data analysis, see e.g. Biber and Conrad (2001) and Biber and Jones (2009). How and why computer-based methods are more efficient and reliable than a manual corpus analysis alongside its limitations will be discussed in detail below. This part of the chapter is followed by an introduction to quantitative methods and the quantitative data analysis, which will outline which additional steps are necessary to identify and analyse metaphors in this study.

Then, the quantitative and qualitative analysis will be conducted. The data analysed in this study has been described in detail in the methodology and data chapter (4). It consists of each four English and German fully transcribed specialist talks, altogether 440 minutes. The main purpose and objective of the quantitative part of the data analysis is pre-identifying metaphors as part of the most frequent items in the corpus alongside patterns that distinguish the different talks that form the German and English sub corpus respectively. The concrete methods and tools employed in this study include frequency- and keyword lists from both (English and German) sub corpora up until rank 200.²⁸ Furthermore, collocations, metaphor density and different metaphor categories that emerged from the data will be discussed in this chapter. When speaking about metaphor in the quantitative data analysis of this study, it has to be pointed out that there has not been a qualitative reading of the whole data for the purpose of identifying metaphors. Such a pre-analysis reading of the discourse data as a whole is only necessary for the qualitative analysis in order to identify metaphors while revealing and explaining

²⁸ On all (key) word lists in the corpus used in this study, the frequency of words on rank 200 was found to be ≤ 39 , which was the frequency cut-off point because a number ≤ 39 is extremely low in comparison to the frequencies of the top entries of the lists, 10,000 or over 2,000 respectively. At the same time the purposes of this cut-off point was keeping the number of entries for each list manageable for the researcher.

their functions in their respective discourse context.²⁹ However, for a corpus-driven (quantitative and data-driven) analysis, such a procedure is simply not necessary and would lead to a priori influence on the analysis. Before going into further details with corpus methods and terminology, there will be a few words on the distinction between corpus-based and corpus-driven. According to Tognini-Bonelli (2001), a corpus-driven approach

“builds up the theory step by step in the presence of the evidence, the observation of certain patterns leads to a hypothesis, which in turns leads to the generalisation in terms of rules of usage and finally finds unification in a theoretical statement” (ibid. p. 17).

This quotation expresses states that hypotheses and interpretations emerge from the data and are preferably not formulated intuitively and a priori. So from the data, patterns can be identified and directly proved unlike claims that grow out of introspection, which is referred to as ‘armchair linguistics’ below. Rules or patterns are formulated based on observations from the corpus studied.

On the other hand, a corpus-based approach can be any approach that makes use of a corpus in order to support claims or hypotheses made in a study. People do so despite that it might be easier to invent examples, but from an epistemological point of view, this is less credible. Hypotheses, ideas, categories, or research results in general should always emerge from the data and not be imposed a priori. This general epistemological position applies to any inductivist study (see the epistemological reflections in section 5.2). In the same publication, Tognini-Bonelli (2001: 85) points out that even her distinction between *corpus-based* and *corpus-driven* has to be relativized to a certain extent. This is the case because there is no such thing as pure induction and of course, intuition always plays a role in any research because e.g. the data cannot be put together with a clean slate or free of any intuition or other a priori influence or thoughts from research or even other people involved, see also Gadamer’s notion of *Vorurteil* (pre-understanding), as discussed in 5.1. Despite Tognini-Bonelli’s objections to her own claims, it has to be pointed out that her distinction between corpus-based and corpus-driven is particularly useful for emphasising the inductive nature of both the quantitative and the qualitative part of my study. Next, an introduction to corpus methods follows.

²⁹ As part of the qualitative analysis, the metaphors were categorised, which was introduced in the quantitative part of the data analysis to point out which metaphor categories were the most frequent ones in this study.

5.1 Introduction to corpus methods

The following sub sections of this chapter are a general introduction to corpus methods. These sub sections focus on introductions of general concepts, such as defining the notion of a linguistic corpus. Also, it will be discussed how data can be approached using corpus methods to identify general patterns and trends in the data. The specific advantages of using corpora for metaphor analysis alongside relevant metaphor-specific literature for this study were discussed in section 4.3.

Unifying characteristics of corpus-based research include large, representative electronic databases of spoken, written genres, or both, see Biber and Conrad (2001: 331). When corpus methods are mentioned below, this refers to computer-assisted analysis techniques.

Biber and Jones (2009: 1287) claim that “the central goal of corpus-based analysis is to describe and interpret generalizable patterns of language use.” They point out that this has to happen with special reference to representativity so that the findings can be generalized (cf. *ibid.*).

Corpus analysis can be seen as an **extension** to qualitative methods because it enables us to process an amount of data that would otherwise be impossible or unfeasible to approach. Processing as much data as possible is desirable because the data is the basic evidence of any form of corpus analysis. The larger the corpus, the more prominent will patterns become that can be identified in a corpus. As far as mechanical work is concerned, such as counting words, sorting results etc. a computer is definitely more reliable than a human analyst, as the latter is more prone to error than the computer.

The rationale behind a corpus-based approach is the necessity of empirical evidence for patterns that can help affirm (or disprove) hypotheses or findings. If theories are based on examples that might even have been made up by researchers, then the context and potential to verify any theory are missing, as Goschler (2008) points out.

The term *corpus* can refer to any collection of texts, independently of its size, as Deignan (2005: 76) clarifies. It can consist of a few articles, short texts that are analysed without a special methodology or technology, a huge digital corpus, or anything in between, see also Biber and Conrad (2001) and Biber and Jones (2009). An example of research that employs a more specialised corpus is a qualitative corpus-based study by Goschler (2008) who analyses metaphors in various

magazines on research about the human brain. In Goschler's study, the frequency counting and other parts of the quantitative analysis were done manually because only a few printed journal articles were part of the corpus. A computer cannot process printed texts that are not in an electronic format (text file). Goschler (ibid.) mentions that she employed printed journal articles for her study, which leads to the assumption that she had to count e.g. the frequency of metaphors manually.

There are different genres of corpora, for example larger, more general corpora, or smaller, more specialised corpora. The present study analyses metaphors in the context of academic speech in two languages on the basis of a smaller specialised spoken academic corpus (see 5.1.3 above for details). Such a specialised academic corpus is necessary because the objective of this study is to explore use and functions of metaphors in an academic setting, which makes it impossible to employ any larger general corpus that e.g. consists of newspaper articles as this would not lead to any insight into metaphors in spoken academic discourse.

The first step before any analysis has to be data collection or corpus building. This can also be seen as a step of (pre-) analysis because the researcher needs to make decisions e.g. which type of discourse they intend to analyse, how data needs to be collected, in which setting the data is collected, which meta data is available, and according to which conventions the data is to be post-processed (e.g. transcription for spoken discourse). So the data collection and corpus building are significantly influencing the following data analysis using corpus method because the choices the researcher makes determine their perspective and the scope of the analysis. For example, if a researcher decides to study spoken academic discourse, they need to deal with the questions of recordings, transcription and the question which approach to employ for analysis. Studying data from one setting also implies a choice against another. The setting also implies that the research results might only be valid within e.g. an academic setting. In order to be able to make comparisons or generalisations about other settings, the results would have to be examined with new data from a different setting. Setting is also one of the aspects that are part of so-called (sociolinguistic) meta data, which refers to additional background information on the data for researchers to aid them with the analysis. The habit of collecting meta data is based on the notion that certain variables, such as e.g. age, gender, setting (place, time, and type of event) are important for the data analysis.

Such variables can be the basis of research questions e.g. *Does metaphor use depend on age / gender / setting / location?*

After the researcher has collected the data and has built a corpus, a corpus analysis is based on **frequency lists**, **keyword lists**, **collocations**, and **concordance lines**. McEnery and Wilson (1996: 197) define a concordance line in the following way: “a comprehensive listing of a given item in a corpus (most often a word or phrase), also showing its immediate context”. On screen, the word that was searched for is in the middle and the context can be seen on the left and right side of the headword. An example from the English sub corpus in this study, using software called Exakt³⁰ for concordancing will be shown below as a screenshot:

Left Context	Match	Right Context
people (.) than states did in the past (0.5) they	see	k to mobilise masses to sustain modern armies (.)
peculiar (-) and so if you think about that you	see	how different (-) the modern state is (-) that mo
te is (-) that modern states just don_t expect to	see	that sort of situation um ^h (-) (-) and so it wa
tart looking at much of the rest of the world you	see	(-) that er that these things are unsettled (-)
fostering anti state nationalism (-) and we still	see	that today (-) er (-) even in some situations whe
e been used (-) ^h and in the case of canada they	see	m to have (-) er (-) solved it er i_ll i_ll talk a
a (.) quite a bit of work (-) and where you can	see	(-) the kinds of(-) hostilities that (-) have
ch resented by other populations because (-) they	see	med to have had (.) a s (-) a an advantaged posit
uld give you a list of (0.6) populations that (.)	see	m to have such fa (0.2) such a favourable situatio
(0.3) nationalising projects (0.5) er (0.1) have	see	med (0.6) erm more plausible than others (0.3) the
ts (0.1) have also failed (0.9) yugoslavia didn_t	see	m like such a ridiculous idea in nineteen eighteen
intellectuals in croatia and serbia and slovenia	see	med to (.) pretty much agree that (0.7) creating a

Table 7: sample concordance for *see*

These concordance lines show the context for *see*. The match or node word is the term that the researcher has typed into the system to look for concordance results. Here, it is shown as a “match” because the results match the search term. As the table shows, some context to the left and right is given. There is also the special form of “**KWAL (key word and line)** a form of concordance which allows several lines of context either side of the key word” (McEnery and Wilson (1996: 198)). The other term (cf. *ibid.*) is “**KWIC (key word in context)** a form of concordance in which a word is given within x words of context and is normally centred down the middle of the page”. KWIC is an abbreviation to refer to concordance lines for which the number of words to the left and to the right of the node word can be adjusted. The latter is defined here because it should not be confused with *keyword* that is linked to the notion of *keyness* as a result of a statistical calculation (see below).

Collocation can be defined as follows: “Corpus-based analyses of individual words often rely on the construct of ‘collocation’: how a word tends to occur together

³⁰ The Exakt software is explained in the data and methodology section of this thesis, 4.2.2.

with other specific words.” (from: Biber and Jones (2009: 1295)). It is an important phenomenon in any corpus-based study because the words that accompany the object of analysis are sometimes crucial in the sense that they change its meaning. For example, *to do something to* or *for somebody* have very different meanings. A change of preposition can change a favour into an offence or other negative act. Collocation allows tackling the quantitative part of analysing such differences automatically.

Frequency lists show which word in a corpus has the highest number of occurrences. They are automatically computed and generated and can be the starting point of a corpus analysis because they are another way of selecting or sorting examples in a vast (multi-million-words) database. Applications of frequency lists include finding out what distinguishes one type of discourse, e.g. a Language for Special Purposes (LSP), from others. This can be achieved by comparing frequency lists of large general corpora and smaller, specialised corpora because the frequency lists have been found to differ, as will be explained below. A comparison of frequency lists of different corpora using specialised software is a keyword analysis (as defined below). Additionally, frequency lists can identify which words appear to be important based on their frequency in order to evaluate existing or create new language teaching materials, see Glück (2000:221). This idea is not relevant for the main research conducted in this study, but has to be seen in connection to one recommendation for further research following this study, which is about metaphor based teaching, in which frequency lists of specialist corpora can also be expected to play an important role.

The usual method of analysing corpus data is to start with frequency lists, concordance lines to find context for the words that have been identified as the most frequent words (see above) and the most important *content words* at the same time. The following definition by Howell et al. (1999 : 345) clarifies this important distinction between content and function words:

“Function words include pronouns, articles, prepositions, conjunctions, and auxiliary verbs. Linguistically, they are a closed class of words that do not carry full lexical meaning but have a grammatical or functional role [...]. Content words are nouns, main verbs, adverbs, and adjectives. Content words are an open class of words and play a crucial role in conveying semantic information.”

Content words are relevant as they are the main carriers of semantic and hence lexical information. The class of content words is not only an open class, in which most language change can be expected to occur; it can also be expected to form the main part of metaphors, which is of central importance for this study. Prepositions or other functional words can also be expected to play a role regarding metaphors, but the main part of the metaphor is a free lexical item i.e. a content word. Whether for example the expression *keeping somebody out* is metaphorical depends both on the respective discourse context, but also on the preposition. If it was e.g. *in* that affects meaning as well, both to the extent that *in* and *out* mean the opposite and that the preposition can also determine metaphoricity.

The notion of keywords and how a key word analysis is conducted will be briefly discussed in the following. Keywords have appeared in different corpus-based studies e.g. Duguid (2007), Duguid (2010), Materna (2007), Fischer-Starcke (2009), Scott (1997), (2006), Scott and Bondi (2010). In all of these studies, the computer that compares the frequency lists of two different corpora identifies a keyword. One corpus is large and has different genres and can hence be seen as a more general corpus. This is the so-called reference corpus, against which a smaller, more specialised corpus will be compared. If the computer finds a word that is e.g. very frequent in the specialised corpus and not frequent in the general reference corpus or vice versa, then a **keyword** or even a 'negative' keyword has been found. This shows that without interpretation an automatic form of comparison of wordlists has no meaning. Whether or not this helps the researcher in achieving the objectives of their study depends on the concrete case. The advantage of keyword lists is that it eliminates elements that are frequent in both corpora, such as the article *the*. This again gives the researcher a number of keywords that can be analysed in an easier manner than two different frequency lists that need to be manually compared.

For the keyword analyses conducted with the German and English data for this study, the following corpora were employed: For English, the reference wordlist came from BASE (British Spoken Academic Corpus).³¹ This corpus has the advantage

³¹ Regarding the origin of the corpus: "The corpus was developed at the Universities of Warwick and Reading under the directorship of Hilary Nesi and Paul Thompson. Corpus development was assisted by funding from BALEAP, EURALEX, the British Academy and the Arts and Humanities Research Council.", see <http://www.coventry.ac.uk/researchnet/BASE/Pages/citeBASECorpus.aspx> (10/01/13).

of also being a corpus of British spoken academic discourse, just as the English part of the GeWiss corpus. There is a wide range of studies that are based on this corpus, for example Low et al. (2008), Nesi (2012), Lin (2012), Deroey (2012), and Deroey and Taverniers (2012).

For German, a wordlist of the Forschungs- und Lehrkorpus (FOLK), which means research and teaching corpus, was the reference corpus in this study. There is currently no other comparable German spoken academic discourse corpus than the GeWiss corpus, therefore the FOLK corpus was the reference corpus. The reference corpus needs to be different from the small, specialised main corpus of the study. This is the case because FOLK is partly a corpus of non-academic conversations. 10 oral exams from the GeWiss corpus were also incorporated into FOLK. This does not disqualify FOLK as a reference corpus for GeWiss as oral exams are a different genre from the specialist presentations analysed in this study.³²

The questions I will seek to answer are: How can a corpus enhance or validate existing findings or help to discover new metaphors? What is the specific advantage of a corpus-based analysis of metaphors?

According to the impression given by the publication on corpora and metaphor by Deignan (2005), there seems to be no metaphor-specific procedure in CL. The techniques she mentions (concordances, collocation) are similar to those in quantitative corpus studies. There is nothing metaphor-specific in her procedures. She does not mention how a metaphor can be recognised or identified in a corpus (see e.g. p. 94). One important aspect Deignan mentions is that a corpus can predict an unexpected use of words (cf. *ibid.*). For example, the concordance function can help to identify which use of a word is most frequent.

Another part of studying metaphor in a corpus-based way is presented by Cameron (2003). Besides the absolute numbers of metaphors, there are relative numbers of metaphors, so-called normalised frequencies, i.e. metaphors per 1000 words (this

BASE consists of a wide range of academic genres, including lectures that have topic from history, philosophy, science, economics, and medicine. The freely and publicly available part of this consists of lectures of a total length of 196:08:55, which equals to 1,644,942 tokens, see <http://www2.warwick.ac.uk/fac/soc/al/research/collect/base/holdings/> (19/04/13).

³² More information on FOLK was published in Deppermann and Hartung (2011) and is also available online: <http://agd.ids-mannheim.de/folk.shtml> (10/01/13). The corpus has a wide range of spoken institutional discourse from universities, high schools (Gymnasien), and everyday conversations. The speaker age ranges from two to 71 years. The corpus was recorded in Germany and in the Czech Republic, see http://agd.ids-mannheim.de/download/korpus/Korpus_FOLK_extern.pdf (19/04/13).

calculation has been applied in the quantitative analysis chapter). Cameron (2003: 54f) calculates normalised frequencies by dividing the total number of metaphors by the number of words in 1000 and then multiplying the result by 1000. The result is then rounded to whole numbers. This is not made explicit in Cameron (ibid.). However, this simple calculation leads to the same numbers that Cameron discusses in her book, for example ibid. p. 86. In the following, I will illustrate how to calculate the metaphors per 1000 words using one of Cameron's examples, because her numbers are published and hence verifiable. To calculate metaphors per 1000 words, the following numbers are needed, expressed by letters here: m is the total number of metaphors for each of the transcripts or in the case of this PhD project, each German or English sub corpus. The variable t is the total number of tokens (words) in the sub corpus or transcript, which leads to the following formula:

$$\frac{m}{t} \times 1000.$$

The result will be rounded by whole numbers according to common rules of rounding. Before the formula will be applied to the data of this study, I will demonstrate it with Cameron's numbers (ibid. p. 86). Cameron's data totals to 711 instances of linguistic metaphor in 26,613 words of transcribed spoken classroom discourse. So, according to the formula, one has to calculate

$$\frac{711}{26613} \times 1000 \approx 26.72 \approx 27. \text{ This matches to Cameron's result of 27 metaphors per 1000 words for her corpus.}$$

Of course, such a formula assumes that it has been consistently decided and clarified what a linguistic metaphor is within a study, so that findings can be reported accordingly. The difficulties one can otherwise face when intending to compare one metaphor-related study and its findings about metaphor density, are discussed by Cameron (ibid. p. 54) when she reviews previous metaphor-related studies about classroom discourse and criticises that sometimes only 'figures of speech' were studied. So the authors did either not clarify whether they were studying metaphor or other phenomena (e.g. metonymy etc.) or, as in another case, they said they dealt with metaphor but even failed to define metaphor theoretically, let alone practically, that is their metaphor identification procedures were not made explicit in some studies that were reviewed by Cameron.

In the following, I will discuss combined methods applied in order to quantify CA. The focus will be on CLCA, which stands for an approach that combines conversation analysis (CA) and corpus linguistics (CL), hence CLCA. This approach

has been discussed in O'Keeffe and Walsh (2012). They state that combining two different approaches (CA and CL) enables the researcher to benefit from the advantages of both approaches and hence to analyse more discourse data in a more systematic and efficient manner. Through CL, longer stretches of discourse can be analysed and, in order not to miss a detailed analysis of utterances in context, CA can be applied. These include the features of spoken interaction at 'higher levels' of utterance and turn (e.g. adjacency pairs, cf. *ibid.* p. 161). The advantage of the combined approach, CLCA, enables a more 'up-close' form of description of spoken interaction in context (educational setting) than could be gained by using either one of the other approaches on its own (cf. *ibid.*). How the two different approaches (CA and CL) complement each other is explained by using a landscape metaphor (a visual and spatial metaphor) to clarify the differences between the two approaches (cf. *ibid.*): The fact that CL gives an overview of the data from a quantitative perspective is compared to the view from a plane at an altitude of 20,000 feet. There, the main features of the landscape can be seen, but no details. When descending to 1,000 feet, one can see more details of the landscape. Leaving the analogy of the view from a plane, they say that at this altitude, a different methodology is needed. They explain the different aspects that CA analyses (turn-taking, adjacency pairs, topic development and management). The authors emphasise how advantageous it is to analyse the data set using two different perspectives, which are mutually beneficial and complementary to each other.

So using corpus tools (computer programmes), one can find multi-word expressions and patterns. The corpus also allows looking at the context³³ of such patterns and individual expressions. In order to analyse the turns from a CA perspective, one needs to go back to the source texts. At this level, CL meets CA. With the help of their framework, the advantages of CL and CA can be benefitted from. At the same time, CA on its own cannot go further 'down' the transcript in order to reveal patterns of use or to deal with a large text or a vast number of texts. This leads to the conclusion of the authors that the combination of CA and CL creates "a more

³³ It is obvious to wonder if 'context' stands for the same ideas in CL and CA/DA. In CL, the notion of 'context' is sometimes defined in a rather technical manner e.g. one can change a setting in the programme how many words are displayed to the left and right of the concordance node word or how many words the span of a collocational analysis should encompass to the left and right. However, in CA/DA, context can be seen as being defined independently of technicalities e.g. numbers of words, but more on the interactional level. The different turns form adjacency pairs and these again form the context of talk-in-interaction.

powerful research model.” (ibid.). This model is illustrated in the following figure from ibid.:



Figure 3: The CLCA model, O’Keefe and Walsh (2012: 164)

Figure 3 shows the two sides of the combined framework CLCA. On the one end, there is corpus linguistics (CL) with their different units of analysis. CL can be seen as closer to the data in a smaller context than one turn in conversation analysis (CA) terms, or in other words, these smaller units (word, multi-word unit etc.) constitute the turn. CL and CA meet at the level of the turn. Then, CA can be applied to explore the broader conversational context. The units of analysis there (turn design, sequential organisation etc.) are answering the question what is done with the turns and what happens on the level beyond one turn. As previously explained, this approach is closer to context and can help to explore how the mechanics of turn organisation are employed to achieve certain communicative aims. It appears that this combined approach is nothing new ‘as such’ because both CA and CL have existed and have been widely researched before. The new aspect here is to combine both CL and CA into a dedicated framework. This is nothing new as such; only the combination of both these approaches is. One can also state what both CA and CL approaches have in common, namely that “both start from the data and work towards context.” (ibid. p. 165). Previous publications by Walsh have not focused on CA as strongly as the study that was discussed here. His previous two monographs, Walsh (2006), (2011), and his article in O’Keefe and McCarthy (2010)

give broad overviews about classroom discourse and brief discussions of methods, including discourse analysis (DA), and CA, as well as how corpora can be applied for pedagogy in the latter book section. CLCA as such is not directly utilised in this study, but it is a framework that has had influence on the methodology of this study as an approach that combined corpus- and qualitative methods.

In section 5.2 the quantitative analysis of the data will begin by analysing the frequency lists of both the English and German sub corpus.

5.2 Frequency Lists

The lists of the most frequent words of the same data (English and German sub corpus of academic talks) that has been analysed in a qualitative manner will be discussed here.³⁴ The focus of this section lies on the question whether clues for metaphors can be found in the frequency lists. Frequency lists were read up to rank 200 and for each item, it was decided whether it could be part of a metaphor. Whether something is metaphorical strongly depends on its function in its concrete discourse context. Therefore, potentially metaphorical items were checked against concordances. With more information on context, it will be possible to apply the MIP (see footnote 32) in order to determine if an item of the word list is metaphorical or not. The computer was at no point employed for recognising metaphors in the data. The researcher has decided whether something was to be seen as metaphorical, following procedures that were previously described.

5.2.1 English corpus

With the help of the wordlist and the concordance function, the following frequent items could be identified as part of a metaphor. For identifying which of the items of the word lists are metaphorical, the Metaphor Identification Procedure (MIP) by Pragglejaz (2007) is used, which is discussed in section 4.3.3. All metaphorical instances of a word will be discussed in the qualitative analysis unless they are repeated examples. The table includes the rank on the frequency list, word, an example and the total number of concordances for this word, the number of concordances of the same word that are part of a metaphor, and relative metaphor occurrences, which is a percentage of metaphorical concordances out of the total number of concordances.

³⁴ Both the frequency- and keyword lists for the German and English corpus are available up to rank 200 in the appendix of this thesis, 9.1.

Rank	Word	Example	Total	metaphorical	relative meta-phor occurrences
95	technology	this would be an example of how technology challenges the notion that	102	13	12.75 %
100	going	i_m not going to go through it all	98	16	16.33 %
102	see	and <<laughing> see how you go >	94	70	74.47 %
124	look	go through and (.) look at the lesson	73	53	72.60 %
138	example	so for example to go back to (.) um (-) er romanians	65	3	4.62 %
148	back	the united states really had come back together as a single nation	62	34	54.84 %
149	into ³⁵	something i would look into	61	48	78.69 %
165	state	in some places before the modern state (-) has gone much further than anything in the past	50	5	10.00 %
177	places	the work places have agreed that they will allow them to work there	45	2	4.44 %
181	come	the united states really had come back together as a single nation	43	10	23.26 %
192	face	now here_s the problem (---) that all modern states face	40	5	12.50 %
193	looking	another tremendous benefit looking at this aspect	39	34	87.18 %

Table 8: Frequent items as part of metaphors in the English corpus

The numbers from Table 8 have been entered into Excel. A percentage (quotient) between the total number of concordances and the number of metaphors identified within these concordances has been calculated, can be seen in Table 8 and the bar chart below:

³⁵ The expression into can be seen as a functional word, a preposition, but it is mentioned here because it is part of a combination of a spatial-directional and a visual metaphor *look into*.

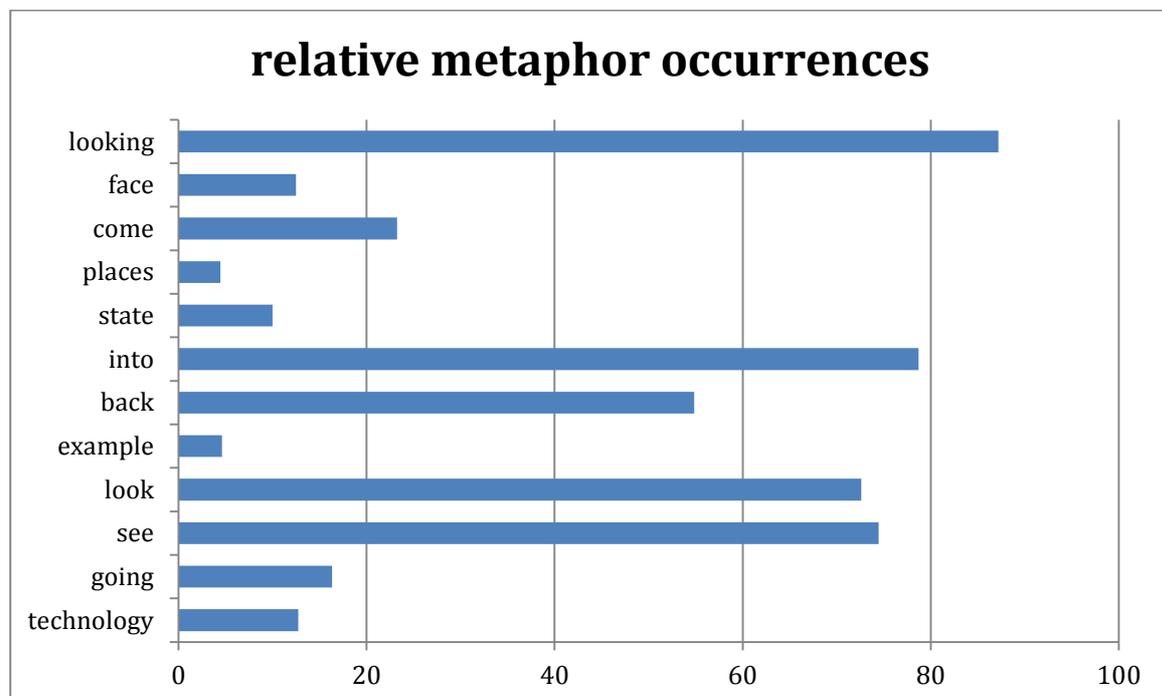


Figure 4: relative metaphor occurrences in the English wordlist

Figure 4 shows the different words that were identified from the frequency list as an indication to different metaphor categories.³⁶ The difference between Figure 4 and Table 8 is the advantage that the bar chart allows an easy overview of which words have the highest percentage of metaphors in relation to the total number of concordances that could be found for the respective word. The bar chart clearly shows that visual metaphors (look, looking, see) strongly dominate the relative metaphor occurrences in per cent. This is only topped by the occurrence of the preposition *into* (over 78%). Concordance analysis has revealed that almost all instances of *into* are connected to a visual metaphor (e.g. *to look into*). If all visual elements (*see*, *look*, *looking*, and *into*) are added together and the sum of metaphorical occurrences is divided by this total, this leads to a percentage of almost 77 (76.78 %) of metaphors out of all concordances of the aforementioned expressions. So visual metaphors have a higher metaphorical percentage than the second major category, metaphors of movement.

The second quantitatively important group in this bar chart is related to metaphors of movement. Parts of this are the expressions *going*, *back*, *places*, *come*, and *face*. Other categories play a less important role regarding their metaphor percentage. For example, *state* and *technology* are mainly part of anthropomorphic metaphors and both have 10 % or 12.71 % of metaphors for the total of their occurrences in

³⁶ Both the expressions and an explanation how the percentages were calculated can be found just after Table 8.

the corpus respectively. The expression *example* has an even lower metaphor percentage (4.62 %) and this expression mainly occurs as part of visual metaphors (e.g. *look at examples*). The three major categories for English are visual, movement and anthropomorphism.

In conclusion, visual metaphors had more metaphorical than non-metaphorical occurrences in the corpus with a percentage of 77 %. For the other categories, over three quarters are metaphorical whereas for technology metaphors and anthropomorphism, only 10% or 12.71 % are metaphorical, which equals roughly that 90 % of the words are non-metaphorical. So all in all, more metaphorical than non-metaphorical instances of the selected frequent items were found. This finding gives metaphors in the English sub corpus of this study an empirical prominence because some of the most frequent items in the English corpus are metaphorical.

5.2.2 German corpus

Here, the same procedure as above has been repeated for the German data in order to identify metaphorical items in frequency lists. The results of this procedure can be found in the table below:

Rank	Word	Example	Total	metaphorical	relative metaphor occurrences
76	beispiel (example)	sie sind ein <<lachend> lebendes beispiel dafür °h was man verliert> (you are a <<laughing> living example for what one loses>	65	2	3.07 %
118	sehen (see)	bereitet schwierigkeiten was man daran sehen kann (makes difficulties which can be seen from it)	34	26	76.47 %
184	rahmen (literally 'frame': context)	in dem größeren rahmen des projekts (in the wider context of the project)	20	20	100.00 %

Table 9: Frequent items as part of metaphors in the German corpus

Three entries from the frequency list of the German corpus could be identified as being part of metaphors. The first metaphor is *beispiel* (example) as part of a type of anthropomorphism as the speaker presents himself as a living example. This metaphor is the one with the lowest percentage (3.07 %) of metaphorical to non-metaphorical occurrences in concordances. One metaphor found is *sehen* (see), a visual metaphor. The percentage 76.47 % means that over three quarters of the concordances of which *sehen* was part of are metaphorical. The third metaphor is *rahmen* (context), a spatial metaphor. For *rahmen*, 20 out of 20 occurrences or 100.00 % are metaphorical. This is also summarised in the following pie chart:

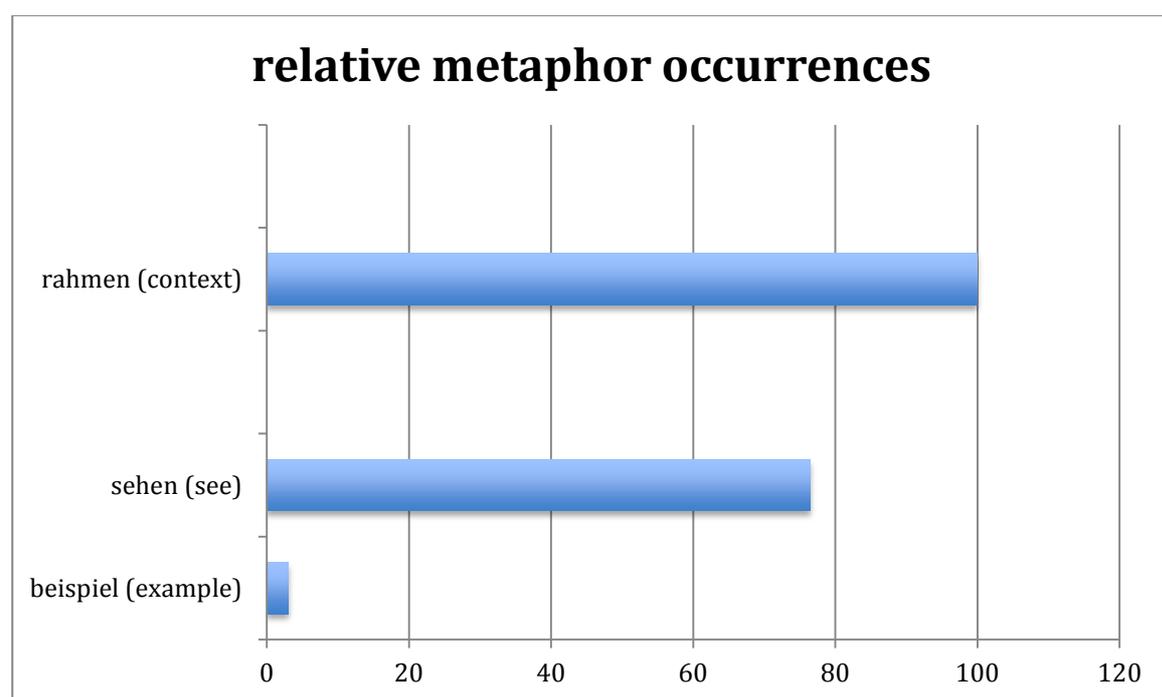


Figure 5: relative metaphor occurrences in the German corpus

This pie chart summarises the metaphor percentages as discussed above. As easily recognised from both bar charts for German and English respectively, in both corpora, visual metaphors dominate, as well as spatial ones. The percentage for anthropomorphism in English is higher than in the German data (10 % vs. 3 %). All in all, the German data boil down to three categories that dominate while the English data has a much wider range of metaphor categories (10). From these ten categories, some expressions can be subsumed into one category, e.g. into visual metaphors and movement respectively. This is the case because different expressions hint at similar metaphor categories, e.g. *see* and *look* can be subsumed as visual metaphors. If these expressions are combined into categories, then the results for English and German are very close. While the three major categories for

English are visual, movement and anthropomorphism, for German they are visual, spatial and anthropomorphism.

5.3 Keyword Lists

In the following, the keyword lists for both the English and German corpora will be analysed. As discussed in the respective section about corpus methods, keyword lists can show words that are significantly more frequent in the corpora for this study in comparison to the respective reference corpora for German and English. The items from the keyword list that are part of a metaphor or co-occur with it will be listed below, in 5.3.1 and 5.3.2. If the analysis of the keyword list until rank 200 reveals different items from those found on the frequency list, this will be indicated. No concordance example will be given in this case. The main function of the keyword analysis, in a similar manner to the analysis of the frequency lists, is to identify potential metaphors, which are then verified by concordance. Later on, it will be compared if the same lexical items were discovered and analysed in the qualitative analysis. If this is not the case, the quantitative analysis will have helped in finding more metaphors that would have been missed without additional quantitative approaches.

5.3.1 English corpus

Item	Rank	Example
Technology	34	See wordlist, p. 149
University	46	we didn_ t want the university to say
Spend	171	i_ m not going to spend four hours a day
Cut	180	the government_ s money was being cut

Table 10: Items from the English keyword list

Table 10 lists the results of analysis of the English keyword list. Two major findings are that three out of four identified items are different from the items on the wordlist and that half of these items occurred at the lower ranks of the keyword list, close to the cut-off point, rank 200. The metaphors identified and verified by concordance will be dealt with in detail in the qualitative analysis.

5.3.2 German corpus

Item	Rank	Example
Rahmen	61	See wordlist, p. 152

Table 11: Items from the German keyword list

Table 11 lists the results of analysis of the German keyword list. Here, only one item of the keyword list could be identified to occur as part of or together with a

metaphor. For the German corpus, the keyword list did not reveal new findings as the one item was also found in the word list.

For both corpora, it can be concluded that the keyword lists were an important step as part of the data analysis, which also helped in order to verify if additional metaphors could be verified by keyword lists. If there are metaphors as part of an item of a frequency (word) list or a keyword list then it could be claimed that at least quantitatively, this item has a certain importance and hence ‘empirical backing’ i.e. appearing in the data consistently. For the English corpus, this was the case, but not for the German corpus. Both the frequency- and keyword lists did not help to identify more metaphors were identified and analysed as part of the qualitative analysis. The useful part of the quantitative analysis of the word lists is to point out that some metaphor-related items are frequent enough to appear on any of these lists, which helps to quantitatively underline the importance of the metaphors in the discourse analysed.

5.4 Selected collocations

This section applies collocations in order to find which words are most likely to co-occur with items from the frequency- or keyword list both in the German and English data. These most frequent metaphor-related items are checked for their collocates. The span (words to the left and to the right of the search term is set to five).³⁷ The software employed for the collocation analysis is the freeware AntConc, see Anthony (2012).³⁸

5.4.1 English corpus

The collocates of frequent items that hint at metaphors are listed in the following table:

Item	Collocates	Rank
going	outline	7
looking	bigram see	7 16
spend	hours time	2 4
cut	money	1

Table 12: Collocates in the English corpus

³⁷ For a theoretical discussion of the feasibility of a larger or smaller span, see the section on collocation in this chapter above.

³⁸ This software was developed by a linguist and language teacher and has a collocation function, in contrast to e.g. Mike Scott’s WordSmith software, which does not, see Scott (2012). The same is true for n-grams.

Table 12 shows collocates for items from the English frequency- and keyword lists. The table has the item from a frequency- or keyword list on the left, followed by the collocates in the middle and the rank (by frequency) that was shown by the collocation software. Collocates were calculated both with a span of five to the left and right of the search term and one word respectively. The results just show a total of four items, for which relevant (metaphor-related) collocates could be found.³⁹ All of them are verbs and form metaphors together with their collocates, as was verified by concordances. The first item, *going*,⁴⁰ is a verb of movement that is shown to collocate with the visual expression *outline*. The verb *looking* (visual metaphor) collocates with *bigram*, a linguistic term, and with another verb, a visual expression, *see*. So according to the collocation analysis, a visual metaphor co-occurs with an abstract entity or another verb of perception (*see*). The verb *spend* collocates with *hours* and *time* and hence forms an economic metaphor that expresses time in economic terms. A similar metaphor is formed by the verb *cut* that was found to collocate with *money*. It is an economic metaphor combined with movement and violence, the notion of cutting an abstract entity (*money*). The latter already hints at the notion of combination and mixing of different metaphors, a notion described by Semino (2008).

From the collocation analysis, we have learned that three types of metaphors could be identified with this method, namely visual, economic and movement metaphors.⁴¹ The collocation analysis had the added benefit of finding collocates of expressions that were taken from previous word lists. Therefore, the collocation analysis helped to identify more words that go beyond the previously discussed items of frequency lists that form a second part of instances of metaphors, which is also useful because metaphorical expressions usually consist of more than one word. The results are discussed above.

5.4.2 German corpus

The results of the collocation analysis of the German corpus are summarised in the table below:

³⁹ Metaphor identification is discussed in chapter 4, section 4.3.3.

⁴⁰ A concordance check was performed to exclude uses such as *going to* + verb, which would be an auxiliary as part of the going-to future, as well as other non-metaphorical uses of this verb.

⁴¹ This finding in itself is unsurprising because the categories mentioned were already found using the word lists. The important part of the collocation analysis is which other words could than the items of the word lists be identified using a collocation analysis.

Item	Collocates	Rank
sehen	verbindungen	2
	rückschritt	13
rahmen	ausbreiten	1
	aufmachen	2

Table 13: Collocates in the German corpus

The results of the collocation analysis of the German produced two items with two collocates each that belong to different metaphor categories. The first item is *sehen* (to see) collocates with *verbindungen* (connections), an abstract entity and *rückschritt* (a step back), a metaphor of movement. So the visual metaphor *sehen* (to see) concretises abstract entities, namely movements and connections in space. The expression *rahmen* (literally ‘frame’ context) is a spatial metaphor that collocates with two verbs that extend the spatial metaphor further into space, namely *ausbreiten* (to spread out) and *aufmachen* (to open up). The result of the collocation analysis of the German corpus was that some visual and spatial metaphors had collocates.

5.5 Metaphors in multi-word sequences (n-grams)

Collocation has been examined in the previous section. This is the study of how statistically likely one word (the search term) is to co-occur with other words. Having examined this, the question arises if there are other ways of examining meaning, and hence the question of whether the combination of two or more lexical items can be classified as metaphorical. The latter issue has been discussed in studies that deal with collocation and idiomaticity. Such studies, e.g. Krishnamurthy (2003a) and (2003b), claim that meaning cannot be restricted to a single word, but occurs in sequences of words, so-called *chunks*, see also Sinclair (1991) and Biber and Conrad (2001), that occur together and constitute the meaning of a sequence of lexical items in a concrete discourse context.

The n-grams (or clusters) were configured in the AntConc software to consist at least of two and as a maximum of five words. The search terms for the n-grams were the same items from the keyword- and frequency lists from both the German and English sub corpus that were part of the collocation analysis above. The table below will include the search term, the n-gram(s) and their frequency in the corpus:

item	n-gram(s)	frequency
technology	technology came along	1
	technology can build up	1
	technology challenges the	1

	notion technology is actually effectively bringing technology_s opened up	1 1
going	going to go through going to show going back more to see going red in the face	2 2 1 1
see	see that see these differences see the extent see which bigrams contribute see how you go see some of the things see that sort of situation see the similarities see written up	9 1 1 1 1 1 1 1 1 1
look	look at idiolects look and see look at the general shape look at the history	3 1 1 1
into	into the technology system into technology backwards into this video comes	1 1 1
state	state has gone much further state developed along modern lines	1 1
looking	looking at the outline looking at the pros and looking at this question looking at what strategies looking to see	1 1 1 1 1

Table 14: n-grams in the English corpus

Table 14 shows the results of an analysis of metaphor-related n-grams in the English sub corpus. Apart from *see that*, *going to go through* and *look at idiolects*, all multi-word expressions identified in the corpus occur only once. Regarding the metaphor categories identified, anthropomorphism or other metaphors that present technology as an autonomous agent were found; a similar type of metaphor was identified for *state*. The other dominant metaphor category comprises of visual metaphors (see, look, looking). The expression *going* was found to occur as part of the going-to-future in order to announce another metaphor, such as *going to show* or *going to go through*. The preposition *into* has been found

as part of a combination of spatial and movement metaphors, such as *into this video comes*.

For German, the following expressions could be found:

item	n-gram(s)	frequency
sehen	sehen welche gemeinsamkeiten gibt es	1
	sehen dass es kooperativ stattfindet	1
rahmen	rahmen des projekts	2
	rahmen ausbreiten	1
	rahmen aufmachen	1
	rahmen eines konversationsdiskurses	1

Table 15: n-grams in the German corpus

Table 15 shows the findings for the German corpus. As can be expected from the few items from the keyword- and frequency list for the German sub corpus (see above, Table 9 and Table 11), there are also fewer results in the forms of n-grams. Apart from *rahmen des projekts* (context of the project), all n-grams identified in the German corpus also only occur once in the whole corpus, similar to results from the English data. The only two categories of metaphors found here (visual and spatial) are shared with the English corpus while the English data have a wider range of metaphor categories that could be identified in the n-gram analysis. This analysis leaves the next two sections to confirm which metaphor categories are the most frequent ones, together with metaphor density.

The n-grams turned out to be a helpful way of easily finding a vast number of metaphors by using the previously identified items from keyword- and frequency lists as search terms. This made finding the metaphors more effective than having to go through all concordances e.g. for the expression *see* and determining which concordances are metaphorical, which has been done above to decide how many concordances of an item of a frequency- or keyword list are metaphors. This is the first step away from looking at individual words and their concordance context towards multi-word expressions and hence a bit more discourse context. Together with questions of metaphor density and metaphor categories in relation to frequency, this completes the quantitative analysis, which precedes and prepares the qualitative analysis. The quantitative analysis precedes the qualitative analysis because quantitative approaches enable us to determine which metaphor-related items are frequent in the corpus, which can be a first hint at which metaphor-

related expressions are to be analysed and will then be referred back to in the qualitative analysis.

5.6 Frequency-based Overview of Metaphor Categories

As outlined in the introduction of this chapter, the analysis of the corpus consisted of three major steps, of which one was a reading through corpus in order to identify metaphors using MIP (see section 4.3.3) and to categorise and count the metaphors, which is how the categories and numbers listed below came to be. The following tabular overview will show the metaphor categories in their absolute frequency for each category, the total for each category and their respective distribution in the data, showing in how many of four sources for each English and German the metaphor categories appeared. Furthermore, the total for each metaphor category is included in this tabular overview.

cate- gories	T1	T2	T3	T4	Total English corpus	T5	T6	T7	T8	Total Ger- man cor- pus	Total cate- gory whole corpus	To- tal # of talks
visual	30	5	6	13	54	19	8	3	7	37	91	8
move- ment	37	13	4	50	104	48	15	23	27	113	217	8
anthro- pomor- phism	4	4	0	11	19	2	0	0	0	2	21	3
buil- ding	0	0	0	0	0	0	2	0	0	2	2	1
sports	0	0	0	0	0	1	0	0	0	1	1	1
mecha- nism	0	0	0	0	0	0	1	0	0	1	1	1
econo- mic	1	0	0	0	1	0	0	0	0	0	1	1

Total meta- phors per talk	72	22	10	74	178	70	26	26	34	156	N/A	N/ A
--	----	----	----	----	-----	----	----	----	----	-----	-----	---------

Table 16: Metaphor categories in the German corpus

Table 16 shows the three most frequent categories, which are: movement, visual, and anthropomorphism. The first two are present in eight out of eight talks while anthropomorphism is more present in the English sub corpus in three out of four talks with a total of 19 occurrences as opposed to two occurrences in one talk in the German sub corpus. The remaining categories in the table occur once or twice in total and are unique to one talk. The same conclusion can be drawn for both sub corpora: The most frequent metaphor categories are also the most widely-distributed ones and can hence be assumed to have functions and contexts that recur in different talks, which will also be investigated in detail in the qualitative analysis.

The number of different metaphor categories between German and English ranges from four for English to six for German. The total number of metaphors for the German and English sub corpora is similar with a slightly higher total number of metaphors for English (178), and German having a slightly lower total (156). From a quantitative point of view, it can also be concluded that quantitatively significant differences in metaphor use between German and English L1 expert speakers in specialist presentations could not be found. At least such differences were not quantitatively measurable. Besides the frequency and wide distribution of metaphors, the question of differences in metaphor use between German and English speakers has to be investigated qualitatively.

5.7 Metaphor density

The purpose of measuring metaphor density is to enable the researcher to combine talks of different lengths by calculating normalised frequencies (metaphors per 1000 words). Metaphor density was defined in section 4.3 as part of a detailed review of studies that deals with metaphors in spoken discourse. The metaphor density (or normalised frequency) is a quotient of the absolute number of metaphors and tokens for each talk that is multiplied by 1000. Metaphor density

will be discussed here because absolute numbers of tokens and metaphors of each talk would not allow comparisons across talks of different lengths. Below, the metaphor density for both the English and the German data will be compared.

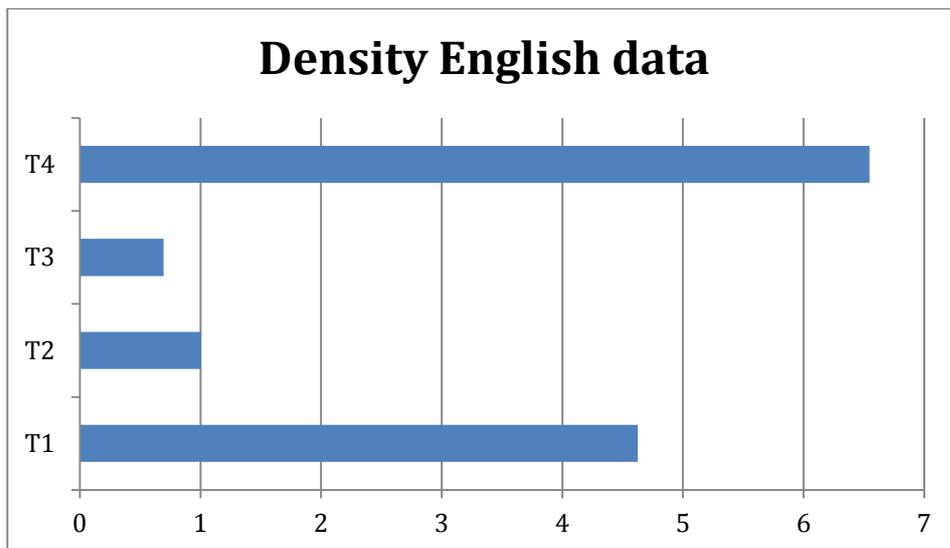


Figure 6: Normalised metaphor numbers in the English corpus

Figure 6 shows the metaphors per 1000 words in the English corpus (normalised metaphor numbers). The chart clearly shows that T4 has the highest metaphor density with 7, followed by T1 with 5. The metaphor density for T3 is just below 1 and 1 for T2. So with regards to metaphor density, the English corpus falls into two groups: two talks with a low metaphor density (T3 and T2 with below one or one) and T4 and T1 with 7 and 5 respectively.

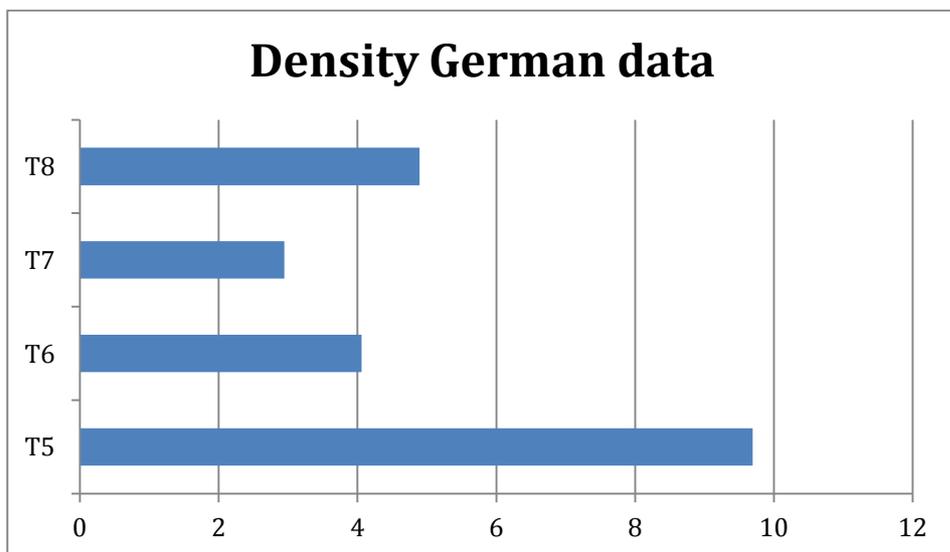


Figure 7: Normalised metaphor numbers in the German corpus

The quantitative picture for the German data looks different from the English data. First, there is a higher metaphor density for one talk (seven for T5) and the other three talks have a much lower density (3, 4 and 5 respectively). So the metaphor

density for T8 is half of the density of T5 and the other talks even have a lower metaphor density.

So all in, the overview of metaphor density shows that for English and German, there is one talk each (T1 and T5) with a high metaphor density and the metaphor densities of the others are behind these talks, which applies to both the English and the German corpus. Whether these quantitative findings are of any relevance to this study cannot be said in the quantitative analysis section, but I will return to the question why these differences exist and if they are relevant in the qualitative analysis, in 5.10.3.

5.8 Conclusion of the quantitative data analysis

This section concludes the quantitative data analysis chapter by summarising the main findings while highlighting which of these findings need to be looked at in a more detailed manner in the qualitative data analysis, below in chapter 6.

First of all, this section consisted of a part that introduced the specific benefits and limitations of quantitative methods, together with an overview of corpus methods and terminology. Quantitative methods in this thesis are so-called corpus methods. A corpus was defined as a collection of texts that can be processed electronically. Corpus methods enable us to count words, list what is frequent, search for specific expressions to reveal their context in order to identify metaphors, pre-sort the data (mainly based on frequency) as preparation for the qualitative analysis.

Frequency- and keyword lists helped to identify a number of expressions that were part of or appeared in context with metaphors. The analysis of the keyword list revealed that most metaphor-related expressions were already identified by the frequency list, but for English, there were three metaphor-related expressions that could be found by the keyword list. For German, only one expression was identified by the keyword list, which had already been identified by the word list, so for German, the keyword list produced no new results. The advantages from studying word- and keyword lists were that whatever was found is to be seen as something that frequently occurs in the corpus and hence can already be identified as potentially relevant for further analysis.

Collocation analyses both for the German and English data showed that very few metaphor types, namely visual and economic metaphors for English and visual and spatial metaphors for German were found as being either part of the items of the frequency- or keyword lists that were analysed or as part of their collocates. The

general finding that collocation analysis has helped to reveal more details of metaphors is relevant because such a procedure might be useful for much larger corpora in other metaphor-related studies. There, it can be determined which metaphor-related combinations of words are likely to co-occur in the corpus and hence should be looked at first. In this study, the relevance of the collocation results is more limited because the results did not reveal anything that would not have been found in a detailed qualitative analysis.

Besides investigating collocations, multi-word expressions – or n-grams – were looked at. This second check of the quantitative analysis gives empirical backing and will hence also verify my choice of categories.

Finally, metaphor categories and total numbers of metaphors were discussed and compared across the two sub corpora of this study. The major findings were that numbers of metaphor as well as the types and numbers of metaphor categories were very similar between German and English. From a quantitative point of view, there are no noteworthy differences between German and English L1 speakers and their use of metaphors. The latter remains to be investigated further in the qualitative data analysis. Regarding metaphor density (metaphors per 1000 words), both the English and German sub corpus were found to have one talk (T1 and T5) with an outstandingly high metaphor density. The metaphor densities of the other talks are lower than these talks, which applies to both the English and the German corpus.

Interrogating both sub corpora with quantitative methods highlighted the most frequent words, keywords, metaphor categories, and gave additional information on absolute and relative numbers of metaphors (metaphors per 1000 words) in each talk. The next chapter (6) will continue where the quantitative analysis has stopped: the qualitative analysis aims to study metaphors in the German and English sub corpora and also aims to explain some of the quantitative findings from this chapter (e.g. the differences in metaphor density between talks or why certain metaphor categories are more frequent than others). This will be done by referring to the variables gender and age of the speaker and by trying to establish a correlation between these variables and metaphor density. Next, chapter 6 will perform the qualitative metaphor analysis and refer to quantitative findings where relevant.

6 Qualitative metaphor analysis

First of all, preceding the qualitative analysis, I will start with the results from the quantitative analysis and make the connection to the qualitative analysis and results. The quantitative analysis has served to reveal which categories of metaphors are the most frequent in the English and German data, based on different methods: frequency lists, keyword lists, collocation, n-grams. In order to further connect quantitative and qualitative findings, the differences in metaphor density will be explained qualitatively in section 6.3.3.

The detailed qualitative analysis of a total of eight talks (four in English and four in German, in total 440 minutes) will be conducted with several examples from the data. Its results will be summarised and discussed in the following chapter. Major trends and communicative functions will be summarised in an overarching analysis that mainly focuses on longer stretches of discourse. Then, there will be more specific sub sections that structure the results of the analysis e.g. by sub corpus (English/German), by metaphor categories, quantitative metaphor distribution and density, and other criteria. Towards the end of the chapter, research questions that emerged but have to be left open will be formulated as recommendations for further research beyond this study. The latter will also be put into the context of the wider picture of research on metaphor in spoken academic discourse in the conclusion of this thesis, chapter 7.

6.1 English corpus

Quantitatively, the English data had the three major metaphor categories visual, movement and anthropomorphism. Examples from these categories will be analysed below.

The first overall trend in the English data is an extensive use of visual metaphors across all talks. The functions of such visual metaphors are concretising abstract entities, such as problems. So in communication T1, the conceptual metaphor is A PROBLEM IS A CONCRETE ENTITY, hence something that can be *seen*, *shown*, and *faced*. Besides, visual metaphors also have the function of fact construction while at the same time expressing the notion of understanding in terms of seeing. The latter is consistent with Lakoff and Johnson (1980: 48), who have formulated the UNDERSTANDING IS SEEING conceptual metaphor. At the same time, portraying abstract ideas as concrete, hence visible entities is a way of constructing facts because the invisible, abstract (idea, problem etc.) is concretised and made visible

and appears to be more factual than it would if referred to without visual metaphors.

- (1) 1 erm because **we_ve moved °h from looking at (0.1) people** working in new zealand work places
2 °h to **looking at the °h problems** that face (0.1) skilled migrants that come to new Zealand 3 [...]i_II **show you °h the sorts of problems they face**

In T1, the metaphors are part of the introduction of the topic of the talk. The visual metaphors, which concretise the problems and present them as facts, are combined with a metaphor of movement in utterance 1. This sequence of metaphors contributes to the overall metaphor A PROBLEM IS A CONCRETE ENTITY, as mentioned above.

Visual metaphors also have a text commenting function, namely as an advance organiser, see Fandrych and Graefen (2002). This can be done by e.g. emphasising that something in the talk will be *shown later*, by combining the visual metaphor with a metaphor of movement (examples are from T1):

- (2) 1 °h this is an example from our data that **i_II come back to later to show you how nicki used it in class °h**
2 but very typical **you can see**

So the metaphor of movement appears together with an affirmative statement, emphasising that the speaker will *come back* to the issue later, as if temporarily leaving a place just in order to assure the audience that she will address it later. Again, an abstract issue (in this case how somebody applies findings from a research project) is concretised in visual terms (*show, see*) and in terms of a place, because the metaphor of movement implies that different parts or issues of a topic are places or stations as part of the talk that is conceptualised as a journey.

Another example is:

- (3) 1 the course as a whole is very successful as **i_II show you later**

In this case, the abstract concept of success is concretised and expressed in visual terms. This is done in a similar manner to the metaphor of movement in the previous example, (2).

The other function is self-assessment of the researcher (T1). This is another explanation why the speaker uses metaphors such as that one can see how a participant tries to fit in etc. This is the case because the researcher has self-evaluated her research and has come to the conclusion that her explanation of the behaviour of the participant in her project is the most accurate one.

Fandrych and Graefen (2002) analyse written academic discourse. Parts of the metaphor analysis in this study will confirm their results for spoken academic discourse. The visual metaphor (show) also has a text commenting function, namely delaying referring to the success of the project to a later stage of the talk. According to Fandrych and Graefen (2002: 23), this metaphor can be classified as an advance organiser because it helps to organise the discourse of the speaker in advance, putting it into the place of things to be dealt with or discussed later. Consequently, this metaphor marks the end of the sequence of utterances of the professor. After this utterance, the topic changes and the introduction of her project continues.

- (4) 1 you can **see** that helena did that very nicely
- (5) 1 so^oh you can **see i won_t go through the next bit** erm with the (0.2) tape but **you can see^oh that she_s (0.1) she_s trying to fit in (0.4)**
 2 but she finds (0.3) you know the challenge of social talk quite hard
- (6) 1 when he gets feedback from his ment his work place consultant Eileen^o h
 2 **you can see that one of the things she says you know she thinks he_s very good**

The speaker presents her findings as facts with the help of visual metaphors, which can be called fact construction. This is the case for all three examples, (4)-(6). In each of these examples, the results, conclusions, interpretations etc. are presented as self-evident, self-revealing and visual. (5) also has a metaphor of movement in utterance 1. The metaphor of movement (go through) is an advance organiser very often connected with a negative statement. Metaphorically, the speaker tries to stay on the main path and just points to diversions or side paths that she *won't go through*, hence this metaphor.

- (7) 1 um i_m martin benton ((laughs)) thank you for coming today
 2 °h um so i want to talk about some recent research on on idiolects and um (1.0)
 3 i think we_ll maybe have a little bit of discussion at the beginning and then also at the end and then **in between i_ll kind of go through go through the data (1.2)** °hh um (.)
 4 **so so the first issue is to discover why why look at idiolects** that_s that is the language the language of individuals

The other example is *I'll go through the data* (T3). Here, the advance organiser is a positive statement in order to announce what the speaker wants to do and not, whereas in the previous example, the statement was an explanation why the speaker is unable or unwilling to cover a certain aspect. The latter is more frequent than the first. This can be explained from a conversation analysis perspective, see e.g. Cameron and Kulick (2003). Negative turns are usually longer and require more

conversational work than affirmative statements. Such statements are also realised in terms of expressing possibilities (that are not pursued).

- (8) 1 so (0.1) this this gives you an **indication** an and i again i could **go through many other cases** not just in africa and not just in asia °h (0.5) er but in other parts of the world as well and parts of latin america (0.8)and (.)
- 2 erm (0.9) i_m now going to (0.7) erm (0.4) give you some (0.1) more examples but before i give (.) those examples (1.0) **i want to point out that there (.) are (0.1) several different strategies that can be adopted (0.4) in order (0.1) to try to nationalise a population** (0.6) and there are two kinds of strategies (0.5) basically (0.6) one is tolerant (0.1) and one is intolerant (0.8) and within that (0.4) there_re three (0.4) different (0.4) kinds (0.4) of approaches that can be taken (0.8)

The speaker (e.g. S4 in T4) *could go through* more similar examples, but implies that he does not, be it for space and time constraints in his talk or because it would be a mere confirmation and repetition of what has been said before. Sometimes, aspects are not discussed in detail in the talk because there is literature that deals with it in detail or that *goes through those arguments* (T4). This is, so to speak, an implicit advance organiser realised by a metaphor of physical movement:

- (9) 1 erm was anthony smith right (0.4) that there were forms of nationalism long before the modern era (0.5)
- 2 a lot of scholars disagree with that (0.2) erm (0.5) so we could just argue about that and and i_d rather not (1.1) because **you can read a lot of material (0.5) that goes through those arguments** (0.2)

Second, directional and path metaphors, combined with metaphors of movement (e.g. *go, move*) also appear extensively throughout all talks. Metaphors of movement and of path serve to explain *directions* of developments and are a device of fact construction in the talks. Directional metaphors express time (*way back in the nineties*, from T1).

- (10)1 **way back in the (0.1) early nineteen nineties in melbourne** °h where he was working in multicultural (0.2) work places

This can be summarised into conceptual metaphors that have already been found by Lakoff and Johnson (1980: 16): FORESEEABLE FUTURE EVENTS ARE UP (and AHEAD). Furthermore, the use of a directional adverb expresses that TIME IS A PATH.

The whole talk (T1) is portrayed as a journey, as the speaker's metaphors reveal. A journey usually has a direction, forward. If the flow or metaphorical movement forward of the talk is interrupted, this is specifically marked by the speaker, as is done here:

(11)wait a minute now we've frozen here (5.2) (0.2) (3.7)

There the speaker employs an inclusive *we* to emphasise that the audience and her cannot continue because of a technical issue with the speaker's computer. As the flow of her talk is interrupted, the speaker needs a metaphor to fill the gap, to keep the pause (about nine seconds) from being even longer, and to maintain her conversational floor.

The quality and amount of information is also conceptualised in terms of directions and levels in space.

(12)1 you're dealing with people who have **come into a new culture** and need to learn how to manage English small talk_s an obvious topic
2 erm there's not an awful lot of it in coursebooks at except at the very **initial level** and **none of it goes very far** (0.2)
3 it's quite **superficial** and (0.2) quite short (0.2) usually you get no more than you know one chapter sometimes half a chapter

In this example of T1, the speaker evaluates a textbook and comments that its level was on an *initial level*, even there it was *superficial* and none of it (the information about small talk) *goes very far*. So here, one can conclude that MORE INFORMATION OR KNOWLEDGE IS HIGHER OR FURTHER and GOOD QUALITY IS MOVEMENT. These metaphors have also previously been found by Lakoff and Johnson (1980: 226) and they say that this type of metaphor is also not arbitrary, but part of an "experiential basis" as it resembles our basic physical experience and movement e.g. walking forward (cf. *ibid.* p. 19). Besides the types and reasons for using the metaphors that were just discussed, they have a specific function. Such metaphors are part of evaluative elements in the talk.

These metaphors are also consistent with what Lakoff and Johnson (1980) call CONTAINER metaphors.

(13)1 if we **look just (.) now at small talk** and the sorts of **issues that come up** in relation to small talk you might think it's a very **easy (0.2) accessible topic** and it is a good one to start with in a classroom if you're dealing with people who have **come into a new culture** and need to learn how to manage English small talk_s an obvious topic

Basically these metaphors are expressed in the data (e.g. example 13 from T1) in the way as if ideas moved around freely in space (e.g. *come up*) or that topics are *accessible* and that people can come *into* a new culture. Here, the culture is seen as a room or container in space that a person can enter, while leaving another one. As previously explained using the notion of *experiential basis*, such language resembles

people's movement in space and hence the same language from a non-metaphorical expression to refer to the same situation (e.g. *enter a room*) is then metaphorically transferred to a non-physical, but abstract situation e.g. *enter a new culture* or *meet problems* instead of *meet people*, see also the following examples from T1 and T4 respectively:

- (14)1 it_s a very nice example which of of of a h a typical situation which happens h frequently h
 2 where there_s a sort of **hidden agenda** or **another level of meaning** going on
- (15)1 it may turn out that pakistan (1.1) is er (0.4) a nation (0.4) or a nationalising project (0.4) that is (0.2) well (1.3) **on the way to failure** (0.5)
 2 certainly (0.3) the project of uniting west and east (0.1) pakistan (1.0) erm because pakistan (.) after (0.2) independence in nineteen forty seven was included as you know not only (0.5) the present state of pakistan but also (0.3) present state of bangladesh (1.0)
 3 **it turns out on closer inspection** that was (.) probably a foolish idea to begin with as well (0.2) all they had in common was that they were muslim (0.7)
 4 they spoke different languages had very different cultures (0.2) different histories (0.5) erm they did in the indian british empire (0.5) erm (0.2) both (0.3) and they were muslim (0.2) but other than that they didnt_t have much unifying them and even though they didn_t **break apart** (0.4) until nineteen seventy there were already in the early nineteen fifties very serious problems (0.7) one of which was (0.1) exactly (.) the kind of problem i_m talking about (0.2)
 5 west pakistan (0.3) or what is today pakistan was politically dominant (1.1) and they insisted that everyone should speak (0.8) the common national language (0.1) which was defined as urdu (0.9) er which bengalis didnt_t speak (0.5) erm bengalis spoke (0.5) bengali or (0.1) well in (.) bangladesh they call it bangla (0.3) and i (0.4) i_ve given lectures in bangladesh i have some friends there
 6 i have (0.4) i have a friend who (.) is (0.1) now a (0.1) retired general (0.7) erm (0.3) and he remembers as a young officer (0.9) er when (0.1) pakisan was united (0.4) erm (0.5) that he was told that **his career wouldn_t go anywhere unless he sp (0.3) learned urdu** (0.9)
 7 now (2.2) he told me urdu is an impossible (.) language (0.1) to learn (.) er i don_t think it_s impossible this man speaks excellent english and excellent (0.5) (xxx) (0.4) he speaks bangla of course (0.9) and i think he could have learned it (.) but (0.4) the (0.3) his sense that (0.1) this is not a language that (.) any of us can learn any of those (0.1) officers who are bengali could learn (0.3) is an indication of (0.2) the kind of **problem that you meet** when you try to absorb the minority and say look we are going to have one language and this is the language °h (0.5) and he felt (0.2) he and his fellow (0.3) bengali officers felt disadvantaged

The shorter extract from T1 and the longer extract of T4 are both full of spatial metaphors that concretise abstract entities by giving them a place in space while labelling them as *hidden*. Extract (15),6 also has a metaphor of movement. Career is expressed in terms of journey (go anywhere). So professional progress is also

conceptualised as a journey. Another instance that affirms the journey metaphor is that problems are concretised as entities that one can *meet*.

Desired and undesired people are also referred to by using spatial-directional metaphors, even nominalised to the *ins* (for desired) and the *outs* (for undesired) people in a country (T4).

(16)1 most (.) african americans were **bound to the soil** (.) with a debt peonage system (--) and were not allowed to vote (-) until the nineteen sixties until a hundred years after the civil war (-) and america was defined as a white country (1.5) that had to **stick together (-) to keep down blacks (-) and keep out unwanted foreigners (-)** that is to say non white ones (--)

2 and (.) so (.) forty (-) years (-) (1.2) after the civil war was ended (.) the united states really had **come back together** as a single nation (-) but at the **price** of having completely disenfranchised and **marginalised** the black population so much so (--) that (-) well until after world war two (--) americans actually considered themselves against all evidence to be a purely white nation (--)

3 °h er (.) so (-) **wherever you look** you find (-) that (--) er (-) that in order to create national solidarity you had to have an enemy (-) erm friends of mine who are german (-) have **pointed out to** me that (-) differences in hostilities between catholics and protestants (-) that was a real issue when (.) germany was united in eighteen seventy one there was the (xxx xxx xxx) against the catholics (--) but the the (-) **suffering (-) that germans went through in world war one and world war two** both of which they lost and both of which (cost|caused) them enormous amounts of pain (-) that it really **brought them together** in a way that (.) today (--)

4 differences between regions and between catholics and protestants are really insignificant they exist but they_re no longer a basis for (-) contention so that german na n german nationalising project really (-) relied on having (-) these terrible wars that **brought people together**

Utterances 1-2 contain spatial metaphors and such of movement, or rather metaphors that express violence to impede certain people's free movement (freed slaves). Financially, the workers were *bound to the soil*, which made them dependent and prevented them from leaving. This is a metaphor that expresses a certain restrictive, even brutal behaviour from farm owners, who were also former slave owners. As the workers could not be held back physically and whipped, they had to be held back, *bound* financially, as they were needed as cheap labour, as slavery was made illegal. The same applies to the national level. A set of combining and mixing of spatial-directional and metaphors of movement is applied to express the resentment and preventive measures of a whole country towards certain people. Repression is expressed by *keeping down* the blacks. The directional metaphor of movement and violence is practical as it expresses the repressions towards the blacks without needing to be more specific. It suffices to use *down*, as

this direction has negative connotations, which is in accordance with physical experience, of being pushed down to the ground and being held there, see e.g. Lakoff and Johnson (1980). This marks a certain 'spatial geography' of accepting and rejecting people. In the centre of the country, the accepted people *stick together*. Even wars like WWII can *bring people together*. Finally, political decisions are expressed in terms of *directions* taken.

- (17)1 also because of an external enemy and surprisingly or perhaps not surprisingly one finds everywhere (--) that the nationalist (--) project (-) involved setting boundaries and saying (--) **we_re in (.) you_re out (--)**
 2 the **outs** could be (-) minorities (-) romanian nationalism (--) er (.) which (.) developed in the late nineteenth century from the very start was highly anti semitic (-) er i mean jews were (--)
 3 er (-) er (-) perhaps more than anywhere else defined as the **outs** er there were other **outs** as well but (-) er why that is (-) (it) might take a long time to explain but (--) but that was a fundamental part (.) of (.) um (-) of romanian nationalism a man named oldson wrote a book called providential anti semitism which was e (.) exactly about that (--)

Desired and undesired people are expressed in spatial-geographical terms (T4). Desired people are in and the undesired ones are out; this is also nominalised as the *ins and outs*.

- (18)1 if you want to try to avoid conflict (-) er (--) er (-) then you have to at least (.) find some (.) one of the tolerant (-) approaches (-) to nationalisation (--)
 2 but it_s difficult to do (1.1) and it_s particularly difficult to do if political (elites) don_t consciously (.) **take (.) that (.) direction (.) if instead they take the easier direction (.) of demonising certain (--) domestic minorities in order to solidify support behind them (--)**
 3 then the potential for tragic conflict is very high (.) has always been very high (.) and remains very high
 4 (-) thank you (-)

The popular and hence *easy direction* can be a wrong decision, in contrast to another one (from T4). The spatial-directional metaphor of having support *behind them* is also in accordance with experientially based metaphors, such as *face* or *meet problems*. It is the opposite. If somebody has support *behind* them, then it helps them to avoid having to *face* people who oppose their choice.

- (19)1 so'h we have been very lucky to get eleven (0.4) of these students over three four courses'h who_ve been willing to (0.5) record themselves'h
 2 **where the work places have been willing to allow them to record**°h
 3 and where the material in the work places hasn_t been so confidential

Another quite common device in the talks is what can be called a metonymic personification in (19), T4 or simply anthropomorphism because human qualities

are applied to a non-human entity while at the same time, a part stands for the whole or vice versa, e.g. *workplace allowed recordings* in T1, (19). Other examples are (13) and (15) in T3.

- (20)1 despite the best efforts of the european union and the (.) united nations and (--)
and the americans and everyone else who_s been involved
2 there there really isn_t a unitary state and there certainly isn_t a common sense
of nationalism (-) binding together the croats the serbs (---) and um (-) and the (--)
bosnia muslims (---) er (1.3)
3 **now here_s the problem (---) that all modern states face** (1.2) erm (--)
as they nationalise their population that is (-) **as they work to homogenise (-) the disparate
cultures (-) sometimes languages religions (--)
and self conscious (.) ethnic groups
(-) and distinct regions into a national whole (-)**
4 because the mythology that nationalists create is that (--)
well we_ve always been one people we_ve always been the romanians we_ve always been the french
we_ve always been the germans (.) we_ve always been (-) whatever the
vietnamese the (1.3) erm (-) the turks the whatever (-) or if not always at least for (-)
five hundred years or a thousand years or two thousand years or (-) whatever

There (from T4), states can *face* problems. Here, an instance of a personification of a country can be found. Instead of the people in a state, the state *faces* certain issues, namely creating a common history of nationhood, the sense of being one nation for a certain time. The same utterance contains the statement that states work to harmonise the disparate cultures and other aspects to nationalise states.

- (21)1 the modern state (1.0) of today is something that_s quite different (.) from what
there used to be (0.8)
2 er in the past er (0.5) and that_s because much more is expected (0.3) of (0.1) the
modern state (0.4) than of (0.3) pre modern states (0.7)
3 erm they_re expected to provide education (0.2) erm (0.3) and mass education
(0.5) for everyone (0.2) er (0.3) much more economic control and guidance (0.2)
than (0.1) past states did (0.6)
4 er (0.2) they_re (0.2) er are supposed to provide jobs and security in a way that
(0.1) past states did not (0.8)
5 er (0.4) and **at the same time the modern state expects much more (0.1) of its
people (.) than states did in the past** (0.5)
6 they seek to mobilise masses to sustain modern armies (.) and state structures
(0.6) and to fulfil the **ever growing (.) expectations placed on them** (0.7)
7 so (0.2) er (0.1) for example if you **go back (.) to (0.2) the ancient greek city
states** or to what have been called (0.2) tribal societies (0.3) in times of war (0.1)
every male (0.2) or every male of a suitable age (0.5) er who is young enough (0.1)
old enough to participate and young enough to participate was expected to
participate °h (0.3)
8 but in most (0.2) traditional in fact in all (0.1) really traditional agrarian kingdoms
and empires (0.7) something larger (0.2) than (0.1) than (.) than a smaller tribe or
a city state (0.5) erm (0.2) that was not the case

9 only a few people (0.1) participated in (0.1) politics at the state level (0.3) and (.) states did not mobilise (.) all of their populations

Further, a state can *expect* something. The longer passage in (21) contains three metaphors. The rest of the extract is given to ensure the context of the example is complete enough. In this extract, the speaker explains differences between modern and ancient both as far as the citizen's expectations are concerned as well as the state's expectations. This (utterance 5) is where the first metaphor can be found. The speaker remarks that modern states *expect* much more from their people than states did in the past. So a state is linguistically represented in a pars-pro-toto (or metonymic) way, or even personified. The state and its expectations can even be seen as a metonymy into a different direction, the whole for the part. Instead of one person, the whole state speaks like one person. So in that way, the state is personified as a being or autonomous agent that can directly express wishes to its citizens. So this metaphor mainly has the function of simplifying and abbreviating complex situations, such as relationships between citizens and a country, in a talk. Next, in (21),6, the expectations of citizens towards their states are thematised by using another metaphor of movement, which also concretises expectations as a physical object that can be removed from one location to another, in this case from the people who utter the expectations and then, they are put or placed *upon* the state. So the abstract notion of uttering and communicating expectations (letting the state government know) is conceptualised in terms of the act of placing a physical act from one location to another. The last metaphor in this extract is in (21),7, which is a directional metaphor of movement that expresses time. The speaker refers to the time of ancient Greek city states. He does so by using a metaphor of movement "if you go back (.) to (0.2) the ancient greek city states". The interesting aspect about this metaphor is that it is partly ambiguous. The metaphor of movement partly visualises and concretises the past and hence linguistically revises it. Of course it is not literally possible to travel back in time, but it would be possible to travel to the location where the Greek city states used to be in present-day Greece. Still, the metaphor of movement has two functions: First, it illustrates the past and visualises it, which makes it rhetorically more interesting for the audience. At the same time, this linguistic metaphor can be seen as another realisation of TIME PASSING IS A JOURNEY because going back can also be seen as travelling back in time, which is impossible in reality, but possible in language.

(22)1 we've got these (0.2) two very nice multimedia learning centres at ((university name)) (.) and (0.4) i was in one of them one day and i was just walking around and i noticed one of the students (0.8) had been working on a gr on a pronunciation exercise (1.2) and he seemed to have been working on it for some time 2 so i just stood unobtrusively in the background and i counted the number of times that he repeated this exercise (1.7) and it came to something like seventy eight (0.3) ((laughs)) (0.8) 3 now (0.2) in a regular class that would never happen (0.5) so (0.6) er (0.4) 4 **computers can be very (0.3) computers are very very patient (0.3) tutors (0.6) okay (0.8) they don't go red in the face when the learner continues to get things wrong ((laughs)) <<laughing> okay they just > say okay now do it again try again (1.2)** 5 another (0.7) another tremendous benefit **looking at this aspect** of (0.2) of technology (0.6) is that (0.3) provides learners (0.5) it can provide learners with instant (0.2) feedback (0.1) on (0.2) how well (0.2) they're doing

Another instance of the type 'anthropomorphism' refers to computers. In T3, speaker S3 employs a metaphor to humorously compare the *patient* computer as a teaching device to an imagined impatient human tutor in order to emphasise the advantages of the computer over the human tutor in terms of allowing students to do very repetitive exercises very often. Furthermore, universities can *say* things as well (from T2):

(23)1 we didn't want **the university to say** once the good times returned as they inevitably did (0.4) 2 **we didn't want the university to say** well you're doing just fine (0.5) fe with thirty per **law back the money that had been taken from us originally**

The university is personified that can *say* things like one individual. This is another instance of metaphorically concretising institutional decisions based on decisions by executive into something that people *say*. Furthermore, this metonymic personification of the university, the institution is combined with a metaphor of movement to concretise the act of getting funds back that were taken away from a department, to *claw back money*. This makes the institution and its department come alive, portrays the university in an organic way. However, the organic metaphor could also be interpreted in an animalistic way, as claws belong to birds, cats or other animals and the metaphor implies a conflict within the university, between the department that has lost money and the central management that decides about such cuts.

(24) 1 um as i said in western europe there's still a few questions of (.) in britain there's some questions about spain (-) is catalonia actually going to remain part of spain or not (--) but (.) basically the situation is more settled

2 **i keep on coming back to europe because it_s not quite as settled** as even (.) west europeans would like it to be (-) after all not far away from here you have a failed state (--) no one talks about it as a failed state because (.) they_re not killing each other

3 belgium is a failed state i mean it_s two different nationalities that don_t like each other (-) don_t get along and can never form a government (basis) i mean the trains (--)

4 i was gonna say the trains still run (1.1) sometimes they have accidents um (-) but er i don_t suppose that_s because of the (.) conflict between the flemish and the walloons (---)

5 but even there in **the heart of western europe** where these matters are supposed to have been settled er they haven_t (.) been fully settled and **then when you start looking at much of the rest of the world you see (--) that er that these things are unsettled (--)**

6 er another part of the world where (-) such things (-) are pretty much settled and there_s a very strong sense of nationalism within the state and it can the states are fully nationalised in that sense is east asia (--) where there_s no doubt at all that the vietnamese (.) the chinese (-) the koreans (1.8) and the japanese (.) er all do share (-) with each other (.) i mean within each group a sense of common nationalism (-) and that_s even true in korea where they_re right now two states but where there_s a strong sense of nationalism (--)

7 erm and and **both of them and and both feel that they_re korean and certainly that_s the case (---)** very much with all but maybe some minorities in china but among the han chinese population which is roughly ninety two ninety three per cent of the population there is a real sense that that they_re chinese and that_s certainly the case within (--) within vietnam and korea as well that and and japan as well (--)

8 there are however some geographic areas that on the map look like (2.2) states (-) and even our in the united nations (--) as (-) nations (-) by the way the term united nations is a misnomer because it_s really (-) it_s the various states of the world (--) so (-) the united nations as you know are neither united nor nations (--) erm (-) some are but but (-) but some are not but there are still some places that look on the map as if they_re (--) they_re states and they_re not

This longer extract (24) in T4 contains a whole range of metaphors. In (24),2 the speaker starts off with a metaphor of movement, saying that he keeps *coming back* to Europe. This means he keeps referring to Europe in his talk. Again, this metaphor makes his talk more visual and similar to when S4 *points* to different countries, one could imagine an imaginary world map on which he goes back or points to Europe again. At the same time, the mentioned parts of this utterance must be interpreted metaphorically because in the video, one can see that the speaker only talks without slides of any kind or other media. Another metaphor was found in (24),5. It contributes to the continued notion of personifying abstract, larger entities. In this case, one could say that this metaphor (heart of Europe) is a logical consequence of

previous metaphors that personified countries. Now, a whole region is personified and has a *heart*. In the same utterance, a visual metaphor recurs (look, see). As in other instances of visual metaphors, here, the metaphors serve to concretise abstract entities and to construct facts. The recurring visual metaphors turn the speaker's interpretation that there are unsettled international issues about boundaries into visible facts. (24),⁷ has another metonymic personification of two countries, North and South Korea, of which each country *feels* to be the legitimate version of Korea. So countries are personified, which is another instance of the whole (the country) for a part (some part of its people, most likely representatives e.g. from the government). This metaphor also serves in order to achieve rhetoric simplification, abbreviation, and simplification of an abstract entity, a whole country's attitude.

6.2 German corpus

Quantitatively, the major metaphor categories identified in the German data are visual, spatial and anthropomorphism. Examples from these categories will be analysed below.

The German data has been translated. The following translations are provided to enable a non-German speaking reader to understand the contents of the examples that are analysed here. Other e.g. pragmatic phenomena, pauses, breath-in/out are not part of the translations. Translations are provided in angle brackets [] below the original German extract. The numbered utterance structure has been kept to enhance readability and comparability with the German examples, however, pragmatic information, such as pauses, breath-ins/outs have not been included. Omitted names or non-verbal events are included with the translations, surrounded by two round brackets on each side, following the transcription conventions: (()), e.g. ((city name)) or ((laughter)).

One type of metaphor that appears in the German data, which has not appeared in the English data, is a sports-related metaphor in T5.

(25)¹ ansonsten freu ich mich die äh nächste vortragende (.) begrüßen zu dürfen ihnen vorstellen zu dürfen (.)

2 ähm **liana reuter (0.2) hat heut n heimspiel sie aus ähm (.) ((stadtname)) (0.2)**

3 sie hat auch hier in ((stadtname)) ähm äh die fächer (.) ethnologie deutsch als fremdsprache (.) hispanistik und geschichte studiert (0.4)

[1 Besides, I am happy to be allowed to introduce the next speaker to you.

2 erm Liana Reuter has a home game today. She is from ((city name)).

3 She has studied ethnology, German as a foreign language, Spanish studies and history here in ((city name)).]

In T5, the chair announces that a speaker is returning to her former university to give a conference talk, he refers to the situation as *Heimspiel* (home game), which refers to the situation, when a sports club plays in their own stadium and not elsewhere as a guest. The function of this metaphor remains unclear. It could simply be a creative way of rhetorically emphasising that there used to be a connection between the speaker and the university she gives the talk at. This type of metaphor has only occurred once in the whole corpus. So it cannot be seen as a major trend, but it is mentioned here because it is distinctively different from other metaphors in the corpus.

The first major trend across the German sub corpus that could be identified is a combination of spatial-directional metaphor with metaphors of movement. For example, ANALYSIS EQUALS A MOVEMENT DEEP INTO SPACE (T5):

- (26)1 ich kann (0.2) bestimmt auch **anschlüsse herstellen** an die beiden vorhergehenden vorträge wo einige **fragen °h offen geblieben** sin beispielsweise die **verbindung** von textproduktion und interviewdaten °h oder auch die **verbindung** ähm (.) zur korrektheit von texten von lernerproduktionen im (.) web °hh
- 2 das könnten wir dann in der diskussion machen zunächst °h möchte ich ihnen mein (.) erkenntnisinteresse vorstellen die forschungsfragen formulieren (0.3) einige theoretische (.) ((schmatzt)) hintergründe (.) **aufzeigen** öhm (0.2) die dem gesamten (0.5) ((schmatzt)) (.) projekt zu oder der gesamten untersuchung zugrunde liegen °hh (0.8)
- 3 die_s das korpus vorstellen un dann (0.2) zwei (.) textbeispiele oder zwei beispiele (0.4) **darstellen** und **da auch recht in die tiefe gehen in die tiefe der datenanalyse** °h um ihnen zu **zeigen** ähm °hh wie (0.6) ein (0.4) projekt ein podcastprojekt mit_m schwerpunkt neue aber auch alte medien °hh fremdsprachendidaktisch und fremdsprachen (.) ja (.) lernforscherisch °h untersucht werden kann (.) darüber möchte ich dann auch sehr gerne mit ihnen diskutieren (0.3) ((schmatzt)) °h
- 4 zunächst **also das erkenntnisinteresse das liegt (.) primär auf (.) drei (.) ebenen** °hh einer (.) **gesellschaftlichen größeren ebene der ebene der partizipation** der teilhabe (.) äh von lernenden an diskursen der zielsprache und auch der zielsprachigen gesellschaft (0.7) ((schmatzt)) °h
- [1 I can certainly **find connections** to the two previous talks , which **left some questions open**, for example the **connection between** text production and interview data or also the connection to texts that were produced by learners on the web.
- 2 We could do so first in the discussion. First, I would like to introduce my research focus to you, formulate the research questions and ((smacks lips)) **point out some of the theoretical background** that forms the basis of the whole project or the whole analysis.

3 Introducing the corpus and then I will **show** two examples from the text and I would like to **go a little deeper with the analysis** there in order to **show** you how a podcast project about old and new media can be used in foreign language didactics. I would very much like to discuss this with you.

4 First of all, **the research focus primarily lies on three levels**, one **larger level of society**, one **level of participation** of learners in the discourse of the target language and also at the target society ((smacks lips)).]

The movement into space is realised by *levels*, by *connections*, open questions (UNANSWERED IS OPEN) and by the visual metaphor *aufzeigen* (show). Furthermore, evaluations are also realised using spatial metaphors. For example in the same talk and example, the abstract entity, the aim of inquiry is given a position in space (German *liegt* = literally translatable as *lies*). This verb is combined with *Ebenen* (levels). This is a more indirect way of concretising an abstract entity because its nature is not further elaborated on; the entity is just given a position in space. So metaphorically, one would know where to find the entity, not what it would be like. The trend of using spatial-directional metaphors is also confirmed by instances of metaphors that label unclear questions as *open*, see *connections* between different aspects etc. The other way of using spatial metaphors is giving abstract entities, such as actions or theories a place in space. These metaphors are also frequently combined with visual metaphors e.g. here (T5):

(27) 1 also die stehen (.) theoretisch zumindest so in den worten von leont'ev in nem hierarchischem verhältnis das übergeordnet sprachliche tätigkeit

2 das heißt °h tätigkeit sind (.) lernprozesse (0.5) und sind ganz grundlegend °hh und ne tätigkeit äh (0.3) besteht aber aus (.) teilen und das sind die handlungen und diese wiederum °h werden vollführt während man kognitiv operationen vollzieht

3 also **das °h ähm (.) is die ebene die ich überhaupt nicht betrachte denn ich (.) äh h hab kein spracherwerbsblick sozusagen**

4 °h ähm den kann man (0.4) interpretativ sicher haben °hh ähm (0.5) es kann sich aber eben (0.3) auch verschieben aber das is mir auch selber noch nicht so klar wann °h also was sozusagen gegeben sein muss °h damit aus ner handlung auch ne tätigkeit °h wird

5 in welchem **rahmen** also da denk ich ähm spielt **der gesellschaftliche rahmen** ne rolle (0.6) ((schmatzt)) ähm **wie weit das hinausgreift auch aus_m unterrichtskontext und aus_m lernkontext**

[1 Well, they are theoretically in a hierarchical relationship according to the words of Leont'ev, which mainly deals with linguistic activity

2 that means activities are learning processes and basically constitute of actions that take place while people are in the process of performing cognitive operations.

3 Well, **that is the level that I am not looking at; it's not a view from language acquisition so to speak.**

4 This you can have for sure as an interpretation but this can change, what has to

be given so to speak so that an action becomes an activity.

5 In which, **context**, well I think I think the **context of society** plays a role ((smacks lips)) er **how far this reaches out of a classroom context.**]

The speaker does not *look at certain levels* and takes the social context into consideration. The speaker employs the word *Rahmen*, which literally means *frame*. So the wider context is more outside, like a frame or margin and the main point or aspect of e.g. a theory is located at the centre. Aspects or developments that are less related to the main theory *reach out* from a specific context. The latter also portray a theory or context as an active agent that can initiate movements in the sense of developments by itself.

A complex of spatial metaphors can be found here (T5):

(28) 1 zugrunde liegt nicht zuletzt der versuch dann °hh ah wenigstens partiell (.) den von **außen herangebrachten negativen wertungen** °hh auf der meso und mikroebene **eigene und dann natürlich zumeist positive wertungen entgegen setzen zu können** (0.4) °hh öh h° (0.7)

2 °h christina (.) ada anders °h hat in ihren untersuchungen zum obersächsischen im alltagsverständnis von laien **gezeigt** °hh dass die a (0.3) ich zitier sie annahme einer zusammenhängenden obersächsischen regionalen varietät nicht bestätigt werden kann

3 °hh vielmehr werden allein innerhalb sachsens °h fünf sprachraumkonzepte °h stabil repräsentiert sie sehen hier ein dresdner (.) ein leipziger sächsisch (0.3) ein vogtländisch ein erzgebirgisch (.) und ein (.) lausitzisch (1.3)

4 **dem stehen aber nach wie vor überlieferte und immer wieder neu gefestigte vorurteile über einen allgemein (0.3) sächsisch (.) entgegen**

[1 The basis is at least the partial attempt of putting forward my own of course positive evaluations against the negative evaluations that have been brought in from outside on a meso- and macro level.

2 Christina Anders has **shown** in her studies about everyday understanding of laypeople of Upper Saxon that I quote “the assumption of a coherent Upper Saxon regional variety cannot be confirmed.”

3 Instead, alone in Upper Saxony, there are five different stable dialectal areas. Here, you can see Saxon dialect from Dresden, Leipzig, Vogtland, Ore Mountains, and Lausatia.

4 **This is opposed by existing and constantly confirmed prejudices about a coherent Saxon variety.**]

(29)1 ich würd mich jetzt im weiteren fall mit **dem zweiten bild zuwenden und zeigen** (.) äh wie die im titel genannten **wirkungskomponenten sich konkret darstellen**

[1 Now, I would like to **turn towards the second picture and show** how the **effects that were mentioned in the title present themselves.**]

The examples (28) and (29) from T5 contain a complex spatial-directional and movement metaphors that are combined and mixed in order to clarify and concretise theoretical concepts. Negative evaluations are literally translated *carried*

(or brought) in from the outside on a meso and macro level. And then on the same meso and macro level, the attempt is made to counter them with positive evaluations. A literal translation of *entgegensetzen* is to *build something up against something (or put something forward)*, which also implies movement or rather an implied obstruction of negative views that then have to face a metaphorical obstacle. This complex of spatial-directional movement metaphors with different level and spatial concepts is combined and mixed with a visual metaphor that expresses that studies about the everyday understanding of the Upper Saxon dialect have shown that the notion of one coherent dialect cannot be confirmed. The speaker reads this as a quotation. The quoted research findings are to underline the speaker's point, hence an evaluating element in form of a visual metaphor makes her arguments more convincing and gives the impression that factual findings have been uncovered instead of merely stating that another researcher claims or states something. Then, there would have been the impression of different arguments or findings that coexist without a connection. So besides an evaluative element with the function of rhetorically underlining the point of the speaker when referring to previous research results, the visual metaphor helps to maintain coherence within the talk by connecting the speakers claims to existing research (cf. utterances 1-2). The spatial and movement metaphors recur in utterance 4. The speaker states the previously stated position, namely that there is no coherent Saxon dialect is countered by views that there is one. Literally translated, these views are *standing opposed to* (*entgegenstehen*) the other views (that there is no coherent Saxon variety). This recurrence of spatial and movement metaphors can be seen as a metaphorical parallelism to *entgegensetzen*. The structure of the metaphors runs parallel to utterances 1-2. There, movement was impeded by metaphorical obstacles that are put up to counter one position whereas here in utterance 4, the verb *stehen* (stand) implies that the other position (that there is a coherent Saxon dialect) implies that this position was already metaphorically standing in the way of another, which wakes connotations of *standing in the way*. So besides neutrally clarifying how opposing views in research relate to each other, this metaphor also has an implicit evaluative function that expresses that the position that is less favoured by the speaker (that there is a coherent Saxon dialect) is *in the way* of the other. The interpretation of this metaphor could go even further and imply that the speaker thinks her less favoured

position has no right of existence. This more radical interpretation would need confirmation from more than one example by the speaker in the same talk, which has not been found yet.

Example (29) from T5 is a sequence of movement and visual metaphors that are combined and mixed by the speaker. The speaker says she would like to *turn towards* the second image in order to *show* how certain effects *present themselves*. The speaker employs visual aids in her talk. Moving on from one visualisation to the next, the second image, is marked by a metaphor of movement with a clear direction (turn towards). The abstract effects she would like to explain are concretised using visual metaphors, stating they can be *shown* and they even have the quality of metaphorically *presenting themselves*. The reflective verb in German implies a certain agency that could hint that the theory the speaker presents is self-evident, which, in turn, is more convincing for the audience and contributes to the flow of the talk. If something is clearly recognisable and even self-evident, then not so much time is needed to explain or justify it. This serves the genre-typical problem that a research talk needs to balance the dilemma of discussing complex contents while at the same time making them understandable without too long theoretical and abstract explanation. Such dilemmas were discussed above, in section 3.3.5., where research literature about specialist presentations was reviewed.

The difference to metaphors of movement is that spatial qualities (if something is narrow or wide) are expressed, but not movement. At least movement is made implicit. It can rather be seen implied because directions or similar space-related notions are either a prerequisite or a consequence of movement. Therefore, spatial metaphors have to be seen as one type or sub-category of journey or movement metaphors. So an attitude is termed as *narrow* or *wide*. The speaker suggests that more complex interpretations are wider and less sophisticated interpretations are narrow. So the conceptual metaphor here could be A COMPLEX INTERPRETATION RESEMBLES BEING WIDE IN SPACE, see also DIFFERENCE IS DISTANCE in T7:

- (30)¹ ich nehme eben nur diesen °h diese advocatusrolle ein als in einer ist in einer andern umgebung würd ich ganz anders °h argumentieren
2 ich glaub man muss eben auch hier **pendeln °h zwischen diesen °h äh äh sogar auch für an h° wirtschaftsstudierende gedacht also zu immer zwischen diesen °h diesen ansprüchen**

[¹ From within my role as an advocate, I argue differently than I would outside of it. I believe that one has to **oscillate or commute between these two demands of business students.**]

Different concepts are expressed as physically distant from each other so that if e.g. student's needs are not clear they are characterised as *moving between* different extremes. The German verb *pendeln* can be translated as *commuting*. Then the ideas would not move back and forth like a pendulum, but the movement would be on a much larger scale. Commuting is travelling, so this example can be seen as another instance of the journey metaphor. Furthermore, the notion of commuting also stresses the distance between the two different ideas and that it is not always easy to overcome such a distance. This metaphor is an easy tool for the speaker to clarify abstract concepts using less abstract concepts that can be assumed to be familiar to the audience, hence making such ideas more understandable and interesting for them. Another instance of such an evaluative metaphor of movement is here (in T7):

(31) 1 ich gestatte mir aber (0.3) die letzte halbe minute und **vielleicht schenkt man mir eine** °h ganz kurz noch dialektlexikographie öh (.) anzusprechen °hh weil sich hier die aktivitäten (0.3) öh (1.8) ((schmatzt)) °h (1.1) öh weil sich hier **die aktivitäten (.) am meisten zwischen den polen ernsthafte forschung heimatgebundener und damit auch raumbezogener sprach pflege °h und der freude am veräppeln des sächsischen (.) bewegt**

2 °hh und öh natürlich da sind auch kommerzielle interessen im spiel °h als produkt jahrzehntelanger wissenschaftlicher arbeit hab ich schon °h das bei der sächsischen akademie entstandene wörterbuch der obersächsischen mundarten °h öh (0.5) **gezeigt** °h

3 dort werden die kleinen räume (.) berücksichtigt

[1 I would like to dedicate the last half of a minute and maybe I might be given another minute in order to discuss the lexicography of dialects ((smacks lips)) because **the activities move between the poles of serious research and more home- and hence room-oriented language cultivation and the joy of mocking the Saxon dialect.**

2 and of course commercial interests are also involved which I have **shown** for the Upper Saxon dictionary, a product of decades of research at the Saxon research academy.

3 There, the smaller spaces will be considered.]

The ambivalence of the development of public discourse on the Saxon dialect is also said to be *moving between* two different poles (extremes). This is another metaphor of movement to express ambivalence, which also has summarising and evaluative functions. While metaphors were also found to have summarising and evaluative functions in the English sub corpus, none of them expressed uncertainty.

Furthermore, technical terms in research can *overlap*, just like physical entities in space can. However, particularly in the case of overlap, it is not clear how the

metaphor could be imagined if one tried to paraphrase it. How would the overlap in respect to the meaning of research terminology look? Would the meaning (if imagined e.g. like a line) run parallel, just utterances in an overlap of a conversation or whether the overlap has a different non-parallel nature. This question cannot be resolved because the speakers do not make their metaphors explicit enough in their few utterances. Furthermore, such detailed reflections do not seem to be central if important at all for understanding the metaphors.

Spatial metaphors, as discussed in 6.1, culminates in conceptualising the research process – or more generally – any development in terms of a journey. One such instance is to be found in T5:

- (32)1 ich würde mich gerne (0.4) ((schmatzt)) jetzt noch in den verbleibenden zehn minuten stärker (.) der (.) schriftlichen (0.3) hm (0.3) textentwicklung auch widmen °h **um zu zeigen wie sehr man ins detail gehen kann**
 2 °h wenn (.) man die entsprechenden daten hat und wenn man das ähm °h entsprechend (0.2) genau auch analysiert (0.5) denn eine genaue analyse (.) is eben doch tatsächlich die grundlage (0.3) für (0.3) auch (0.2) ja f (0.3) haltbare aussagen zum sprachlichen °h handeln (0.3) in (0.2) äh verschiedenen lern (.) lehrernkontexten
 [1 I would like to ((smacks lips)) dedicate the remaining ten minutes to text development **in order to show how much one can go into detail.**
 2 If you have the corresponding data and have analysed the data precisely, then this is the basis for reliable hypotheses about linguistic behaviour in learning and teaching contexts.]

There, the speaker highlights that some example of his data *shows how much one can go into detail*. Here, the metaphor of movement is combined with a visual metaphor and the journey has a ‘direction’ from unspecific to specific (more or less detailed). Other potential connotations of this metaphor include the notion of going deeper into a container or room, which resembles a closer analysis.

- (33)1 ich denke da kann man noch sehr viel **mehr ins detail gehen**
 2 das war (.) nur anhand der makrohandlungen **nach (0.2) wrobel hier dargestellt**
 [1 I think one can **go into much more detail there**
 2 That was only **presented here based on macro level behaviour following Wrobel.**]

A similar metaphor was found in another example of T5 (going much more into detail), or *going far*, see also this example in T7:

- (34)1 wo soll das letzten endes **hinführen** und sind **drauf gekommen** dass man **eigentlich gar nicht so °h weit über** das äh was bisher als (.) österreichs maturen so abiturniveau bezeichnet wird **gar nich so weit hinausgeht**
 [1 Where should this **finally lead us to** and how did we **come to the conclusion** that this **does not go very far beyond** Austria’s Maturas?]

This example has recurring directional metaphors of movement that conceptualises consequences as different directions in space. This metaphorical concept recurs through the whole long utterance, a rhetorical question formulated by the speaker reflecting certain developments in the Austrian education system. The metaphor of movement recurs throughout four passages that are highlighted in bold and that consist of one up to five words.⁴² So the first two expressions (*hinführen, drauf gekommen*) express ideas in terms of locations that were reached by movement e.g. *got there* or *were led there*. These are more literal translations of the German words. In English one might also say how *I got to this point*. For the second part of this utterance, one can find two expressions that express difference in terms of physical distance, which obviously can also not be overcome without movement. So difference between two aspects is expressed by saying that something does not *go far beyond* the other (*nicht weit hinausgeht*). This is repeated to assert what the speaker has just said. So in this context, metaphors do not only directly serve fact construction, but also a certain rhetorical form of emphasis.

The metaphors that were just discussed share the quality that they express what could be called a ‘micro journey’ i.e. going closer resembles going more into detail. Similarity as short distance between two concepts also appears in another example of T8:

(35)1 es gibt zwei sachsen die **der sache immerhin nahe kommen**
 [1 There are two Saxons that **come close to this thing**.]

Example (35) can be seen as a continued use or recurrence of a spatial metaphor, combined with movement. In contrast to the instances in (32)-(34), this metaphor has the opposite direction. Not difference is expressed in terms of physical distance, but here, formulating ideas that come to close to a non-existing idea or concept in this case means *coming close* to it. The function of this metaphor, together with further instances in (32)-(34), is illustrating and hence clarifying abstract ideas in research for the audience. At the same time, the metaphor helps to fill lexical gaps: if the speaker did not employ this metaphor, they would have to give a more detailed account of what the specific differences between the non-existing concept and the other authors are that are mentioned in and *come close* “the thing” (*der sache*).

⁴² Here, the expression *word* is used in the narrow technical sense: ‘sequence of characters separated by spaces’.

One researcher introduces her topic by stating that she wants to work *in the direction* of applied research. So applied or more theoretical research are different directions on the research journey. Another instance of the journey metaphor is expressing research questions as way points on a journey, or even destinations. Furthermore, research questions are presented as entities emerging by themselves and even leading or influencing the speaker to come to them, which is revealed when the speaker notes that she is *led to her research question* by another aspect (T6):

- (36)1 was haberzettl schlussfolgert °h ähm für den daftdazununterricht ist eine frühe einföhrung von es o: vau strukturen um rechtzeitig gegenevidenz (.) zu der fehllleitenden es vau o: hypothese bereitzustellen
 2 aber **die analyse (.) eines daftlehrwerks für kinder zeigt** °h dass es o: vau strukturen verhältnismäßig (.) spät eingeföhrt werden
 3°h **dies brachte mich direkt zu meiner ersten forschungsfrage** nämlich wie wird das phänomen der verb °hh beziehungsweise wortstellung und der satzstruktur in daftlehrwerken für erwachsene behandelt (0.4)
 [1 Haberzettl concludes that for GAF teaching, an early introduction of SOV structures are necessary in ordert o counter a misguided VO hypothesis.
 2 **The analysis of the GAF textbooks for children has shown** that SOV structure are introduced fairly late.
 3 **This took me directly to my next research question**, namely how the phenomenon of verb, word order or syntax is dealt with in GAF textbooks for adults.]

This metaphor of movement and journey, which refers to research questions, consistently recurs throughout the whole introduction of the talk T6.

- (37)1 mit welchen meinungen müssen wir (.) äh dann leben welche müssen wir dann akzeptieren logisch und welche °h können oder wollen oder sollen wir auch °h in gewisser weise °h be h° <<lachend> beeinflussen> und sag ich mal (.) verbessern
 2 °h und dann also wie gesagt ein anderes phänomen das die angewandte lingusitik h° **äh besonders die die die diskurs °h richtung** °h dann ((schmatzt)) auch als als instrument eingesetzt werden kann ein bisschen kontrollierend eingesetzt werden kann
 [1 Which opinions do we consequently have to accept and which ones do we have to <<laughing> influence> and I'd say improve?
 2 And then, as I said, another phenomenon, which can be used ((smacks lips)) as a controlling instrument by applied linguistics **specifically in the direction of discourse.**]

In addition to these metaphors of movement, there is a slightly different type. Here, discourse is characterised in terms of a concrete entity that has a *direction*. That leads to the conceptual metaphor THEORETICAL POSITIONS ARE DIRECTIONS or simply DEVELOPMENTS ARE DIRECTIONS. Particularly for *position*, it has to be

pointed out that this notion is metaphorical itself. Sometimes, literal paraphrases are not possible or desirable so that one aspect can be highlighted. For example keeping the word *position* enables the researcher to point out the directional aspect. So far, the researcher was presented as *going on a certain way* with their audience. The other type found suggests that abstract entities have something like a life of their own. Conclusions have to be *held onto*, which presents them as something volatile that can escape, as certain strategies that *go against* others (both from T7).

(38)DIS 4: 1 ja aber (.) äh für (.) äh die testgruppe °h bedeutet fortschritte dass die nichts auf °h vau o: struktur äh **zurückfallen**

[DIS 4: 1 Yes, but for the test group, this means progress, as they don't **fall back into** the VO structure.]

Here (from T7), a disputant discusses the potential development of a test group and states that progress for the test group can be seen if they don't *fall back* on the VO structure. So a development, in this case negative progress or a step back, are expressed in terms of movement, falling back is accidental movement with a direction (back). This is another realisation of A DEVELOPMENT IS A JOURNEY, which is movement on a bigger scope. This extract can also be interpreted as something that might be called a 'negative' realisation of the journey metaphor, which is when a metaphor of movement refers to a negative development, so to speak 'a step back'. A speaker says that one group *fell back* (*zurückfallen*) onto a VO structure. So that a journey is moving ahead and forward is confirmed by this metaphor in T6 that shows that an undesired development is conceptualised in terms of a movement backwards. Even the type of movement is not intentional moving, but falling, which further stresses the unintentional nature of this type of movement. The directional component of the journey metaphor needs to be stressed. It appears that the metaphors in the German corpus emphasise the directional nature of theoretical positions or developments in general without even further elaborating on the nature of the direction (e.g. forward, backwards etc.). Examples here are that an abstract entity (research focus, interest of inquiry) is labelled as a direction or that summarising results is termed as holding onto them, which also emphasises that ideas and results are volatile and can 'escape' although in both cases the direction is not further elaborated on. Finally, a journey also has end or final destination. To express this idea, the verb to *land* is employed. A speaker explains his studies in terms of a journey and says he finally *landed*

(gelandet) in the area of Romance studies. So the journey of finding his area of interest ends in the beginning of a new journey: studying his subject of interest, see T7:

- (39)1 ich bin ja selbst ein eigenes (.) untersuchungsobjekt in dem sinn dass ich also °h äh jetzt nie also ich hatte ich englisch in der in der im gymnasium und dann hatte ich eben mich entschieden für die lehramtskombination französisch russisch °h und hab das **zuerst eher auf die slavistische seite ausge (.) weitet** bis ich dann letzten endes (.) auch **bei der romanistik gelandet °h (.) bin** englisch h° öh musst ich lange zeit überhaupt nich gebrauchen
- 2 und **jetzt kommt man immer mehr in den °h in den in den äh also in die (.) ((schmatzt)) äh äh (.) kommt man in situationen °h (.)** wo man das also auch im auf auf konferenzen und so weiter eben °h eben verwenden muss
- [1 I am so to speak my own object of study in the sense that I only had learnt English at grammar school and then I had decided to study for a teacher's degree in French and Russian studies and I have **broadened my studies to Slavic studies** and finally, I have **arrived at Romance philology**; I didn't have to use English for a long time.
- 2 And then, increasingly, one **gets into situations**, in which you in fact have to use English.]

So studies have a spatial dimension, a direction, with a *side (Seite)* and the studies are expanded (*ausgeweitet*), which is complemented by the past participle of the verb *land (gelandet)*, which marks the end of the metaphorical, expressing that the speaker has found his metaphorical final destination in Romance philology. Then, in utterance 2, there is a false start of the speaker stating that people in general *get into (kommt man in)* situations where English is the lingua franca. So such situations are also stations on a journey and are conceptualised in spatial terms.

At the end of T8, a whole sequence of journey metaphors can be found, specifically to mark that one phase (the discussion following T8) has ended and a new phase begins: the final discussion, which subsumes all talks around a common theme.

- (40)1 MOD: ja (.) vielen vielen dank wir (0.6) (.) hören jetzt mal auf mit der diskussion zu dem thema (.) um (.) dann (0.3) **reinzugehen (.) in eine (.) abschlussdiskussion** wo wir (.) die einzelnen vorträge (.) nochmal etwas (0.3) **revue passieren** lassen können (.)
- 2 **ma sehen (.) welche (0.3) gemeinsamkeiten** gibt es wenn wir **jetzt von (0.6) einem (.) idee eines (.) dialektraumes ein äh ausgehen**
- [1 MOD: Yes, thank you very much. We can finish this discussion in order to **go to the final discussion**, which will enable us to **look back at all past talks**.
- 2 Let's **see** which common aspects there are that **start off from** the idea of a dialect area.]

The chair of talk T8 utters the last metaphors in this communication. First of all, the chair announces that the intention is to end the discussion about the current talk

and the final discussion will be *entered* (*reinzugehen*). This final discussion includes all conference talks. From the limited information available it cannot be determined if it refers to talks that were given in a section of a conference over the course of more than one or whether the discussion is limited to one day in the respective section. It is only known that this discussion deals with more than one talk in relation to an overarching theme, language areas. So the verb *enter* (*reingehen*) suggests that the final discussion is a different room or area from the previous discussions of individual talks. So this can be seen as spatial metaphors indirectly combined with metaphors of movement that suggest that the whole sequence of different talks and their respective discussions is conceptualised as a journey. The next two metaphors can be seen as recurring instances of journey metaphors. The German expression *revue passieren* is an idiom that with the meaning of summarising or discussing recent events. This idiom is two-fold in its nature. It has the expression *revue*, which is a French loan. In French, *revue* either is the past participle of the verb *revoir*, which can either mean *to see a person again* or to revise / go back over work or a document, which is also marked as metaphorical in the dictionary.⁴³ The other meaning in French is *revue* as a noun, which means *review* (cf. *ibid.*). Both literally and metaphorically, *revue* has a visual component in its French meaning, whether as a verb or noun. The expression *revue* also exists in English and expresses that a show in a theatre refers to recent events, which also has a visual meaning: literally, a theatre performance is something people watch and metaphorically the idiom means *to look back* to past events. The German verb *passieren* means that people can *see something go past* them. So this is another instance of discussing abstract entities (talks, discussion) in terms of movement and hence journey. Finally, the verb *ausgehen* (starting off from) also implies a journey-like movement because at least metaphorically, the journey of the discussion has a starting point.

Thus, the chair announces a metaphorical change of location by announcing that the final discussion will be *entered*, then two further metaphors announce the journey of the discussions, namely that the past talks will be referred to as they *go past* and a *starting point* is marked, the notion of a 'language area'. The latter can also be seen as a spatial metaphor because the whole talk basically emphasised that

⁴³ See <http://www.french-linguistics.co.uk/dictionary/revoir.html> (25/04/13).

the exact geographical area for the Saxon dialect remains unclear even after many years of research into this issue.

Many instances of metaphors of movement with an advance organising text commenting function can be found in the German corpus e.g. T7, (41) and (42). By using the expression *get back to* an aspect later, this action is expressed in terms of movement backwards:

- (41) 1 äh interessanter ist natürlich und auch nicht ganz h° unerwartet aber auch a bissl überraschend °h ist dann die einschätzung der anderen fremdsprachen °h wo also natürlich die die (.) selber °h äh ((schmatzt)) viele h° also selber diese (.) **internationale richtung** gewählt haben °h äh mehr h° äh gibt es natürlich mehr zustimmung dass das besonders wichtig sei °h als von denen die nur eine sprache gewählt haben
- 2 trotzdem °h überrascht und das ist dann eine eine **ein °h ergebnis auf das ich dann noch zurückkommen werde** °h dass selbst die leute die nur englisch gewählt haben (.) äh trotzdem sich dazu bekennen °h dass äh also (.) a auch andere sprachen wichtiger sind
- [1 More interesting is the evaluation of other foreign languages, where people ((smacks lips)) of course have chosen an **international direction**, who would agree more than those people, who only chose to study one language. 2 Nevertheless, **the result is surprising, which I will get back to**, in that even people who only chose to study English have acknowledged the importance of other languages.]

So both in T7 and in the German corpus as a whole, a core theme is expressed in terms of a *direction*. This again is in accordance with the journey metaphor. The aspects the speaker does not discuss immediately are waypoints that are left behind and need to be referred to later by *getting back* to them, to stay in the journey metaphor. Another text commenting function of a metaphor of movement can be found in this example in T8:

- (42)1 auch ilse bähnert (.) is nich ne autorin sondern is ne kunstfigur °h die eben dieser (.) kabarettist (.) äh sich (.) geschaffen hat °h **ich komm mal noch kurz noch (.) drauf zurück**
- 2 °h ich will jetzt erstma zu (.) institutioneller dialektförderung (.) **im engeren (.) sinne** sprechen
- [1 Ilse Bähnert is not an author, but a fictional character that this cabaret artist has created, **to which I will briefly get back to**. 2 Now, firstly, I would like to speak about institutional support of dialects in the **narrower sense**.]

There, first, the known construction of *getting back* to an aspect later appears, which is followed by the speaker's announcement to speak about a term in its *narrow sense*. So here a spatial metaphor (*narrower sense*) has a text commenting

function and is a declaration of main objectives according to Fandrych and Graefen (2002: 21).

The other major trend found in both the German and English sub corpora is visual metaphors, as this has also been a dominating trend in the English data. Metaphorically, abstract theoretical entities are visible. They can be *shown (zeigen)*, and major aspects of a topic are labelled a *focus (Fokus)* see these examples from T5:

- (43)1 **welche sprachlichen handlungen (0.3) werden vollzogen um zu diesen produkten zu kommen** (.) im (.) radiopodcastprojekt °h und welche zusammenhänge bestehen (.) zwischen textentwicklung und (0.3) im projekt vollführten (.) sprachlichen (0.3) handlungen (0.3) ((schmatzt))
2 °hh **der fokus des mediums** ähm °h ist also hier nicht der primäre aber (0.2) dennoch ähm (0.3) eigentlich die grundlage denn (0.3) die projekte würden nicht stattfinden wenn es (.) diese (.) mediale komponente nicht gäbe
[1 Which linguistic behaviour is employed in order to **get to certain products** in a radio podcast project and what is the connection between text development and linguistic behaviour that was part of the project?
2 **The focus of the medium** is not the primary concern, but at the same time the basis, because the projects would not take place if these medial component did not exist.]
- (44)1 **hier nicht den großen rahmen aufmachen** °h sondern mich auf handlung im sinne der tätigkeitstheorie beschränken °hh eine gemeinsamkeit gibt es dennoch in den verschiedenen handlungstheorien (0.4) und das ist (0.9) **die innere struktur einer handlung** also da sind sich die verschiedenen autoren und autorinnen recht (.) einik
2 °h **ne handlung is °h ein zyklisches (0.2) äh (.) zum teil (.) zyklisches el (.) vorwärts** (0.4) **gehen °hh äh in verschiedenen phasen** zum beispiel (0.5) orientierungsphase planungsphase (.) phase der handlungsausführung und phase der handlungskontrolle (1.1) ((schmatzt))
3 °h ein beispiel (1.5) von (wrobel) (.) von fümfunneunzig das is jetzt nich besonders aktuell aber es wurde wieder °h aktuell rezipiert in der arbeit von °h dirk skiba die zweitausendacht erschienen is °hh ähm (.) textproduktives handeln in der muttersprache also wie kann ich die fertigkeit schreiben °hh **aus ner handlungstheoretischen perspektive so (0.2) betrachten** dass es nich nur was kognitives is °h sondern dass tatsächlich °h schreibanlässe wichtig sin die situation ne rolle spielt die textprodukte ne rolle spielen °h und (.) verschiedene **rahmen** (0.4) für die schreib (.) handlung (.) wichtig sind
[1 **I don't want to open up the wider theoretical context** but I would like to restrict myself on action in the sense of activity theory and that is the **inner structure of an action**, there the different researchers agree.
2 An action means **going forward in a cyclic manner** in different phases, for example orientational and planning phase, as well as carrying out an action and assessing the action ((snacks lips))
3 An example by Wrobel (1995) is not particularly up-to-date, but has been quoted in research by Dirk Skiba (2008), text-producing actions in the L1, how can I **look at**

writing skills from an action theory-related perspective? The situation, the role and different **contexts** for writing situations and products are important.]

The first metaphor can be seen as a spatial metaphor in (43),1. The German word *anschlüsse* means 'connections' in different contexts. It can mean connection in the technical sense of 'plug' or connection in a more spatial manner, like closely connected rooms. Then, this word could even mean 'corridor'. The latter makes sense metaphorically. The different conference talks, in different rooms and sometimes at different buildings are now metaphorically connected because the speaker (S5) finds a connection. The spatial metaphors even recur further in her talk as the speaker emphasises that questions remained open from previous talks. She then gives further aspects that connect her talk to the others using another German expression for connection (*verbindungen*). From (43),2 onwards, the spatial metaphors are combined and mixed with visual metaphors. The speaker would like to show the theoretical background of her talk (*aufzeigen*). As in the English data, this visual metaphor has the same functions and effects, namely concretising abstract entities (theoretical backgrounds) so that these backgrounds become visible and can be shown to the audience. Similar metaphors are in (43),3. A visual metaphor is employed because the speaker would like to illustrate (*darstellen*) some examples from her data. Again, the examples are abstract entities that are concretised and hence visible. This is combined and mixed with a spatial-directional metaphor of physical movement that expresses a detailed analysis equal to a movement that *goes deep in space* (*in die tiefe gehen*). Based on this metaphor, the speaker would like to show the *deepness* (*tiefe*) of her analysis. So here, another metaphorical pattern or conceptual metaphor (following Lakoff and Johnson (1980)) can be formulated: ANALYSIS EQUALS A MOVEMENT DEEP INTO SPACE. The slight difference to the English data that can be identified so far is the fact that the direction of the metaphor of movement is slightly different. There is no explicit direction, but the implied direction expressed by "tief" is more downward than forward. To what extent such metaphors express different research cultures (e.g. going into detail (deep) vs. getting things done (moving forward)) and whether this difference can be located between German and English could be an interesting topic to be investigated.

In (43),4 a sequence of spatial metaphors concretises the aim of enquiry indirectly, namely by giving it a position in space on different levels, just like storeys in a

building. The interesting part of this metaphor is the indirect act of concretising the abstract entity (aim of enquiry). However, this is not done directly by making it metaphorically visible, but by locating it in space on different levels. This is continued in (43),⁵ by adding other *levels (ebenen)*, namely a *textual level (textuelle ebene)* and the level of foreign language didactics (*die [ebene] der fremdsprachendidaktik*). Spatial metaphors can be seen as an implicit realisation of a metaphoric concept that sees theories as buildings. This is discussed in detail in a diachronic study by Jäkel (2003) that sees the architectural metaphor as central in Kant's philosophical works.

Visual metaphors are a means of fact construction, applied in the same way as in the English data. Sweetser (1984) has conducted a diachronic study that extends the claims of Lakoff and Johnson (1980) from an etymological perspective, namely that verbs of perception and their abstract meaning (such as *understanding* and *seeing*) are etymologically related, which supports Lakoff and Johnson (1980)'s claim from a historical perspective. In that sense, human beings are visual 'animals'. One could even go further and conclude that human thinking is structured by visual means. This explains the very frequent and consistent appearance of visual metaphors across languages (English and German), all talks and genders. The same can be said about journey metaphors or other metaphors of movement. One type of visual metaphors is documented metaphor in Lakoff and Johnson (1980): UNDERSTANDING IS SEEING (e.g. in T6):

(45)¹ diese veränderungen sind dann praktisch das (.) **fenster in die zugrunde liegende °h lernersprachliche (.) ähm grammatik**

[1 These changes are practically the **window into the underlying learner grammar.**]

This is a different instance to the other visual metaphors, namely that a *window* suggests that something is visible, but not directly; one looks to the inside from outside.

Another conceptual metaphor that could be found in the corpus is A THEORY IS A BUILDING.

(46)¹ eine sehr interessante untersuchung kommt von stefanie haberzettl (0.4) die den el zwei erwerb der verbstellung (.) durch russische kinder mit denen von türkischen kindern vergleicht

2 ihre ergebnisse (.) unterstützen die alternation hypothesis denn sie °h findet heraus dass die russischen kinder tatsächlich den erwerb des deutschen mit einer °h es vau o: hypothese beginnen

3 die türkischen kinder hingegen mit einer es o: vau hyopthese °h die türkischen kinder **bauen die satzstruktur des deutschen sukssessive und erfolgreich auf**

4 °h die russischen kinder (.) müssen ihre es vau o: hypothese revidieren (0.8) das lernersprachliche system muss reorganisiert werden

[1 A very interesting study stems from Sefanie Haberzettl, who compares L2 acquisition of verb positions by Russian children to that of Turkish children.

2 Her results support the alternation hypothesis, because she has found that the Russian children do acquire German using an VO hypothesis.

3 In contrast to that, the Turkish children begin with an OV hypothesis and **build up the German sentence structure gradually and successfully.**]

In this example from T6, the construction metaphor refers to the theories learners have about German syntax. They are said to *successively and successfully build up* the sentence structure. So acquiring something, which goes hand in hand with developing ideas, resembles building something up.

In combination with a visual metaphor, an IT-related metaphor was also found, but only in one instance, in T8:

(47) 1 MOD: wir machen uns auch lustig darüber (.) und trotzdem isses unsres (0.3) also diese di diese ambivalente **haltung die sich da auch ganz häufig zeigt**

2 S8: 2 ich hat_s hier irgendwo notiert das internet denn des (.) öh **quillt ja über vor solchen dingen mittlerweile was sie anspreche**

[1 MOD: We are also making fun of it, nevertheless, but such **opinions that reveal themselves** there are ambivalent.

2 S8: I have written it down somewhere. **The Internet nowadays overflows with the things that you are mentioning.**]

The Internet is indirectly conceptualised as a container and the metaphor of the *overflowing Internet* perhaps hints a river or sea is highly evaluative, namely that this suggests that there would be too much information. This form of evaluation can be identified as particularly strong because the metaphor of the overflowing container generates a strong contrast. The Internet can be seen as something unlimited or at least it is hard to define its scope and boundaries. Portraying the Internet as something limited, an overflowing container on the other hand, is a rather strong evaluation. It expresses that even in an unlimited space such as the internet, metaphorically, there is not enough room for certain opinions, or rather, it is perceived that certain opinions appear online way too often, which is also a strong evaluation or exaggeration for something as unlimited as the internet. This spatial or container metaphor is combined with a visual metaphor with a reflexive use of the German verb *zeigen* (*show*), uttered by the chair at the conference, which precedes the speaker's utterance.

Finally, theory-constructive metaphors can also be found in the German corpus, for example in T8. There, a *spatial construction* (*Raumkonstruktion*) summarises the

debate about a geographical area for the Saxon dialect, namely that it could not be decided so far where the boundaries of such an area would be:

- (48)1 spätestens seit dem vortrag vorhin fehe vo von herrn lichtenberg °h öh (0.3)
wissen wir ja dass **raumkonstruktionen öh nich eindimensional sind sondern auf mehreren ebenen stattfinden in mehreren dimensionen stattfinden** °hhh mit einer **herausgehobenen funktion des dialekts**
2 und ich versuche °h **diese ebenen jetzt öh an verschiedenen stellen öh miteinander (.) öh zu verbinden immer °h aber den dialekt auch wieder im fokus**
[1 Lately, after the talk of Mr Lichtenberg, we know **that spatial constructions are not one-dimensional, but take place on several levels** with an **outstanding function of the dialect.**
2 and I try to **connect these levels with each other at different places, but the dialect is in the focus again.**]

In the introduction to his talk, the speaker emphasises that there are several *dimensions (dimensionen)* and *levels (ebenen)*, on which such spatial constructions (*Raumkonstruktionen*) take place. Next, towards the end utterance 1, the speaker mentions the *outstanding (herausgehoben)* function of the dialect, which is part of his topic. This fits to the recurring spatial metaphors as something outstanding is distinct from the rest of the space. In utterance 2, the speaker employs recurring spatial metaphors by stating that he would like to connect different levels. Furthermore, the spatial metaphors are combined with a visual metaphor that serves to express that one of the main aspects of his talk is the dialect. So besides being outstanding in space, which suggests the direction of the dialect coming out from between the other aspects in space, the dialect is also focussed on. The latter suggests that the dialect is approached from another direction and the focus is put on it.

The following longer example from talk T6 is discussed here because it contains a whole range of metaphors in a longer sequence of discourse:

- (49)
1 ein überblick über die ergebnisse sie sehen senkrecht die kontaktstunden °h äh waagerecht die je jeweiligen lehrwerke und ich hab orange verwendet für es vau o: strukturen mit lexikalischen verben grün für es o: vau strukturen mit modalverben °h und blau für es o: vau strukturen mit auxiliären
2 °h und (.) **wie sie sehen was man zusammen ha fassend festhalten kann** (0.4) für die einführungsreihenfolge im gesteuerten erwerb ist eine frühe dominanz von es vau o:strukturen °h und eine verhältnismäßig späte evidenz für zugrunde liegende es o: vaustrukturen °h die (.) progression (.) gestaltet sich (0.4) wie folgt
3 es wird begonnen mit strukturen wo das finite lexikalische verb an zweiter position im satz steht (.) °h (0.4) und erst danach ham wir strukturen mit modalverben und auxiliären wo das (0.3) lexikalische verb satzfinal erscheint sodass

man also sagen kann °h dass die (.) deutsche satzklammer von links (0.3) von links (.) nach rechts (.) aufgebaut (.) wird °hhh ähm (.) im erfolgreichen ungesteuerten erwerb hingegen dokumentiert zum beispiel bei haberzettl (0.7) ähm gehen die lerner wie folgt vor sie beginnen mit °h einfachen strukturen wie pizza essen °h (0.4) folgen dann (0.3) ähm strukturen wie will pizza essen und erst dann erscheint auch das lexikalische verb in satzweiter position sodass die satzklammer eigentlich (0.3) von (.) rechts nach links sukzessive aufgebaut wird

4 °h und ganz ähnliche ja (0.4) sch äh strukturbauansätze für den erwerb des deutschen (0.3) wurden vorgelegt in studien von vainikka young scholten dimroth et al (.) oder winkler für das deutsche als ähm erst (.) oder (.) zweitsprache (0.6) ((schnalzt)) °h so vor dem hintergrund dieser ergebnisse kamman also zusammenfassend kritisch anmerken dass die einführungsreihenfolge in daflehrwerken eine negative unterstützung für die letztendlich fehlleitende es vau o: hypothese °h der lerner darstellt °h und **dass sie außerdem effektiven und erfolgreichen strukturbau (.) strategien °h von ungesteuerten lernern (.) entgegenläuft**

5 °hh und (0.8) dies **brachte mich direkt zu meiner (.) zweiten nn (.) h° wichtigeren forschungsfrage** nämlich würden fremdsprachenlerner des deutschen **weniger strukturellen el eins transfer zeigen** und würden sie die es vau o: struktur besser erwerben wenn evidenz für die zugrunde liegende es o: vau wortstellung von beginn an im unterrichtsinput bereitgestellt wird (.) °h und wenn die (.) in der grammatikprogression strategien und steigbügel aus dem ungesteuerten erwerb (.) berücksichtigt und **hervorgehoben** werden

6 °hh um diese frage zu beantworten hab ich also beschlossen eine interventionsstudie durchzuführen °hh zunächst ein paar allgemeine vorbemerkungen dazu um °h in anderen kontexten schon mal aufgekommene missverständnisse diesbezüglich zu vermeiden

7 °h ich **seh das ähm als ein didaktisches experiment nich als ein psycholinguistisches** °h dementsprechend handelt es sich nich um eine kontrollierte laborstudie sondern um eine °h studie ein versuch der direkt in der unterrichtspraxis in der unterrichtsrealität durchgeführt wurde und ich möchte heute also °h von der idee (.) über die konzeption °h ähm (0.9) die durchführung hin zu den (.) ergebnissen dann dieser studie erläutern

[1 An overview of the results: you can see vertically the contact hours and horizontally, you can see a list of textbooks and I have used orange for VO structures with lexical verbs and blue for OV structures with auxiliaries.

2 And as you can see, we can summarise for the order of introduction in language acquisition an early dominance from VO structures and relatively late, there is evidence for OV structures. The progression is in the following way:

3 It begins with structures where the finite verb is in a V2 position in the sentence and only after that do we find structures with a final position for the lexical verb. One can say that the German sentence bracket was structured from left to right. In successful uncontrolled acquisition, learners proceed as follows, as documented by e.g. Haberzettl: They begin with simple structures like *eating pizza* and follow with structures *like to eat pizza* and only then followed the lexical verb in V2 position so that sentence bracket is actually built up from right to left.

4 and actually quite similar approaches towards syntax for acquisition of German were published in studies by Vainikka, Young, Scholten, Dimroth et. al. or Winkler

for German as an L2 ((smacks lips)) so on the background of these results we can critically summarise that the order of introduction in GAF textbooks gives negative support for the misleading VO hypothesis of the learners and that it **goes against the effective and successful structures from uncontrolled learners.**

5 and this **brought me directly to my second and more important research question**, namely whether foreign language learners of German **show less structural L1 transfer** and whether they acquire the VO structure better if evidence for the underlying OV word order was provided from the beginning of the teaching input. And when the grammar progression strategies from uncontrolled acquisition will be considered and highlighted.

6 In order to answer this question, I have decided to conduct an intervention study. First, I will discuss some preliminaries in order to avoid previous misunderstandings from other context.

7 **I see this as a didactic experiment, not as a psycholinguistic one** and consequently, it is not a controlled laboratory study but a study that will be conducted directly in the reality of teaching practice and I would like to speak today about the conception, realisation and the results of this study.]

In (49),1-2 the meaning of *sehen* (German for *see*) oscillates between metaphorical and non-metaphorical meanings. (49),1 has a non-metaphorical meaning. The speaker shows how her slides are structured using different colours for different categories e.g. contact hours, verbs, and other aspects; so this is a non-metaphorical utterance when the speaker employs *overview* (Überblick). This shifts to metaphorical in (49),2. There, the speaker draws a conclusion using a visual metaphor and makes the abstract entity, the conclusion, metaphorically visible by stating *wie sie sehen* (as you can see). This expression indicates that the speaker formulates a conclusion. Furthermore, the German pronoun *sie* is the formal and plural form of *you* to address the whole of the audience. It is an inclusive *you*. The speaker assumes that her audience shares her views and can *see* what she can *see* in the metaphorical sense. Besides this inclusive way of addressing the audience, this visual metaphor concretises the speaker's conclusion and also serves as fact construction. In the same utterance, another metaphor summarises her observation, *festhalten* (hold onto). This metaphor also concretises the abstract entity (the speaker's conclusion) into something physically concrete that can be *held*. This metaphor is of a two-fold contradictory nature. On the one hand, the speaker takes control and has to hold onto conclusion to make them clear for her audience so that they don't 'escape' or 'get lost'. On the other hand, the same metaphor expresses the notion that the ideas are something volatile that has qualities of autonomous agents that have influence on the speaker and that she needs to react to *hold onto* the ideas so that they don't 'get lost'.

In (49),4, the speaker claims that the dominance of simplified V2 (SVO) order of syntax in German textbooks causes learners to have wrong hypotheses about German syntax, namely that German syntax is mainly or exclusively SVO, which a learner could hypothesise from the textbooks. Such wrong assumptions would *go against* (entgegenlaufen) learners' perceptions that have no guidance. So developments are expressed in terms of directional movement. This is consistent with previous instances of metaphor where developments (mainly within research) were expressed in terms of a journey, which also constitutes directional movement. In (49),5 we find another summarising and evaluating function by a metaphor of movement, which at the same time, has a text commenting function as an advance organiser, announcing the second research question. Again, as in the previous instance, the context is presented as *bringing* (or *leading*) the speaker to the research question, as if the context was an autonomous agent that determined what was to be researched, as if research interests were given a priori. In the same utterance, another research result is presented as a concrete and hence visible entity (L1 transfer in learners of German). This visual metaphor has the same implication about observable and hence visible a priori fact-like entities and functions like most other instances of visual metaphor in this corpus and study. Towards the end of (49),5 a difference to visual metaphors in English data becomes visible. The speaker says that strategies how learners acquire have to be *hervorgehoben* (lifted up). In German, *hervorheben* would literally be translated into something like *underline*, *stress* or *elevate*. So depending on which translation one chooses, *hervorheben* can be seen as a metaphor of movement whereas the English expression, *highlight*, which has been found in the English data, is purely visual. Thus we can state that there is a slight difference in the types of metaphors in German and English, but mostly, the act of emphasising something can be seen as a metaphorically visual act in both languages.

In (49),7 opinions (views) are expressed in visual terms, following Lakoff and Johnson's (1980) notion of UNDERSTANDING IS SEEING. Having an opinion and hence evaluating something is seeing one thing in terms of another. When the speaker *sees* the study in terms of a didactic but not a psychological experiment, then she makes the relativity of her own position explicit by the metaphors she chooses. At the same time, her visual metaphor has the same implications and functions other visual metaphors have: fact construction. The difference here is that

the speaker expresses her opinion as a factual declarative statement while at the same time making clear its relative position in the landscape of different opinions.

The trends that could be identified in both sub corpora for this study were the dominance of visual metaphors, spatial-directional and metaphors of movement / journey (representing different types of processes and progress as a journey) in the data of spoken academic language in English and German.

Among these metaphors are:

The general notion that A PROBLEM IS A CONCRETE ENTITY; UNDERSTANDING IS SEEING (and other visual metaphors) e.g. problems can be *seen* or *shown*, or *revealed*.

1. Spatial metaphors as part of metaphors of movement (container metaphors), topics as places or spaces
2. Metaphors of movement (*go through the data*), frequently connected with a negative statement (I won't go through); in both cases, the function is an advance organiser, following Fandrych and Graefen (2002: 21)
3. Most metaphors listed above culminate into the overall metaphor RESEARCH IS A JOURNEY (also with the lecturer as a guide).

The reasons for the presence of the metaphors across all communications and in both languages (English and German) are the fact that particularly the JOURNEY metaphor, spatial metaphor, UNDERSTANDING IS SEEING can be seen as basic aspects of communication. This confirms other studies, such as Lakoff and Johnson (1980), Lakoff (1993), Gibbs (1992), Glucksberg et al. (1992), Lakoff and Johnson (2003), Ritchie (2003), Kövecses (2002), Kövecses (2005), and others. All of these publications deal with conceptual metaphor theory and serve to explain the reason for the presence of metaphors in all talks that were analysed in my study. Following Lakoff and Johnson (1980) and (2003)'s notion of "experiential philosophy" and embodied concepts (metaphors that go back to physical experience), all of the categories mentioned above (movement/journey, vision, spaces/places) etc. are linguistic reflections of basic cognitive categories. Therefore, metaphors of these categories are essential to human communication and hence the findings from the corpus analysis in this study confirm conceptual metaphor theory.

Other metaphors were unique to each sub corpus as the following tabular overview shows:

German	English
Studies as a journey (T7)	History as a journey (T2)
Difference as physical distance (T7)	TIME IS A PATH (T3)
IT-related metaphor (internet as a container) (T8)	IT-related metaphor (anthropomorphism) (T1)

Table 17: Overview of unique metaphors by sub corpus

Why were these metaphors unique in the respective sub corpus (German and English)? Why do certain metaphor categories occur in one or several talks, but not in others. Finding an answer to this question is almost impossible. The most likely reasons are of an idiosyncratic nature, e.g. idiolects of the speaker or related to contents. For example, IT-related anthropomorphisms could be found in T2, which deals with technology and language learning. So technology-related metaphors are more likely in this talk, which has a technology-related topic, than in others. The thematic or pragmatic context plays a role. As a whole, one can say that not the respective metaphor categories, but the different realisations of the same metaphor categories for similar pragmatic purposes were unique. For example, journey metaphors explained developments in both sub corpora, studying as a journey in T7 for German and history as a journey in T2 for English respectively. More spatially oriented metaphors also occurred. In T7, difference was expressed in terms of physical distance in order to emphasise differences between theories. In T3, the speaker path metaphors refer to different points in time, mainly referring to the past (e.g. *back in the nineties*). Both metaphor categories have in common that differences (whether points in time or theoretical differences) are expressed in spatial dimensions. Spatial metaphors can also be seen as part of journey- or movement metaphors as movement happens in space and different positions in space require movement. At least movement is implied in order to get from one position to another, whether it is a point in time or a theoretical position.

The third entry in Table 17 has more than one possible interpretation. Firstly, both metaphors from T1 and T8 can be seen as different realisation of one main category: IT-related metaphors that refer to different aspects: the Internet and human or human-like characteristics of computers. The metaphors are IT-related metaphors with different pragmatic purposes in different context and also in different talks with different topics. In T8, the pragmatic purpose is a strong negative evaluation or criticism, for which the speaker employs the metaphor of the

Internet as a container, even a small container that overflows (überquillt). In T1, the pragmatic purpose is evaluative, but more positive and humorous. The speaker highlights the positive qualities of computers while comparing their 'patience' to an imagined impatient human tutor in a humorous manner. After this comparison of the opposing metaphor categories, more reasons for the different unique metaphor categories will be given.

The metaphor of history as a journey occurs in T3. There, conflicts throughout history are analysed. Therefore, the more specific sub category of the journey metaphor (history as a journey) is more likely to occur there than in other communications.

The metaphor TIME IS A PATH occurs in T1, a talk that deals with small talk. There is no obvious reason why this metaphor only occurs in T1. The path metaphor in connection with time is general enough to appear in any context. So the only possible conclusion here is that it happened by coincidence that this metaphor occurs in T1 and not elsewhere.

It remains open to what extent different metaphors stand for different research cultures (e.g. going into detail / deep vs. getting things done / moving forward). There is the hypothesis that the difference between the first and the latter can be located between German and English i.e. that German research cultures favour a deep analysis vs. English research cultures favour a results-based "getting things done" approach.⁴⁴ Journey metaphors clearly appear in both German and English data while the notions of a 'deep' analysis can be found more in the German data. Therefore, the claim that different metaphors reflect different research cultures between German and English remains a hypothesis.

6.3 Qualitative analysis by category or function

In the following, the results will be discussed and subdivided by the respective categories that emerged from the data analysis. The categories discussed below are chosen either by the criterion of frequency or qualitative relevance⁴⁵ of the

⁴⁴ There is currently no study that makes these specific claims or discusses different research cultures based on metaphor use. Different research cultures in general are discussed in Clyne (1987) together with the claim that English written academic genres are more reader-friendly. Some of these claims are relativized by Fandrych and Graefen (2002), who say that the differences between English and German research articles are less obvious.

⁴⁵ 'Qualitative relevance' is a very general term and cannot be defined beyond the specific communicative context. The adjective *qualitative* only expresses that the criteria for a result to be deemed relevant is not quantitative dominance (frequency) alone. The qualitative analysis

metaphors found. Besides categories, certain communicative functions of metaphors will be discussed. These functions include fact construction, concretisation of abstract entities, theory-construction, pedagogic metaphors, and others. Furthermore, an attempt at explaining quantitative results that reveal great disparities in metaphor density across the corpus will be made. Together with the conclusion at the end of the chapter the following subsections will formulate recommendations for further research e.g. about hypotheses that relate metaphor use to L1, age or gender.

6.3.1 Visual Metaphors

Before discussing the functions of visual metaphors, a quantitative overview of visual metaphors across both German and English sub corpora, a tabular overview of numbers of visual metaphors will be discussed. Looking at Table 18, it can be seen that in both sub corpora, the number of visual metaphors varies across talks. For the English sub corpus, the two talks with the highest number of visual metaphors are T1 and T4. T1 has more than twice as many visual metaphors as T4. T2 and T3 have around 6 times fewer metaphors than T1 and about twice less than T4. In the German sub corpus, there is one talk with most visual metaphors, T5. All other talks in the German sub corpus have at least a two times lower number of metaphors than T5. Comparing the totals of visual metaphors, the total for the English sub corpus is approximately a third higher than for the German sub corpus. In the German corpus, T5 has the highest number of metaphors; the talk with the second highest number of metaphors (about 2.3 times lower than T5) is T6, followed by T7 and T8.

Talk	Number of visual metaphors
T1	30
T2	5
T3	6
T4	13
Total English	54
T5	19

has established the relevance of metaphors based on two criteria: First, they can help the speaker act in a pragmatic context using metaphors and second, the type or function of metaphor recurs, if possible even beyond individual speakers and talks.

T6	8
T7	3
T8	7
Total German	37
Total both sub corpora	91

Table 18: Numbers of visual metaphors in both sub corpora

Visual metaphors were applied e.g. to concretise the act of dealing with a problem, as this example from T4 shows:

(50)1 and if you **look at eastern europe** (2.2) in the twentieth century (-) **you see that most nationalist (.) nationalising projects (--)** **wound up (--)** **being successful (-)** **through intolerant separation genocide and ethnic cleansing (---)**

(50),1 has recurring visual metaphors, following the pattern DEALING⁴⁶ WITH AN ASPECT IS A VISUAL ACT. That is why the act of dealing with the history of Easter Europe is *looking* at it and it can be *seen* why the different nation states developed the way they did. The abstract aspect, in this case the approach towards a nation state, is concretised using visual metaphors and hence constructed as facts that are clearly visual and hence self-evident.

Visual metaphors were present across both, the English and the German sub corpora. It was found that the function of fact construction as discussed above expresses an implicit view that things are given, a priori existing. Opinions and research findings are presented as facts because of their metaphorical visual nature. Which function and relevance do the visual metaphors consequently have both for speakers and their audiences in talks?

The relevance of visual metaphors in spoken academic discourse can be explained by the fact that visual metaphors were found to have a text commenting function as an advance organiser, e.g. as in *I'll show you later*. An aspect to be discussed later is concretised by being visualised. As an advance organiser, visual metaphors had the central function of structuring and organising discourse, of helping the speaker clarify when to discuss which aspect, both for themselves and their audience. For the audience, visual metaphors as advance organisers have the function of metaphorical orientation. The speaker gives a metaphorical overview with text commenting visual metaphors so that the audience can orientate, e.g. which

⁴⁶ *Dealing* with an aspect is a very general notion and includes *turning somebody's attention to something*.

aspects of a talk are discussed presently, which are discussed later, as well as which findings become apparent (e.g. *here you can see*). Another part of metaphorically keeping order is achieved by those visual metaphors that work as an advance organiser and deal with aspects that are not discussed immediately, but later, such as *I'll show you later*. For both audience and speaker, this type of visual metaphor gives aspects of the talk that are discussed later a presence and concreteness by visualising them, e.g. to emphasise that relevant related aspects were not forgotten, but will be discussed later. For the speaker, such metaphors help to organise and justify the order of the contents and hence the structure of their talk. For the hearer, this type of visual metaphor has the effect of reassurance, namely that related aspects are discussed, but later. Thus, the advance organiser in form of a visual metaphor can announce that something is not discussed immediately, but at the same time express the promise that an aspect will be discussed later. Depending on whether questions are allowed in the middle of the talk, such advance organising visual metaphors can help to avoid questions of the form “But what about related aspect XY” because the metaphors reassure the hearer by promising that related aspects will be discussed later. So the main function of visual metaphors both for speakers and hearers in specialist talks is contributing to a ‘problemscape’, in which metaphorical orientation is sought. The same function is discussed in 5.10.2 for metaphors of movement.

6.3.2 Metaphors of movement / journey/ space

Before the functions of the combined category of movement / journey / spatial (including directional) metaphors are discussed, a quantitative overview will be commented on. In comparison to the previous category, visual metaphors, it becomes apparent that the total number of movement metaphors is more than twice as high as the number of visual metaphors. So quantitatively, there is a greater presence of movement than of visual metaphors. Regarding the quantitative distribution of movement metaphors, the highest number of movement metaphors for an individual talk is 50 and appears in the English sub corpus, in T4. The talk with the largest number of movement metaphors is T1, with thirteen metaphors less than T4. T2 and T3 have a lower number with up to more than twelve times fewer metaphors than T4. The German sub corpus has similar numbers of movement metaphors the English sub corpus. T5 has the highest number of metaphors, followed by T8, T7 and T6. T6 has the lowest number of

metaphors, more than a third (3.2 times) than T5. The total numbers of movement metaphors for the English sub corpus is 104, which is nine metaphors fewer than the total of the German sub corpus (113). The total for the whole corpus of this study for visual metaphors is 91 and much lower (2.5 times) than the total for movement metaphors (227).

Talk	Number of movement metaphors
T1	37
T2	13
T3	4
T4	50
Total English	104
T5	48
T6	15
T7	23
T8	27
Total German	113
Total both sub corpora	227

Table 19: Numbers of movement metaphors in both sub corpora

These metaphors could be identified as the major metaphor category in this study because when looking back, it can be said that all speakers were moving in a metaphorical landscape, a ‘problemscape’. Speakers are on a journey and take their audience on a guided tour or journey with them, taking them through the problems and solutions, as well as keeping them on the main *path* or *focus*, avoiding side steps etc. (e.g. *I cannot go through all examples, could go through more* etc.).

There are no significant differences in the use of spatial, movement and journey metaphors between German and English data. Both sub corpora show journey metaphors with evaluative functions (when e.g. stating that a book *doesn’t go very far / far enough*) or as a way to linguistically navigate to give people a hint of the metaphorical ‘location’, of where the speaker and the audience are (e.g. *we are moving towards or into the discussion*), German data, examples (26) and (40), or as the notion of movement, combined with a direction in space, that is e.g. *going deep into data analysis*.

In the English sub corpus (in T3), the metaphor HISTORY IS A JOURNEY could be found:

(51)

1 only a few people (0.1) participated in (0.1) politics at the state level (0.3) and (.) states did not mobilise (.) all of their populations (.)

2 erm but modern nations (0.1) started to do that again (0.5) **a traditional (0.2) place for (0.3) starting (0.1) that (0.5) is (0.2) well (0.1) the (.) conventional place that_s historically (0.5) accurate is the french revolution (0.4)**

3 °h when france (0.5) did mobilise (0.7) tried to mobilise all of its men (0.4) of military age (0.5) and therefore for a while (0.1) got an advantage over the rest of europe (0.2) by being able (.) to mobilise huge numbers (.) of resources of men for war (0.6) and then the other european states caught on (.) and so by the late nineteenth century (0.8) er practically everyone (0.1)

4 er (0.2) the british were a little late with that but the germans the french the continental powers all (0.2) were mobilising mass armies which is one of the reasons that we had the kind of (0.2) immense (0.2) and catastrophic wars in the (0.2) first half of the twentieth century that europe started

Extract (51) has another realisation of the metaphor HISTORY IS A JOURNEY. This is the case because one event (or rather a sequence of historical events), the French Revolution, is referred to as a *place*. This metaphor is followed by further explanations of the history of mass armies continued into other countries until it unloaded into two World Wars. This metaphor also makes sense because it precedes an actual spread of an idea (drafting men for a mass army) across Europe. So in this case, the metaphor makes sense both metaphorically and non-metaphorically. Metaphorically, it reduces the French Revolution to a place and expresses the actual place, France, in terms of the event, the revolution. Non-metaphorically, one can say that simply, the concept of a mass army emerged in France and has spread across Europe. In contrast to using a non-metaphorical statement, the speaker can achieve greater simplification of his arguments because the arguments become more obvious, namely spatially and visually imaginable for the audience, as if they were taken along an imagined map of Europe. This is a way of reducing complexity, structuring arguments by location and creating coherence throughout the course of the talk. Furthermore, the use of metaphors instead of non-metaphorical statements has the specific advantage of being easily understandable than non-metaphorical statements.⁴⁷ The specific advantages of

⁴⁷ Such a statement cannot be generalised. There might be complex metaphors that might be harder to understand than a non-metaphorical statement. However, in case of these explanatory or pedagogic metaphors, the reason and effect for employing them is making the information the speaker is conveying less abstract, simpler, and hence more understandable. This is the case

metaphors in discourse and the theoretical background will be discussed below, in connection with examples (52) and (53).

(52)

1 you're dealing with people who have **come into a new culture** and need to learn how to manage English small talk, an obvious topic

2 there's not an awful lot of it in coursebooks, except at the very **initial level** and **none of it goes very far** (0.2)

3 it's quite **superficial** and (0.2) quite short (0.2) usually you get no more than what you know one chapter sometimes half a chapter

This extract from T1 has the function of introducing the background of the topic of small talk. In order to achieve this, a sequence (combination and mixing) of metaphors from different semantic fields is employed. There is a sequence of two spatial-directional metaphors combined with one metaphor of movement, which all are further evidence of the centrality of spatial metaphors in thinking and communication, which has been proved in research literature since Lakoff and Johnson (1980). The extract shows that the level of complexity and the amount of information a learner can learn from an English textbook about the topic of small talk is expressed using two spatial-directional metaphors (initial level), which implies that MORE INFORMATION OR KNOWLEDGE IS HIGHER OR FURTHER. The second part of the criticism on existing textbooks is also a realisation of this conceptual metaphor. These metaphors are preceded by another spatial directional metaphor, which also contains the notion of physical movement, as if somebody moved from one culture *into* another, as the directional preposition (*into*) suggests. At the end of the extract from the talk, the survey of previous textbooks finishes and the conclusion of the professor is that regarding small talk, none of the books *goes very far*. This is another metaphor of physical movement with a spatial directional component. It concretises the abstract notion of (in)sufficient quality and quantity of information and adds a clearly recognisable evaluative component, namely that GOOD QUALITY IS MOVEMENT AHEAD. A good textbook is something that moves ahead or even very far. This also what Lakoff and Johnson (1980: 226) call an experiential basis. The next question that would arise is "Why are people expressing themselves in the way they do in discourse, by using metaphors such as those in this example?" As Lakoff and Johnson (*ibid.* and p. 19) claim, this is not

because in accordance with cognitive metaphor theory, the metaphors chosen resemble something very concrete, namely basic physical experience, which is easier to imagine for the speaker and easier to understand for the audience than non-metaphorical statements.

arbitrary, but based on physical experience. So a good textbook, which has enough information and teaches something to learners, *goes far* because it resembles our physical experiences of moving forward and consequently, not getting far physically resembles not learning anything, which can also be related to the notion of failing a school year in the German school system, which results in not being allowed to stay in the same class that moves on to the next level, but instead in having to repeat the year, which in German is referred to as *sitzen bleiben*, literally to remain seated [on the same level]. So the German (and most likely not only the German) school system is also designed around the notion of learning and progress in terms of a notion of movement forward.

(53)

- 1 you know (0.6) what she_s doing for christmas h°
- 2 so (0.2) **a very big move in terms of her ability to handle that situation** and erm h°
- 3 °h (0.9) and of course °hh it_s a fairly safe situation because she knows (0.2) angela so it_s not like the real life situation but **it_s clearly a big °h step forward in terms of confidence** and so on

This extract, (53) from T1, is an example of expressing the concept of progress in terms of directional movement. This recurs in the extract, with the first instance just saying *move* without explicating the direction, but in the context of other metaphors, a direction forward can be assumed. The latter is made explicit in the second instance of the physical-movement-directional metaphor: the *big step forward*. This is another manifestation of the conceptual metaphor PROGRESS IS MOVEMENT FORWARD.

Closely related to journey metaphors are spatial metaphors. Metaphorical rooms in the sense of containers or spaces are constructed. Spatial metaphors are often part of movement metaphors, e.g. *into the video comes somebody*, or expressions, such as *initial level* or *going far*, see (53). Either, a preposition, such as *into* expresses a direction or a metaphorical position in space is expressed in combination with or as part of a journey metaphor. This is why spatial metaphors are part of movement metaphors because they appear together with them e.g. by giving a direction or place in space.

(54)

- 1 °hhh (1.0) die (0.3) **theoretischen grundlagen der arbeit liegen (.) vor allem (0.3) öhm (1.0) auf der theorie der sprachlichen tätigkeit nach leont'ev** der also auch sehr stark re wieder rezipiert wird (.) neu rezipiert wird °h im rahmen des social turn und (.) öh (0.4) soziokultureller theoriebildung für die

fremdsprachenforschung

2 °hh (0.4) öhm (0.2) ich (0.2) werde nicht den ganzen (.) **activity theory rahmen** (.) **ausbreiten der is zu groß** und ich ähm (0.3) denke dass es auch gestern schon zum teil getan wurde °h und auch in verschiedenen anderen sektionen getan wurde
3 °h ich **picke mir hier °h die theorie der sprachlichen tätigkeit heraus** aus dem großen angebot °h denn sie verdeutlicht (.) sehr (.) schön (0.4) öhm (0.3) dass (.) das lernen einer zweiten sprache oder einer (.) fremden sprache °h dann doch noch ein spe (.) zieller lernprozess is im (.) vergleich zu anderen °hh äh (.) allgemeineren lernprozessen (0.3) ((schmatzt))

4 °h (0.5) leont'ev sagt (0.9) für (0.4) die tätigkeit (.) oder die sprachliche tätigkeit (.) also was kann man mit sprache alles machen °h sind drei funktionen von sprache grundlegend einmal man kann mit sprache (.) kommunizieren °h inhalte vermitteln äh in kontakt treten

5 °hh man kann mit sprache aber auch erkenntnisse gewinnen und man kann mit sprache aber auch sprache °h herstellen und auch (.) somit (.) erlernen °hh **in dem größeren rahmen (.) der (0.3) theorie der tätigkeit oder der tätigkeitstheorie is das (0.3) ((schmatzt)) (.) quasi der theoretische °h link äh °h zum sprachlichen lernen (1.0) im fremdsprachenunterricht** also (.) n bisschen steckt hier drin dass allein die beschäftigung (.) mit (.) einer fremden sprache schon °h zu lernprozessen führt ich weiß dass is äh sehr gewagt °h so (.) **unter spracherwerbtheoretischer perspektive**

6 °h (0.6) das is aber keine **spracherwerbtheoretische perspektive** sondern eben eine °h äh (.) **perspektive der aus der tätigkeitstheorie (.) heraus** (0.9) ((schmatzt)) °h (1.2) ein (1.0) ne sprachliche tätigkeit nochmal um mit den worten von leont'ev abzuschließen °h kommt im psychologischen sinne des wortes (0.2) nur in den relativ selten (0.2) seltenen fällen vor in denen das tätigkeitsziel °h die erzeugung einer sprachlichen äußerung selbst ist (0.5) ((schmatzt)) in denen die sprache sozusagen das ziel ist (0.2) ((schmatzt))

7 °hh offenbar sin diese fälle im wesentlichen mit dem prozess der vermittlung °h einer zweiten sprache verbunden (2.1) ((schmatzt))

8 °hh (1.0) ein (0.4) weiterer theoretischer hintergrund (.) ähm (0.2) für (.) die untersuchung sind (0.2) ((schmatzt)) ja oder is eine °h is das (.) is das wort sozusagen der begriff der handlung °h der ähm (.) ((schmatzt)) **als sprachliche handlung auch aus sehr unterschiedlichen perspektiven in die forschung eingegangen** wird und auch für verschiedene dinge °h benutzt wird °h unter anderem (.) in der pragmatik aber auch (.) soziologische handlungstheorien oder auch pädagogische handlungstheorien sind (0.3) da (.) im angebot (.) sozusagen °hh öhm (0.2) ((schmatzt)) (0.2) die unterscheiden sich sehr stark und ich möchte auch hier **nicht den großen rahmen aufmachen** °h sondern mich auf handlung im sinne der tätigkeitstheorie beschränken

[1 **The theoretical basis is the language activity theory by Leont'ev**, which is again widely and newly adopted in the context of the social turn and sociocultural theory-forming for foreign language research.

2 **I will not spread out the whole activity theory context, which is too huge** and I think that this has partly already been done yesterday and also in other sections.

3 I **pick out linguistic activity theory** from the huge offer of theories because it very nicely clarifies that a learner of an L2 or a foreign language is subjected to another learning process than more general learning processes ((smacks lips)).

4 Leont'ev says that linguistic activity means, what can people do with language? These are three functions of language: one can communicate with language, convey information and get in contact with people.

5 Language can also help to acquire knowledge and language can produce language and hence learn within the wider context of **activity theory ((smacks lips)); it is the quasi theoretical link to language learning in foreign language classes**; this implies a bit that dealing with a foreign language alone causes learning processes. I know that sounds very daring **from a language acquisition perspective**.

6 This not a **language acquisition perspective** but a **perspective coming out of activity theory, ((smacks lips))** a language activity. In order to conclude with Leont'ev's words, in the psychological sense of the words, it very rarely happens that the purpose of an activity, in producing an utterance as such ((smacks lips)), in which seldom producing language as such is the goal ((smacks lips)).

7 Apparently, these cases are mainly connected with with the process of teaching a second language.

8 Another theoretical background for the study is ((smacks lips)) is the term of action ((smacks lips)) **has entered research as a linguistic activity from different perspectives** and will be used for different things, among others in pragmatics, but also in sociological or pedagogic theories of action ((smacks lips)). They are very different and **I would not like to open up the wider context**, but would like to restrict myself to action in the sense of activity theory.]

(54),1 from T5 contains another spatial metaphor. The theoretical basis (or background) of the research presented in the conference talk *liegen*, they are *situated* (literally *lie*) on a theory by Leont'ev. The theoretical background of the talk is concretised as an entity that can have a certain location. A similar spatial metaphor in (54),2 refers to discussing a theory (activity theory) in detail. The speaker does not want to *spread out* (*ausbreiten*) the whole context (*rahmen* is literally *frame*) of activity theory as it is too big. This unidiomatic translation of the German utterance was performed by me to clarify the speaker's metaphor. She expresses the abstract entity of activity theory as something that can be spread out (maybe like a carpet) and she prefers not to spread it out because it is too big and because it also has been discussed in other sections of the conference. In (54),3, the speaker *picks out* (*picke heraus*) only language activity theory (*theorie der sprachlichen aktivität*). So besides in a spatial manner (location, see (54),1 and 2), the mentioned theory is concretised in a more physical manner that it cannot only be positioned (or spread out like a carpet), but also grabbed, picked out from a selection. So far, the trend in this extract (54) is that A THEORY IS A PHYSICAL ENTITY WITH A LOCATION IN SPACE THAT CAN BE MODIFIED. This notion recurs in (54),5 where the speaker mentions the *wider* context (*größerer rahmen*, literally *wider frame*) of the same theory. The concretisation of the *theorie* continues in

utterance 6 and 8 with recurring visual metaphors (perspective = perspektive). Aspects are discussed from a perspective using the German adverb *heraus* (literally from the inside to the outside), which emphasizes the directional component that this visual metaphor contains. In (54),8, a visual-directional metaphor is combined and mixed with a directional metaphor of movement. So an abstract idea is visible and can change its position. This is concluded by the speaker using another spatial metaphor stating that she does not intend to discuss the wider context of different theories (metaphorically, it stands for spreading out the wider frame of the theories = context). The metaphor is also connected to a negative statement that expresses that she does not want to discuss the wider context of different theories. Hence, this metaphor has an implicit evaluative function, which expresses that the context of the theory is *too wide* to discuss in her talk.

(55)1 äh interessanter ist natürlich und auch nicht ganz h° unerwartet aber auch a bissl überraschend °h ist dann die einschätzung der anderen fremdsprachen °h wo also natürlich die die (.) selber °h äh ((schmatzt)) viele h° also selber diese (.) **internationale richtung** gewählt haben °h äh mehr h° äh gibt es natürlich mehr zustimmung dass das besonders wichtig sei °h als von denen die nur eine sprache gewählt haben
 2 trotzdem °h überrascht und das ist dann eine eine **ein °h ergebnis auf das ich dann noch zurückkommen werde** °h dass selbst die leute die nur englisch gewählt haben (.) äh trotzdem sich dazu bekennen °h dass äh also (.) a auch andere sprachen wichtiger sind
 [1 The evaluation of other foreign languages is interesting, but not completely unexpected yet still a bit surprising where of course ((smacks lips)) many people have chosen the **international direction** themselves. There is of course more support from those who have only chosen one language.
 2 Nevertheless it is surprising and that is a result that I will come back to, namely that even the people who only have selected English believe that other languages are more important.]

Here in (55),1, two metaphors can be found, a directional and a metaphor of movement in (55),2. So in this case, not a research focus, but the focus of a programme of study at the university is expressed in terms of a *direction*. So besides research, this suggests the conceptual metaphor STUDYING IS A JOURNEY. This metaphor has a factual basis because in many cases, studying somewhere actually requires travelling or even moving to a different home. Furthermore, the diachronic perspective also supports this metaphor. Learning, teaching or studying used to mean 'to travel' along with *erfahren* (to experience), which was related to German *fahren* (drive), so that abstract experience was historically always linked to physical

movement and only acquired its abstract meaning later, see Graefen (1999: 151). A similar context can be seen in (55),2. There the speaker announces that there is a result he wants to *come back to again* (noch einmal zurückkommen). This is a metaphor of movement with a text commenting function, namely an advance organiser the speaker employs to structure his talk. Using this metaphor, the speaker announces that he will *come back* to the result he mentioned.

6.3.3 Distribution and density of metaphors by talk

Some differences across talks regarding metaphor numbers will be briefly discussed here. A recommendation for further research that outlines questions that had to be left open can be found below, in the recommendations section as part of the conclusion of chapter 6.

The first overview of metaphors in the corpus consists of two tables, Table 20 and Table 21. These tables use the structure of an academic talk based on Ventola (2002). In comparison to how it was introduced in section 3.3.2, Ventola's structure has been modified. The table here only includes the parts of a talk that were part of the recordings. For example, introducing and closing a section at a conference have been removed from the table because they were not part of the data that has been analysed for this study. Now Table 20, an overview of the distribution of metaphors across different parts of a talk in the English sub corpus will be discussed. This overview shows that independently of length and total number of metaphors, the overall majority of metaphors can be found in the part where the speaker contextualises their paper and the main part of the paper. Only in T2 and T4 are metaphors used before the talk has begun, while a chair introduces the speaker. In case of T2, five metaphors are part of the introduction of the speaker, which is a relatively high number in relation to total of metaphors for T2 (22). For T4, there is only one metaphor in the introduction with a higher total of metaphors (76).

Actant	Part of the generic structure	T1 (64 min.)	T2 (49 min.)	T3 (62 min.)	T4 (60 min.)
Chair	Introducing the speaker	—	5	n/a	1
Speaker	Thanking for introduction	—	—	—	—
Speaker	Contextualising the	13	4	8	22

	paper				
Speaker	The paper (main part)	61	13	2	54
Speaker	Thanking the audience	—	—	—	—
Audience	Thanking the speaker (non-verbal)	—	—	—	—
Chair	Thanking the speaker	—	—	—	—
Chair	Opening the discussion	—	—	—	—
Discussant	Question / comment	—	—	—	—
Speaker	Answer / response	—	—	—	—
Chair	Closing the discussion	—	—	—	—
Total	—	74	22	10	76

Table 20: Instances of metaphor in the English research talks sub corpus

Table 21 lists the number of metaphors in the German sub corpus. As in the English sub corpus, the highest numbers of metaphors can be found in the talks themselves and in the part of the talk where the paper is contextualised. The total number of metaphors is very similar to the English sub corpus. One difference is that in three out of four talks, metaphors also appear in other sections of the talk. For T5, there are also metaphors during the introduction of the speaker, while thanking the speaker, while the discussion is opened and during the discussion. A similar pattern has been identified for T8, with the two differences that there are no metaphors during the introduction of the speaker and while closing the discussion. All in all, the distribution of metaphors between the different phases before during, during and after an academic talk showed similar patterns for both the English and the German sub corpus of this study: the majority of metaphors is used in the main part of the paper or while it is contextualised.

There are no definite answers to the question why this is the case in both sub corpora, the metaphors can only either be found in the main part of the talk or in its

contextualisation. A potential explanation of this metaphor distribution could be that in case metaphor is used to clarify and concretise abstract entities, such as theories, theoretical contexts or research findings, then this is more likely to happen in the main part of a talk or where the talk is contextualised than in other parts because the speaker needs to make an extra effort to introduce or contextualise their topic, which also holds true for the main part of the talk, which also requires a detailed illustration of abstract entities. Specifically in the German sub corpus, some metaphors appear in the discussion of T5 and T8. There, a look at the transcripts reveals that metaphors have a summarising or evaluating function, such as e.g. that the chair states that the discussion will be *approached* (in die Diskussion reingehen), which gives the audience a metaphorical location, namely that the conference section is almost at the end and that the final discussion is imminent. The same can be said when the chair states that the discussion will *depart from a spatial construction* (von einer Raumkonstruktion ausgehen). There, the chair reminds the audience of this theory-constructive metaphor, which also has an evaluating and summarising function. The chair affirms the speaker's choice of metaphor by repeating it and putting it at the beginning of the discussion that follows the talk.

In the English corpus, T2 and T4 features metaphors as part of the introduction of the speaker i.e. before the actual talk begins. In both cases, the transcripts show that metaphor is used in a creative manner in order to arouse the audience's attention and to make the speaker interesting for them. This is realised by concretising the relevance of a speaker's publications by saying their books would be on everybody's 'book shelf', which makes the publications appear lively and highlight their presence in the way that they concern every one because they are everywhere. Everyone has them and reads them.

Definite and final answers to the question why metaphors concentrate on the main part of a talk and its contextualisation cannot be given within this study. The attempts at an explanation of metaphor distribution across the generic structure of the talks have to be seen as hypotheses and hence as recommendations for further research.

Next, metaphor density and how it relates to the findings from Figure 6 and Figure 7 will be discussed.

Actant	Part of the generic	T5 (45)	T6 (45)	T7 (40)	T8 (75)
--------	---------------------	---------	---------	---------	---------

	structure	min.)	min.)	min.)	min.)
Chair	Introducing the speaker	1	—	—	—
Speaker	Thanking for introduction	—	—	—	—
Speaker	Contextualising the paper	25	16	9	14
Speaker	The paper (main part)	32	9	17	49
Speaker	Thanking the audience	—	—	—	—
Audience	Thanking the speaker (non-verbal)	—	—	—	—
Chair	Thanking the speaker	1	—	—	—
Chair	Opening the discussion	1		—	1
Discussant	Question / comment	2	1	—	1
Speaker	Answer / response	8	—	—	1
Chair	Closing the discussion	—	—	—	4
Total	—	70	26	26	74

Table 21: Instances of metaphor in the German research talks sub corpus

As already outlined in the quantitative analysis chapter, both English and German data show a similar pattern regarding metaphor density (normalised frequency of metaphors = metaphors per 1000 words). For English, there is one talk (T4) that has a high metaphor density (7) and one talk (T1) with a low metaphor density (5). What is different between these talks? A detailed look at T4 has revealed that metaphors appear throughout the talk, from the beginning of the talk until the last few utterances. The metaphors are essential in introducing ideas, maintaining larger theoretical arguments throughout the talk, and even in summarising and giving an outlook of the theoretical reflections in the talk. Another potential explanation of

the high metaphor density is the topic. Conflict and war is a topic that has a high metaphorical potential because it coincides with one of the major metaphorical scenarios as identified by Lakoff and Johnson (1980), the war metaphor (ARGUMENT IS WAR), which is identified as a basic strategy of metaphorically expressing arguments. The finding of the high metaphor density in T4 is surprising on the other hand because a vast number of non-metaphorical wars (between countries, riots, revolutions etc.) are discussed in the talk. Therefore, an initial hypothesis that non-metaphorical conflicts result in less metaphor use, particular war metaphors, has to be abandoned. Instead, the opposite hypothesis can be formulated. If the topic of a talk involves conflicts, then not only a high absolute number of metaphors can be expected, but a high metaphor density, which is the consequence of the fact that metaphors are present throughout the talk, and not only in one part of it. So one major reason for T4's high metaphor density is the topic of this talk. T1 on the other hand, has a linguistic topic, also relating to certain relational skills can be taught to skilled migrants in New Zealand (small talk). It is not clear to what extent the topic plays a role in the lower metaphor density. Unlike the topic of T4, which hints at a higher number of metaphors, the topic of T1 does not automatically hint at a low number of metaphors. Metaphors also occur in all parts of T1, but in shorter extracts, more isolated (mostly not in longer passages that combine different semantic fields of metaphor) and there are also longer-passages without metaphors, which explain how T1 can have a lower metaphor density. There seems to be not much difference between T1 and T4 regarding in which parts of the generic structure of the research talk the metaphors appear. Both in T1 and T4, most metaphors appear in the main talk or when the paper is being contextualised. So differences in metaphor density are not affected by generic structure because there are no differences in the generic structure i.e. where most metaphors appear between T1 and T4.

Are there other factors that could have influenced metaphor use? The length in minutes is not very different (60 minutes for T1 vs. 64 minutes for T4). The length in tokens is different, but T1 is longer (15,988 T) than T4 (11,607). So the absolute number does not necessarily play a role in the question how many metaphors are employed, which is precisely why metaphor density was calculated. The only other differences found between the talks are the speakers' genders: whereas S4 (the speaker of T4) is male, S1 is female. S4 is also older (67) than S1 (55). At this point, it

is not possible to tell whether age or gender affect metaphor use and hence idiolect.

The two talks with the highest metaphor density in the German corpus are T5 (10 metaphors per 1000 words) and T8 (5). Again, as with the English data, the focus will be on the talk with the highest metaphor density. Talk T5 shows a similar pattern to T4: there are metaphors in all parts from the beginning to the end of the talk in various functions from introducing the topic and background to the main part, which discusses research ideas, up to the conclusion. There also longer sequences of metaphors from different semantic fields, which are combined and mixed. The topic of T5 is about a radio broadcast project that is employed to enhance teaching of German as a foreign language. T8 is about German dialects. When comparing the two talks, the age and gender of the speakers might play a role. The speaker of T5, S5, is a woman of 34 years whereas S8 is a 65-year-old man. The hypothesis that younger females employ more metaphors per 1000 words in contrast to older males can only be raised at this point and suggested as a correlation, and not be seen as a causal relationship between the variables. The scope of this study does not suffice to further investigate this hypothesis. More examples of talks delivered by younger women and older men would be needed. As has been raised by Kuhn (1965), (1970), (1976), (1977) and discussed in the methodology and data chapter in a more detailed manner, hypotheses (also referred to as *conjectures*) can only be falsified, not directly confirmed. It is always possible to find a counter-example that would contradict the original hypothesis. According to this way of reasoning, one could say that apart from one counter-example, the hypothesis that describes a correlation between age, gender and metaphor use (metaphor density) is valid within the context of this study. This however, does not negate the need for further research on this hypothesis.

Regarding metaphor distribution based on generic structure (Ventola 2002), see also Table 20, like in the English sub corpus, there are no noteworthy differences between T5 and T8. So metaphor density is not influenced by the generic structure and vice versa because the generic structure is very similar between T5 and T8, but the metaphor density is very different. The generic structure turned out to be stable in both the German and English sub corpus across talks with different metaphor densities.

In conclusion as part of recommendations for further research, the analysis of the quantitative findings has so far produced hypotheses and not answers to certain questions: To what extent does the topic of a talk influence metaphor density? How do age and gender affect metaphor use? Do younger women employ more metaphors per 1000 words than older men in academia? Does this effect differ by language or setting?⁴⁸ Why is the generic structure of research talks fairly stable across talks in different languages and with different metaphor densities? How do the answers to the previous questions differ from metaphors in non-academic settings?

6.3.4 Concretisation of abstract entities

The concretisation of different types of abstract entities is mainly realised by visual metaphors. Therefore, most of these functions are summarised in the section about visual metaphors, 5.10.1. Some metaphors with the same functions that have not been analysed above, will be discussed here.

(56)

1 da sind also die leute sind nicht ganz klar und halten sich also eher °h in dieser °h ob_s ein vorteil oder eine (0.7) ((schmatzt)) also h° **sie sehr positiv oder negativ sehen** °h jetzt also im h° äh (.) halten sich eher °h äh neutral
 [1 There, people are not clearly agreeing whether it is an advantage or a disadvantage or ((smacks lips)) **whether they see it positively or negatively**, now, well they are more neutral.]

This is an example from T7 of a visual metaphor to express evaluation and opinions. *Seeing* (sehen) things positively is a realisation of SEEING IS UNDERSTANDING as understanding is the basis and prerequisite of any opinion, and more specific, of HAVING AN OPINION IS SEEING.

(57)

1 **into this (.) video comes erm a vietnamese worker** and i_ll just play it to you and then °h you might like to just think about °h what you think is the communication problem because there_s clearly a miscommunication here °h
 2 **now just have a look and see what you think**

The person that is said to move into the video in (57) from T1 can be seen as part of a combination of different metaphor categories, another instance of combination and mixing, speaking with Semino (2008). The notion of a direction in space is employed (into), there is physical movement (comes) and at the same time, this marks the beginning of the action in the video and consequently, the movement

⁴⁸ In the English sub corpus, the opposite effect was identified.

forward also expresses that time is progressing, which is a realization of the notion that the future lies spatially ahead. The second part of this example is an interesting combination of metaphorical and non-metaphorical language. Before the professor plays the video example during her talk, she asks the audience to have a look and see what they think. Asking the audience to look at the video has nothing metaphorical unless one wants to claim that the professor asks her audience to look at the video in a physical sense without understanding it e.g. to passively watch it and consume, in a similar fashion to an entertainment video. However, this is precisely the opposite of what the speaker asks her audience to do and this is emphasized by the expression *see what you think*. This is an imperative to think, a motivation of the audience to participate in the discussion during her talk. This again can be seen as an instance of breaking through the traditional boundaries of the genre of specialist presentation. The important part in the context of metaphor analysis is the expression *see*, which refers to thinking. This has several functions. First, thoughts and potential opinions of the audience are encouraged. This is the case because the whole utterance *let's see what you think* is an indirect imperative towards the audience to participate and to share their views. At the same time, this expression is a realisation of UNDERSTANDING IS SEEING (Lakoff and Johnson 1980: 48). Understanding and thinking are presented in terms of seeing and hence as a physical entity that can be perceived visually, which is an act of concretisation of the abstract entity of thought.

(58)

1 i was a **late comer to technology** i was one of those (0.3) luddites i was constantly °h **dropping metaphorical (0.2) wooden clogs into (0.4) the technology system** (0.5)

2 and i was kind of (0.3) i kind of (0.8) **fell into technology backwards**

Extract (58) from T2 is a sequence of three metaphorical phrases that are recurring semantic fields. The first of these metaphors, namely the professor classifying himself as a “late comer to technology” can be seen as a spatial metaphor with a directional component, as well as the notion of movement built into it. Together with the other metaphors of movement (dropping metaphorical wooden clogs) and falling into technology backwards, the semantic field of movement is recurring in all three metaphors. Notable about the second metaphor is that it is marked metaphorical language, as it is made explicit that the wooden clogs are metaphorical. All metaphors in this extract serve to express a certain kind of irony

or coincidental nature of the fact that the professor, who is giving a talk about technology and language learning now, has found his interest in technology by accident. The latter is expressed by all metaphors that stress different aspects of unlikeliness or the coincidental nature of the initial involvement of the speaker with technology and learning and teaching. First, he got involved with it relatively late in his life, which is also expressed by using a directional component. Technology is pictured as something that can be approached, just like a concrete entity. This is also emphasised by the other two metaphors, the dropping of something and the falling backwards into technology. Both expressions have a directional component of movement in space. Again, as in many instances above, the last metaphor concludes this sequence of metaphors and has a summarising and evaluating function. Furthermore, it provides a simple answer to the question how the professor came to work on what he is working on now: technology and language learning.

6.3.5 Theory-constructive and pedagogic metaphors

Here, the findings of pedagogic and theory-constructive metaphors, as introduced by Knudsen (2003), will be discussed on the basis of the following examples (59) to (61).

(59)¹ indirect assessment is where there you have to **make some kind of (0.6) k kind of an inferential leap (0.6) from (0.4) the mater the work that the student does (0.4)** 2 and then (0.4) you've got to make an inference about what they what they might be able to do in the real world outside of er (0.2) o of your classroom

(59)¹ from T2 is a pedagogic metaphor following Knudsen (2003) because a metaphor clarifies and simplifies an abstract concept, inference. Besides clarifying and simplifying an abstract concept, the pragmatic function of the metaphor is a defining criterion. The purpose must be pedagogic, which means informative and instructional. In example (59), the metaphor of movement, the *inferential leap* serves to express the metaphorical distance between the concept of how a student is assessed and what can be inferred about their real-world skills outside the classroom ((59),2). The metaphorical distance can be overcome by a metaphorical *leap*, which implies that the conclusion the speaker draws is not very obvious. At the same time, the notion of *leap* puts emphasis on the transfer the speaker makes between the classroom and how a student might apply the skills outside of the classroom. A *leap* emphasises that at first, the classroom and applying skills outside

of it are unrelated and connected by a sudden act of metaphorical movement, the *leap*. The connection between these two aspects is not 'straight forward', which is why other metaphors of movement, e.g. journey metaphors, are not present.

Theory-constructive metaphors in the German sub corpus can be found in the following example:

(60)

- 1 dementsprechend **lag mein erkenntnisinteresse auf dem lernerfolg** der sich °h in den studenten in abhängigkeit von der gewählten einführungsreihenfolge **zeigte**
 - 2 °h und ich war weniger daran interessiert **erwerbsmechanismen** zu beschreiben trigger zu identifizieren oder insgesamt das °h **geheimnis der black box öh (.) lernerkopf °h zu lüften**
 - 3 natürlich wemman mal (.) theoretischer gearbeitet hat **kribbelt_s einem in den fingern beziehungsweise im kopf** und man möchte diese aussagen äh treffen
- [1 Consequently, my **aim of enquiry is on learning success**, as **shown** with the students depending on the order in which it was introduced.
- 2 And I was less interested in describing **mechanisms of acquisition**, identifying triggers or in general **revealing the secret of the black box in the learner's head**.
- 3 Of course, when one has worked theoretically, there is a **tingling sensation in the fingers or rather in the head** and one would like to draw these conclusions.]

In (60),1, the aim of enquiry (Erkenntnisinteresse) and the training success (Lernerfolg) has a position or location in space and is hence concretised. Furthermore, it is also visible, which is expressed by the German reflexive the verb *zeigen* (to show). So besides being a concrete visible entity with a position in space, the success can show or reveal itself and hence gain the qualities of an autonomous agent. (60),2 expresses the limitations, or what the speaker is not interested in exploring in his research. While mentioning what he was not interested in, the speaker employs a number of theory-constructive metaphors, following Knudsen (2003)'s proposed framework for classifying the functions of metaphors in scientific (academic) discourse. These metaphors include the *mechanisms* of (language) acquisition and the secret of the *black box* on the learner's mind. Even though both terms are part of linguistic terminology, their metaphorical nature should be highlighted in this study. Both share the fact that they stem from a technological source domain. *Mechanism* is a concretisation of causalities in terms of mechanics and *black box* is metaphorical in itself and stems from the context of aeroplanes. The box used to be black, but nowadays, it is yellow.

(61)

- 1 spätestens seit dem vortrag vorhin fehe vo von herrn lichtenberg °h öh (0.3) wissen wir ja dass **raumkonstruktionen öh nich eindimensional sind sondern auf mehreren ebennen stattfinden in mehreren dimensionen stattfinden** °hhh mit

einer **herausgehobenen funktion des dialekts**

2 und ich versuche °h **diese ebenen jetzt öh an verschiedenen stellen öh**

miteinander (.) öh zu verbinden immer °h aber den dialekt auch wieder im fokus

[1 Lately, after the talk of Mr Lichtenberg, we know **that spatial constructions are not one-dimensional, but take place on several levels** with an **outstanding function for the dialect.**

2 and I try to **connect these levels with each other at different places, but the dialect is the focus again.**]

Example (61),1 also contains a theory-constructive metaphor, spatial construction (Raumkonstruktion). A theory-constructive metaphor not only illustrates a theory, but formulates it. The metaphor is a major part of the theory and not merely an illustration of it. In the introduction to his talk, the speaker emphasises that there are several dimensions (dimensionen) and levels (ebenen), on which such constructions take place. Next, towards the end of this utterance, the speaker mentions the literally *lifted out* (herausgehoben) function of the dialect, which is part of his topic. So the spatial construction also includes something that is *lifted out*, the dialect. In utterance 2, the speaker continues to use recurring spatial metaphors by stating that he would like to *connect different levels* (ebenen an verschiedenen stellen verbinden). The spatial metaphors are combined with a visual metaphor that serves to express that one of the main aspects of his talk is the dialect. The dialect is *in the focus* (im fokus). Example (61) has shown how a spatial metaphor, the notion of *Raumkonstruktion* is employed as a theory-constructive metaphor and hence how a metaphor can be part of a theory itself, which goes beyond the functions of other metaphors that are e.g. for rhetorical purposes or to clarify abstract concepts.

6.3.6 Anthropomorphism

Anthropomorphism (or personification, see detailed discussion of these terms in the chapter about metaphor theory) has been found in several instances in both the German and the English sub corpus.

(62)

1 despite the best efforts of the european union and the (.) united nations and (--)
and the americans and everyone else who_s been involved

2 there there really isn_t a unitary state and there certainly isn_t a common sense
of nationalism (-) binding together the croats the serbs (---) and um (-) and the (--)
bosnia muslims (---) er (1.3)

3 **now here_s the problem (---) that all modern states face** (1.2) erm (--) as they
nationalise their population that is (-) **as they work to homogenise (-) the disparate
cultures (-) sometimes languages religions (--)** and **self conscious (.) ethnic groups**

(-) and distinct regions into a national whole (-)

4 because the mythology that nationalists create is that (--) well we've always been one people we've always been the romanians we've always been the french we've always been the germans (.) we've always been (-) whateverer the vietnamese the (1.3) erm (-) the turks the whatever (-) or if not always at least for (-) five hundred years or a thousand years or two thousand years or (-) whatever

In (62),³ from T4, one instance of a personification of a country can be found. Instead of the people in a state, the state *faces* certain issues, namely creating a common history of nationhood, the sense of being one nation for a certain time, at least 500 years. The same utterance contains the statement that states work to harmonise the disparate cultures and other aspects to nationalise states. The effect of the metaphor on the audience can range from personal involvement to increased interest because a personified country is more concrete and easier to imagine for members of the audience than the abstract notion of a country or state. This also holds true for conflicts and difficulties. If metaphors signal that a whole country is personified, then a conflict and its reason become more concretely imaginable for the audience than more abstract political or legal reasons. A talk might not offer enough space and time to discuss very complex reasons of a political or legal nature. This is one of the reasons why the speaker employs anthropomorphic metaphors.

Another instance of anthropomorphism is found in connection with computers; see above, example (22) from T3. The computer is personified, labelled as patient and directly compared to an imagined impatient human tutor in a humorous manner. Here, the effect on the audience is humorous. This can be seen on the reaction of the audience (laughter). The transcript in its unedited form as available in the transcription software also has a comment tier⁴⁹ that shows general laughter in the audience in the moment the speaker utters the comment that “computers don't go red in the face when learners continue to get things wrong”. While doing so, the speaker himself is laughing. Shortly, the laughter in the audience follows. Functions of humour as a pragmatic device in specialist talks are discussed in detail in Reershemius (2012).

Anthropomorphism also referred to institutions, such as universities, see (23) from T2 above. There, the university is personified as an entity that can make statement

⁴⁹ This is not available in the form the examples are quoted in this study. Here, examples only contain utterances by the speakers themselves, reactions from discussants, but no comment tier or other non-verbal parts of the transcripts.

and hence say things as if one person was speaking. This is an instance of personification, but also a metonymy in the sense that a whole institution speaks as one person, so it is not a *pars pro toto* but the opposite, the institution is concretised as if one person was speaking. The effect on the audience is simplifying matters and making the complex situation easier to understand for the audience by making it ‘personal’ i.e. discussing an institutional decision in a way as if two individuals were talking. This is partly literally true as institutions are represented by individuals, but at the same time, structures in a university can be so complex that responsibilities or reasons for or against certain decisions cannot be made clear. This is particularly why anthropomorphism can help to simplify and personalise complex situations. For the whole section on anthropomorphism the question remains why this type of metaphor is employed in the way it is. The answer can be given by using cognitive metaphor theory. Both in section 3.3 and in other parts of the metaphor analysis, the notion of *embodied experience* was discussed. This explains why one type of metaphors is preferred over others. Anthropomorphism is one of the preferred types. Applying human qualities to non-human entities and personalising complex situations or institution are examples of such metaphors. These go back to the basis of human perception, which is based in physical and personal experience. This is why such types of metaphors, in this case anthropomorphism, are preferred by speakers and easily understood and welcomed by the audience e.g. by laughter.

6.3.7 Other categories or functions of metaphors

(63)

1 so she_s saying to him you know just (0.4) back off a little sometimes°h you need to think constantly°h ca how can i just tone it down a bit so°h so he he_s getting feedback from his mentors about the fact that he_s coming on a bit too strong sometimes°h

2 but erm (0.5) but he he (0.5) **he spends quite a lot of time telling people how°h how important his job was**

Extract (63) is an example of an economic metaphor that is also discussed in Lakoff and Johnson (1980). Time is conceptualised in economic terms (as a resource); it can be *spent*, *wasted*, *invested* etc. The function of this metaphor can be seen as indirectly evaluative and for supporting the argument of the speaker. The reason for the metaphor to be relatively ‘neutral’ and not including other verbs, which would include a stronger evaluation such as e.g. *waste*, is the context of the

metaphor. The context offers redundant evaluative devices, which clarify the speaker's position, namely that the person in question mentions the importance of his job too often. This is realised by the utilising an idiom (*back off, coming on a bit too strong*), by mentioning his mentor, and other means. In this talk, the metaphor (*spend time*) come towards the end of a longer sequence of utterances that has the function of a detailed analysis of a problem of one project participant, namely to what extent he deviates from the norm of appropriate small talk behaviour with his work colleagues.

Metaphors with a text commenting function were also found in the corpus of this study. Some more examples will be provided and discussed here.

(64)

1 so (0.1) this this gives you an **indication** an and i again i could **go through many other cases** not just in africa and not just in asia °h (0.5) er but in other parts of the world as well and parts of latin america (0.8)and (.)

2 erm (0.9) i_m now going to (0.7) erm (0.4) give you some (0.1) more examples but before i give (.) those examples (1.0) **i want to point out that there (.) are (0.1) several different strategies that can be adopted (0.4) in order (0.1) to try to nationalise a population (0.6)** and there are two kinds of strategies (0.5) basically (0.6) one is tolerant (0.1) and one is intolerant (0.8) and within that (0.4) there_re three (0.4) different (0.4) kinds (0.4) of approaches that can be taken (0.8)

3 you have minorities and you are trying to create a national community a sense of common nationalism (0.9) and you can in a tolerant way (0.7) assimilate (1.8) and (.) that_s been (0.2) the strategy (0.1) in the united states (0.2) toward (.) white (0.4) immigrants (0.4) not toward all population in the united states (0.6) but toward white immigrants (0.1) to say (0.5) alright (1.1) the irish come (0.6) the italians come (1.0) various people come (0.3) if they_re white (0.2) which used to be the attitude because there were laws (.) passed in the late nineteenth century (2.2) prohibiting the nationalisation (0.3) giving citizenship to asians (0.2) for example and of course (0.5) we know that (0.8) freed slaves african americans and blacks were not included in that (0.3) assimilation policy (0.7) (0.4) but (0.3)

4 but sort of a (xxx xxx) assimilation we_ll let them learn english (0.1) but they have to become americans (.) they have to learn english they have to (0.8) they (.) they can (0.2) practice their religion (0.3) erm (0.1) as they wish as long as it_s not too different (0.2) from (0.3) the dominant one (0.5)

5 erm (0.1) and (.) and they_ll be assimilated now there_s (.) there_s an intolerant version of that (0.9) which is quite a bit nastier and this was a (0.2) something that was practiced (0.2) also in the united states and in other (some) other settler (0.2) colonies (0.4) for example (0.3) (0.2) most notoriously perhaps in australia (0.6) where (0.2) the indigenous population (0.2) was told they had to become (0.7) at a certain point (.) well when the settlers stopped trying to exterminate them (0.8) which is (0.4) a seperate category **i_ll get to later (0.4)** said alright well we won_t exterminate you any more (.) but (.) but you have to learn and (0.2) and (0.5) where there was a wide spread (0.1) pa (0.2) practice in canada as well (0.5) of (0.3) of simply taking children (.) from indigenous populations and forcing them taking

them away from their parents and forcing them (0.4) to become (0.3) english speaking australians or canadians (0.6) or (0.1) er (.) or americans (0.5) erm (0.1) 6 and that produced some rather (0.1) brutal (0.2) and nasty (0.5) practices

(64),1 contains a metaphor of movement, again in a negative statement to express time and space constraints of the talk, why the speaker *could go through many other cases* but does not do so. This is of course also the case because these examples that will not be discussed are similar to those that the speaker has discussed. A similar metaphor of movement with the same text commenting function has been discussed in research about text commenting device in research articles, see Fandrych and Graefen (2002), type 3, and has been named an *advance organiser*. In (64), the speaker remarks that – on the journey of his talk – there is a category he will *get to later*. So in this case, metaphors of movement have a text commenting function as advance organisers and hence help the speaker to handily clarify what he wants to discuss (later). This is one important finding of this study, namely that some of the text commenting devices from Fandrych and Graefen (2002: 23) also appear in this corpus of spoken data.

An example of another text commenting function of metaphors found in the English data is this instance of self-assessment:

(65)

1 you can **see** that helena did that very nicely

Example (65) has at least two functions: first of all, it is a visual metaphor concretising the abstract entity, the result how a participant in the professor's project handles small talk in a skilful manner. Second, this is also a text commenting device, namely of the type of self-assessment. The researcher evaluates her research and the metaphor helps her to put forward a stronger claim, as discussed in Fandrych and Graefen (2002: 25).

The advance organiser, as discussed above in an example for the English data, has also been identified in the German data:

(66)1 ich würde mich gerne (0.4) ((schmatzt)) jetzt noch in den verbleibenden zehn minuten stärker (.) der (.) schriftlichen (0.3) hm (0.3) textentwicklung auch widmen °h **um zu zeigen wie sehr man ins detail gehen kann**

2 °h wenn (.) man die entsprechenden daten hat und wenn man das ähm °h entsprechend (0.2) genau auch analysiert (0.5) denn eine genaue analyse (.) is eben doch tatsächlich die grundlage (0.3) für (0.3) auch (0.2) ja f (0.3) haltbare aussagen zum sprachlichen °h handeln (0.3) in (0.2) äh verschiedenen lern (.) lehrernkontexten

[1 I would like to ((smacks lips)) dedicate the remaining ten minutes to text

development **in order to show how much one can go into details.**

2 If you have the corresponding data and have analysed the data precisely, then this is the basis for reliable hypotheses about linguistic behaviour in learning and teaching contexts.]

(66),1 has a combination and mixing of a metaphor of movement and a visual metaphor. This metaphor also has a text commenting as an advance organiser. The speaker announces that in the remaining ten minutes, she will *show* how much one can *go into* detail. Again, this combined metaphor is another instance of presenting research as a journey, an act of movement that has a direction. Furthermore, the abstract notion of analysing things in detail is expressed in terms of both an act of movement that can be *seen* because it can be *shown*.

(67)

1 äh teilnehmer (.) innen dieses workshops °h und äh °h es sind also komischerweise eben auch die °h meisten be: we: h° studierenden sind aber zumindest also in ihrem bekenntnis °h dazu positiv eingestellt

2 °h es ist äh h° dann würd ich halt dazusagen **um auf diese äh °h überlegung zurück (.) zu kommen** zu äh gibt es einen unterschied zwischen folk °h linguistics und und und ähm (.) äh also (.) expert °h linguistics

[1 Erm, participants of the workshop are strangely, most business students are at least positive towards it.

2 I would like to add in order to **come back to these reflections**, there is a difference between folk linguistics and, well, expert linguistics.]

(67),2 has another instance of a metaphor of movement with a text commenting and advance organising function. The speaker announces *to come back to a reflection* (Überlegung zurückzukommen) about the linguistic attitudes that business students have. The difference in the function of this metaphor to previous instances of similar text commenting metaphors is not its type or general function, but how it is applied in the concrete discursive context. Here, the advance organiser is not employed to delay some part of the contents of his talk for later, but to announce that the speaker is dealing right now with something he intended to *come back* to. Another function of text commenting metaphors is the declaration of main objectives, see above, p. 191.

6.4 Metaphor analysis: conclusion and summary

This chapter had the purpose of introducing both corpus and qualitative methods for the present study. The research questions this chapter seeks to answer are of an empirical nature, namely which categories and functions of metaphors were identified in the data for this study. The following conclusion outlines which

answers this chapter has provided to the research questions as well as formulating hypotheses or questions that can be the basis of further research and that emerged from the data analysis.

Before the data analysis could begin, this chapter introduced the final part of the theoretical framework for this study. While chapters 3 and 4 dealt with discourse, genre theory, spoken academic discourse, the genre of the specialist presentation, more general epistemological and methodological reflections alongside the data and methodology for the present study, chapter 6 has introduced concrete methods that are directly applied to the data for this study.

In this study, both the qualitative and quantitative analysis revealed three major categories of metaphor: movement, visual metaphors and anthropomorphism. Following Lakoff and Johnson (1980), all of them were found to be embodied in human cognition, whether based on physical experience (movement and visual metaphors) or because of similarity to human behaviour or other human aspects (anthropomorphism).

Quantitatively, the main finding of this study is that the most frequent metaphor categories both regarding the total number of occurrences and the distribution in the corpus can be broken down into three metaphor categories: movement-, visual metaphors, and anthropomorphism. Movement and visual metaphors appear in all talks both in the English and German sub corpora. Anthropomorphism as the third category appears in two English and one German talk, which still means that regarding its distribution, this category appears in half of the English and a quarter of the German corpus. There are no significant quantitative differences in metaphor use between the German and English sub corpus. Also, the totals of metaphor for each the English (178) and the German (156) sub corpus are very close while the German sub corpus has a slightly lower number of metaphors.

A detailed analysis of the whole corpus (8 fully transcribed talks, in total 440 minutes) has found that also qualitatively, both sub corpora share certain categories of metaphors with the same communicative functions. A contrastive dimension is implied in this study by employing a corpus that falls into a German and an English sub corpus. However, the contrastive dimension has not been discussed much, because, unless explicitly stated, there were no significant differences in metaphor use between German and English data. There were more similarities with slight differences. Fandrych and Graefen (2002) have similar

findings about text commenting devices (meta discourse) and metaphorical expressions in German and English research articles. Their findings have been confirmed in my study.

These categories are the same three metaphor categories that were identified as most frequent and widely distributed by the quantitative analysis: metaphors of movement, visual metaphors, and anthropomorphism. This answers an empirical question, namely which categories of metaphors occur in which sub corpus. In the corpus, visual metaphors had the function of rhetorically underlining and concretising aspects, and sometimes evaluating, also with the function of fact construction. Based on Lakoff and Johnson (1980), visual metaphors are to be seen as basic aspects of communication, e.g. in UNDERSTANDING IS SEEING. This has to be seen together with Lakoff and Johnson (1980)'s concept of embodied experience: visual metaphors are present because seeing concrete aspects is grounded in our cognitive system, which is why abstract concepts are metaphorically expressed in terms of concrete visual entities, movement, or space. This applies both to the speaker in the talk and members of the audience in their role of hearers independently of whether they are listening or whether they have the role of discussants who ask questions. For the speaker, it is easier to express abstract ideas in terms of more concrete visual entities. This is the case because the speaker needs to be less specific. One common pattern found in the corpus was a statement like *the paper shows that X is the case*. So the visual metaphor connected e.g. the quoted literature to another claim. So the visual metaphor enabled the speaker to underline their claims and to increase their speech flow while for the audience, the effect is similar. Because of the visual metaphor, statements and claims are presented as concrete, given facts that can be *seen* or *shown* as a tableau. On a tableau, you can 'show' things, even guide your listener from one thing that you want to 'show' them to another and this combines with movement. The speaker opens up this imaginative tableau on which he / she 'shows' and 'moves'. Besides rhetorical reasons, cognitive metaphor theory can also be used to explain the large number and consistency of visual and movement metaphors, as well as space or journey metaphors. This will be done below using the remaining metaphor categories.

Journey, space and movement metaphors work in a similar manner to how the concretisation of abstract aspects of e.g. theories or research findings by using

visual metaphors does. Metaphors of movement also concretise developments, such as the progress of a talk e.g. whether the talk is at the beginning or in its final discussion phase and reflect physical movement, most often with the direction *forward* as an inherent source to such metaphors. In the course of the qualitative metaphor analysis, the decision was made to merge the category *spatial* with *movement / journey* metaphors. This was done because these categories are too closely related to be kept separate. One example was the spatial metaphor that depicted the Internet as a container in space that is *overflowing*. This metaphor can be seen as spatial because spaces (or containers as a smaller entity in space) are mentioned, but *overflowing* is also a metaphorical act of movement, hence the categories were merged, as movement always takes place in space and spatial concepts, even directions, precede, prevent, or at least imply movement (e.g. the example with the *ins* and *outs*, which refers to desired and undesired people in a country, the latter, which were meant to be kept out).

Finally, an additional discussion of metaphors by category was conducted. This was done to summarise and highlight the most important metaphor categories along with the communicative functions that these metaphors have across languages and talks. These functions are the concretisation of abstract entities e.g. via visual metaphors or metaphors of movement (space, journey etc.). The function of metaphors can be explained using the notion of embodied experience, as established by Lakoff and Johnson (1980),⁵⁰ who claim that metaphors are based on the nature of our cognitive system. Because human beings are visual creatures that move forward, think in spatial dimensions and apply human qualities and behaviour to non-human entities, people also apply such metaphor types to abstract entities. Besides empirical questions, the other major research question that this chapter was aiming to answer was what effects metaphors have on the hearer or audience in a talk. Partly, this question has been answered above in connection with visual

⁵⁰ Even though it might at first sight look as if I let Lakoff and Johnson (1980) give answers to my research questions, which would render my study irrelevant and unnecessary, this is not the case. Lakoff and Johnson (1980) is a seminal metaphor theoretical work, but their data are invented examples in varying types of public discourse. In contrast to that, the present thesis has used a corpus of naturally-occurring spoken academic discourse (research talks), which empirically proves that the metaphors are actually used and which gives 'hard numbers' whereas Lakoff and Johnson (1980) do not give such concrete evidence. This does not make their theory less valid, but it did make it necessary for later researchers to prove to what extent the metaphors discussed in Lakoff and Johnson (1980) appear in actual discourse. So Lakoff and Johnson (1980) are not 'answering my research questions'. Furthermore, this study is also contributing to cognitive metaphor theory on an empirical dimension.

and movement metaphors. Both of these categories are, speaking with Lakoff and Johnson (1980), embodied in our physical experience. Human beings are by nature visual beings and are able to move. Therefore, visual and movement metaphors are preferred by speakers and are easily understood by hearers (e.g. audience members or discussants) because such metaphors are close to everybody's physical experience. This ensures the audience's attention is aroused and their continuous interest is upheld. One concrete example of such a function of a metaphor is the humorous anthropomorphism that is formulated by making a comparison between a computer and a human tutor, of which the first is labelled more 'patient' than the latter. The metaphor ensures engagement, attention, and entertainment of the audience at the same time, which is proved by the laughter in their reaction, as can be seen in the transcript.

Regarding the pragmatic functions of the metaphors found in this study, it was found that they are very consistently distributed within the genre structure of the academic talks (based on Ventola 2002) studied. Almost all metaphors are used to contextualise the talk or occur in the main part of the talk. In one case (T6), more metaphors are used for contextualising the talk than are used in the main part, the actual talk. Very few metaphors are used in the English sub corpus in the section of introducing the chair and in different parts of the discussion in the German sub corpus. It is hypothesised that the distribution of metaphors happens for the reason that in the contextualisation and main part of a talk, the speaker has to make the hardest effort to clarify their theories and research background in order to arouse the attention of the audience. The main part of the talk requires a detailed description of theoretical elements, which is also a potential explanation of why more metaphors are used there than otherwise in a talk. Similar reasons could be identified in case metaphors appear in other parts than the main part or contextualisation of the talk. For the English sub corpus, this was the case for the introduction of the speaker. It was found that metaphors make the speaker's achievements appear livelier and hence more interesting, which has the effect on the audience that e.g. the publications of the speaker are relevant for everyone in their field. In the German sub corpus, metaphors were also found as part of the discussions that followed the talks. There, the metaphors were used by the chair and had a summarising and evaluative function. The chair repeated metaphors used by the speakers in order to reaffirm them and to get the discussion started.

The question why metaphors are found mostly in the main part or the contextualisation of the talk could not be finally answered. The attempts that had been made at answering this question within this study have to be seen as examples, which are at the same time the basis of further research.

Further hypotheses as part of recommendations for more research were discovered and formulated in this chapter. The analysis of the quantitative findings revealed that there are hints at a correlation between age, gender and metaphor density. It is hypothesised that younger women employ metaphors in a more dense way in academic settings than older men. This hypothesis is confirmed throughout this study with the exception of the German sub corpus, particularly T6. This talk also has a young woman (34 years of age) as the speaker and a low metaphor density. T5 is the talk with the highest metaphor density and has a female speaker whereas T8 has the second highest metaphor density and has a male speaker. So for the German corpus, the hypothesis that there is a correlation between age, gender has to be partly rejected, as there are talks with a high metaphor density and a female, but also talks with a high metaphor density and a male speaker.

The question what influence the topic of a talk has on metaphor density also remains open. The talk (T5) with the corpus-wide highest metaphor density (10 per 1000 words) has a topic that deals with didactics of German as a foreign language while T4 with second-highest metaphor density (7 per 1000 words) has a political topic about war and violence throughout the history of nation-states. The other talks have a linguistic or didactic topic. With regards to how a talk's topic affected metaphors, the findings were inconclusive. Another hypothesis in connection to example (50) is that how and whether visual metaphors are applied by researchers (for fact construction) depends on whether the topic is the speaker's research specialism and hence to what extent contents are 'self-evident' for speakers. This hypothesis also has to be left as another recommendation for further research, as it is impossible to make a comparison between the same speaker's metaphors within their talk in an academic setting about their specialist research interest and outside of it. The latter would require more data.

In order to take the conclusion of the metaphor analysis chapter to a more general level, the major findings of the data analysis will be reformulated. Metaphors were found to be present both in the English and the German data. Metaphors were used to reduce complexity e.g. by concretising abstract entities e.g. by using

anthropomorphism, which made complex situations such as political decisions more understandable for the hearer, in some cases even by using humour.

7 Concluding Remarks

The study set out to explore the use and functions of metaphors in spoken academic discourse using a corpus of German and English research talks. Following cognitive metaphor theory, metaphor plays a central role in human communication and thought. Metaphors go significantly beyond individual utterances and thus, so-called conceptual metaphors help us to reconstruct how speakers conceptualise their surroundings. This study has contributed to metaphor theory by proving the existence of conceptual metaphor in the corpus that is used in this study, even though this was not one of the main objectives of it. A wide range of conceptual metaphors has been found in the data. Among them are also conceptual metaphors that have been described in the seminal study by Lakoff and Johnson (1980). So conceptual metaphor theory was confirmed by identifying specific metaphors in this study of research talks. Among these metaphors are KNOWING IS SEEING, UNDERSTANDING IS SEEING, THEORIES ARE BUILDINGS, and PROGRESS IS MOVEMENT FORWARD.

7.1 Summary and results

A part of the contribution of this study lies in expanding metaphor analysis from other domains or written genres to a key spoken genre i.e. talks from linguistics and political science from a contrastive dimension (German and English). Another part of the contribution of this study lies in its data and methodology.⁵¹ The data consists of eight fully transcribed research talks, of which four are each in German and English. The data was approached from an epistemologically open perspective. It was analysed both quantitatively using corpus methods and qualitatively using MIP, CA and combined approaches, such as CADS and CLCA. One of the aspects of the contribution of this study was combining and applying the existing combined methodologies, CADS and CLCA to metaphor analysis, as well as applying MIP and CA to a corpus as large as the one of this study. While it cannot be ruled out that previous researchers have done similar work regarding the methodology of this study to analyse metaphor, the fact that parts of the very recent GeWiss corpus have been used in the present study is still a unique contribution in itself.

⁵¹ The data itself was not collected for this PhD thesis alone, but for the GeWiss project. However, a part of the contribution of this study is that it is the first PhD thesis to use parts of the GeWiss corpus.

After having explained other contributions of this study, research findings will be discussed in answer to the research questions, limitations and recommendations for further research. The two major research questions this study was based on are:

1. Which types and categories of metaphor can be found in the data?
2. What are the functions of metaphors metaphor use on speakers and listeners / hearers in spoken academic discourse?

The first research question is of empirical nature, namely which metaphor categories could be found. Answering this question, the following metaphor categories were identified in the corpus, which are visual and spatial-directional/movement metaphors, as well as anthropomorphism.

In answer to the second research question, the functions of the different types of metaphors identified in the corpus will be explained. This includes the functions or effects of the metaphors relating both to the speakers and listeners / hearers i.e. audiences or discussants, or other actants involved in the speech situation. Visual metaphors had the function and effect of concretising abstract research-related concepts and theories and hence making them metaphorically 'visible' both for the speaker and particularly for their audience, the hearers. The study has shown that visual metaphors were essential in spoken academic discourse for helping the audience understand complex and abstract research, which can be assumed to not be the specialism of most of them. Another function of visual metaphors in research talks is rhetorical fact construction. Saying that research results, effects of theories etc. can be *seen*, *shown*, or *illustrated* makes such statements more convincing because a visual metaphor implies that what the speaker is saying is factual and hence a priori given and only needs to be revealed to the public. Besides this rhetorical function, there is another reason why this is crucial for spoken academic discourse. Particularly in a research talk, time is limited. Therefore, a metaphor that reduces complexity by presenting research findings as factual ensures that the limited time a speaker has is used in the most efficient manner to convey the necessary information to the hearers. For the hearers, the aspect of simplification by reducing complexity of research findings, theories, or other abstract concepts makes metaphor an invaluable tool in spoken academic discourse.

Visual metaphors were also found to have an advance organising text commenting function, such as in e.g. *I'll show you later*. So discussing an aspect in a talk is postponed to later, but at the same time it is visualised, which is a central function

of structuring and organising discourse in imagined spaces. For the audience, the effect of using visual metaphors is orientational, like on a metaphorical tableau. The visual metaphor is a concrete hint of metaphorically positioning aspects in different stages of the talks, which means that the speaker has not forgotten but merely intends to postpone an aspect in order to be *looked at* or *shown* later. This can also have a reassuring effect on the hearer (audience). Thus, questions, such as “when will the related aspect XY be discussed?” can be anticipated and avoided by the speaker. Therefore, the main function of visual metaphors both for speakers and hearers in specialist talks is contributing to a ‘problemscape’, in which metaphorical orientation is sought. The ‘problemscape’ is a metaphorical landscape that can be accessed by both speakers and hearers using different types of metaphors. Particularly regarding visual metaphors, the ‘problemscape’ has similar functions to a tableau on a larger dimension with visualising and hence concretising abstract entities as illustrations or metaphorical locations.

Another part of the ‘problemscape’ with similar functions is the category of metaphors of movement. Movement metaphors (including spatial and journey metaphors) were found to be quantitatively twice as high in numbers as visual metaphors. Both quantitatively and qualitatively, movement metaphors are the major metaphor category found in the corpus analysed for this study. After all, the notion of a ‘problemscape’ implies that participants are moving in this type of landscape. Speakers are on a journey and take their audience on a guided tour with them, taking them through the problems and solutions, as well as keeping them on the main *path* or *focus*, avoiding side steps etc. (e.g. *I cannot go through all examples, could go through more* etc.). Movement metaphors also have the function of metaphorically locating the audience and speaker, e.g. by saying that they were *coming close* to the final discussion. The notion of movement was also combined with directions, e.g. *going deep into data analysis*. The general trend of movement metaphors was a direction forward, which was identified in examples of metaphors with an evaluative function, such as GOOD QUALITY IS MOVEMENT AHEAD.

A third major category of metaphor identified in this study is anthropomorphism, which means that human qualities are applied to non-human entities. For example, countries were personified, mainly for the purpose of simplifying complex legal or political contexts, which can be expected to be more time-consuming and complex

if explained in a non-metaphorical manner. In other instances, the use of anthropomorphism has a humorous function, e.g. by directly comparing a computer to a human tutor and labelling it as more patient than the human.

All the metaphor types discussed above are not arbitrary, but have to be seen in connection with Lakoff and Johnson's experiential philosophy that claims that our choice of metaphors is heavily influenced by our own physical experience. Human beings are explaining and expressing the things in the world primarily in a way that sees them as close as possible to their own nature. Therefore, it can be expected that people perceive and conceptualise their surroundings as something that is moving forward, that is hence concretely visible or even anthropomorphic, because all of these qualities resemble human nature.

Other functions of metaphors as analysed in this study are theory-constructive (or constitutive) and pedagogic metaphors. A pedagogic metaphor, such as the expression *inferential leap* in order to emphasise metaphorical distance between two unrelated concepts has the functions of clarifying and simplifying an abstract concept by concretising it as a notion of metaphorical movement, which is highlighted by the notion of a metaphorical *leap*. Examples of theory-constructive metaphors are *mechanisms of acquisition* (Erwerbsmechanismen) and *black box in the learner's head*. Both metaphors stem from the source domain of technology (mechanics or airplanes respectively) and are applied to the field of foreign language teaching and language acquisition. Although both terms are part of linguistic terminology, they can be categorised as metaphorical.

While not made explicit as a research question, the corpus of the present study, which consists of a German and English sub corpus, implies a contrastive dimension. The contrastive analysis of metaphors between German and English has not been discussed much in detail because other than where it had been made explicit, no significant differences in metaphor use between the German and English sub corpus could be identified.

7.2 Limitations

Following the findings about the metaphors analysed in this study, limitations of this study and recommendations for further research will be discussed. Some of the research results pointed towards a potential correlation between age, gender and metaphor density. In the present study, it is hypothesised that younger women employ metaphors in a more dense way in academic settings than older men. This

hypothesis holds true throughout this study with the exception of the German sub corpus, particularly T6. While valid for the English corpus, the validity of the hypothesis remains inconclusive because it was rejected by the results of the analysis of the German corpus. Further research is necessary to confirm if there are grounds to uphold this hypothesis because the differences in metaphor use that such a hypothesis would express can contribute to research in more than one way: first, empirically, the hypothesis would shed light on differences on metaphor use, which can help to reveal how age and gender affect how we conceptualise our surroundings. Second, such a hypothesis would also be useful for further applied research, e.g. in order to adapt teaching material, so that it can take gender and age differences into account where possible and necessary.

It also remains open to what extent choice of topic affect metaphor density in a research talk. The talk with the highest metaphor density deals with didactics of German as a foreign language, the second highest metaphor density was found in a talk with a political topic, while all other talks are situated in linguistics or didactics. Again, these inconclusive results hint at potential connections between topic and metaphor density, but also require further research. The other question that arose from the metaphor analysis was whether the topic of the talk is the speaker's research specialism influences metaphor density. Whereas one can expect that speakers talk about their research specialisms at conferences or invited lectures, this cannot be automatically assumed. Therefore, this question also has to be left as another recommendation for further research because in the corpus for this study, speakers were only talking about research in a research setting. Therefore, it was not possible to make a comparison if metaphor density was lower if the same speakers spoke in a non-academic setting about a non-academic topic. This would require more data.

Regarding the generic structure of research talks, it has been found that speakers are more likely to make a higher effort to clarify their topics or arouse the attention of the audience as well as go into a detailed discussion of their research, which applies to the parts where researchers contextualise their talks and to the main parts of the talks. This causes the speakers to use more metaphors. It is relevant to know in which part of a talk speakers use the most metaphors because knowing in which part metaphors appear partly helps to explain their functions, such as in the case of contextualising the talk. While some hints were found that could help to

explain why metaphors concentrated in certain parts of the talks in the corpus of this study, they have to be treated as hypotheses that also had to be left as a recommendation for further research for the reason no final answers could be found in this study.

By answering the research questions mentioned above, the present study has closed a research gap in identifying metaphors in research talks, a key genre in spoken academic discourse, which is under-researched. This study has contributed by describing patterns, distributions and pragmatic functions of metaphors in research talks on a contrastive dimension, by comparing German and English data.

7.3 Further study

This study has also produced a catalogue of metaphors in naturally occurring data as a foundation, which can be useful for purposes beyond this study. As the identified metaphors were not invented, but found in very recent naturally-occurring discourse, mainly produced by experts i.e. established and highly experienced researchers, the metaphors could be used in order to newly develop or improve existing English for Academic Purposes (EAP) teaching material, particularly for international students. Previous research has already proved that these students are particularly likely to encounter problems with metaphors, see Low/Littlemore/Koester (2009). Students could be helped for example by identifying common sources of misunderstanding while trying to formulate generalizable patterns of metaphor use and how this co-occurs with misunderstandings. Then, the syllabi could be adapted accordingly, whether as part of separate study skills sessions or ‘metaphor awareness’ sessions as part of main content lectures. A concrete example from the corpus for the present study is example (53) from talk T1. There, two movement metaphors are employed by the speaker, namely *a very big move in terms of her ability to handle that situation* and *a big step forward in terms of confidence*. These metaphors can be used for various metaphor awareness activities for international students. While it first needs to be ensured that no student takes the metaphors literally, the next step is paraphrasing the metaphors. The *big move* is an improvement and the *big step forward* also means increase or improvement. The focus of such exercises would primarily be on metaphor comprehension, which is ensured by having students paraphrase metaphors. This type of exercise would help students to enhance their ‘on-the-fly’ understanding of what is being said in any spoken academic genre. Depending on

resources available, students could be provided with an overview of common metaphors e.g. in research talks. Patterns of metaphor use have to be made explicit because otherwise, international students might not be able to understand metaphors in spoken academic discourse, whether because of missing vocabulary or because of cultural differences in metaphor use. Finally, if students are increasingly exposed to and made aware of metaphor use in spoken academic discourse, this will not only help them improve on their passive knowledge of metaphors, but also increase the chances of successfully employing metaphors during spoken or written activities. The work on metaphor awareness could be combined with other potentially problematic areas for international students, such as humour, see also Low/Littlemore/Koester (2009).

These recommendations for further research also imply that help for international students who have difficulties with metaphors in spoken academic discourse should also be approached from another direction, which is looking at differences in metaphor use between L1 and L2 speakers. This first empirical question is already the most difficult one to answer because it can only be answered for a specific group at a time, e.g. "How does metaphor use differ between English L1 speakers and English L2 speakers, whose L1 is German?" As there is not one prototypical L2 speaker of English, a variety of L2 speakers would have to be studied to compare the results among different L2 speakers, which would finally allow determining if there are patterns in metaphor use that all or the majority of English L2 speakers share. Only then can a comparison to L1 speakers be made, which can produce results for a suitable intervention e.g. for improved teaching materials or metaphor awareness sessions. This future research would be relevant because it would help in finding out which solutions can be found to deal with metaphor-related difficulties of L2-speakers. As no L2 data was part of this study, the ideas discussed in this paragraph highlight a limitation of this study while hinting at more potential directions for further research.

Other aspects that emerged and can be taken forward as recommendations for further research are the following aspects that will be formulated in the form of questions: Can a speaker be identified based on their use of metaphor, e.g. as part of their idiolect? If so, to what extent does this vary based on genres and settings the speaker is active in? The latter would add another theoretical layer to research

on idiolects and formulaic language, or could even be applied to forensic approaches to identify speakers based on their metaphor use.

7.4 Implications

Altogether, this study has demonstrated relevance, prominence and a wide range of functions for a specific data set, consisting of the genre 'specialist presentation', given by L1 speakers of English and German in a university setting. While the advantages of this study lie in its epistemologically open approach and the fact that a fully-transcribed corpus of naturally-occurring discourse has been used, the data can also be seen as part of the limitations of this study. As described above, L2 speakers have been excluded from the corpus in order to establish patterns of use and functions for speakers and audiences of L1 speakers. For the reasons discussed above, however, metaphor use of L2 speakers is also of interest, which is why the step of including L2 speakers is one of the recommendations for further research.

The study has offered a detailed analysis of how metaphors are used in a very recent corpus of research talks. Metaphors are invaluable and inevitable for speakers and listeners of research talks to metaphorically 'navigate' through the 'journey' in a metaphorical landscape, a 'problemscape' or on a smaller dimension a metaphorical tableau. The speakers take the hearers through the journey of the research talk, which is richly plastered with metaphors from even before the beginning of the talk when the speaker is introduced, throughout the talk, or even after the talk has ended in the discussion. Whether for contextualising the topic of a talk or in its main part, a variety of metaphors is used for the purpose of rhetorical fact construction, pedagogic metaphors for concretising and simplifying abstract research findings or theories on a metaphorical tableau, or also for evaluative, summarising or text commenting (meta discursive) functions of metaphors in spoken academic discourse.

Metaphors are both essential and invaluable for different functions in research talks while expressing theories and paradigms is done with metaphors, which is another major conclusion of the present study that has been clearly demonstrated in this thesis. Referring to terminology (e.g. *black box*) or a theory (*mechanisms of language acquisition*) requires so-called theory-constitutive metaphors. In these cases, a theory cannot be referred to without the metaphor at its heart.

8 Bibliography

- Ädel, Annelie & Reppen, Randi (Eds.) (2008) *Corpora and Discourse : The Challenges of Different Settings*, Amsterdam; Philadelphia, John Benjamins.
- Anthony, Laurence (2012) AntConc. 3.3.5m ed. Tokyo, Japan: Waseda University.
- Aristotle (1952) *The works of Aristotle*, Chicago; London, Encyclopaedia Britannica.
- Auer, Peter (2010) Zum Segmentierungsproblem in der gesprochenen Sprache. *InLiSt: Interaction and Linguistic Structures*, 49, 1-19.
- Auer, Peter & Di Luzio, Aldo (1992) *The Contextualization of language*, Amsterdam [etc.], John Benjamins.
- Austin, J. L., Sbisà, Marina & Urmson, J. O. (1975) *How to do things with words*, Oxford, Clarendon Press.
- Bakhtin, Michail, Emerson, Caryl & Holquist, Michael (Eds.) (1986 [reprinted 1996]) *Speech genres and other late essays*, Austin, TX, University of Texas Press.
- Bartlett, Frederic Charles, Sir. (1967) *Remembering : a study in experimental and social psychology*, Cambridge, Cambridge U. P.
- Bateson, Gregory (1979) *Mind and nature : a necessary unity*, London, Wildwood House.
- Beardsley, Monroe (1962) The Metaphorical Twist. *Philosophy and Phenomenological Research*, 22, 293-307.
- Benson, James D. & Greaves, William S. (1981) Field of discourse: Theory and application. *Applied Linguistics*, 2, 45-55.
- Beréndi, Márta, Csábi, Szilvia & Kövecses, Zoltán (2008) Using Conceptual Metaphors and Metonymies in Vocabulary Teaching. In Boers, Frank & Lindstromberg, Seth (Eds.) *Cognitive Linguistic Approaches to Teaching Vocabulary and Phraseology*. Berlin, Germany, Mouton de Gruyter, 65-99.
- Bergmann, Pia & Mertzluft, Christine (2009) Segmentierung spontansprachlicher Daten in Intonationsphrasen -- Ein Leitfaden für die Transkription. In Birkner, Karin & Stukenbrock, Anja (Eds.) *Die Arbeit mit Transkripten in Fortbildung, Lehre und Forschung*. Mannheim, Verlag für Gesprächsforschung, 83-95.
- Berkenkotter, Carol & Huckin, Thomas N. (1995) *Genre knowledge in disciplinary communication: Cognition/culture/power*, Hillsdale, NJ, England, Lawrence Erlbaum Associates, Inc.
- Bhatia, Vijay Kumar (1993) *Analysing genre : language use in professional settings*, London, Longman.
- Bhatia, Vijay Kumar (2002) Applied genre analysis: a multi-perspective model. *Ibérica: Revista de la Asociación Europea de Lenguas para Fines Específicos (AELFE)*, 3-19.
- Biber, Douglas (1993) Representativeness in corpus design. *Literary and Linguistic Computing*, 8, 243-257.
- Biber, Douglas (2006) *University language : a corpus-based study of spoken and written registers*, Amsterdam; Philadelphia, J. Benjamins.
- Biber, Douglas & Conrad, Susan (2001) Quantitative Corpus-Based Research: Much More Than Bean Counting. *TESOL Quarterly*, 35, 331-336.
- Biber, Douglas, Conrad, Susan & Reppen, Randi (1994) Corpus-based approaches to issues in applied linguistics. *Applied Linguistics*, 15, 169-189.
- Biber, Douglas, Conrad, Susan, Reppen, Randi, Byrd, Patricia & Helt, Marie (2002) Speaking and Writing in the University: A Multidimensional Comparison. *TESOL Quarterly*, 36, 9-48.
- Biber, Douglas & Jones, James K. (2009) 61. Quantitative methods in corpus linguistics. *Corpus Linguistics*. Berlin, New York, Mouton de Gruyter, 1286-1304.
- Billig, Michael, Condor, Susan, Edwards, Derek, Gane, Mike, Middleton, David & Radley, Alan (1988) *Ideological dilemmas : a social psychology of everyday thinking*, London, Sage.
- Bizzell, Patricia (1992) *Academic discourse and critical consciousness*, Pittsburgh and London, University of Pittsburgh Press.

- Black, Max (1962) *Models and metaphors : studies in language and philosophy*, Ithaca; London, Cornell University Press.
- Blommaert, Jan (2005) *Discourse: a critical introduction*, Cambridge, UK; New York, Cambridge University Press.
- Bloomfield, Leonard (1933) *Language*, New York, H. Holt and Company.
- Bloomfield, Leonard (1935) *Language*, London, Allen and Unwin.
- Boyd, Richard (1979) Metaphor and Theory Change: What is "Metaphor" a Metaphor for? In Ortony, Andrew (Ed.) *Metaphor and Thought*. Cambridge, Cambridge University Press, 356-408.
- Bublitz, Wolfram, Lenk, Uta & Ventola, Eija (1999) *Coherence in spoken and written discourse : how to create it and how to describe it : selected papers from the International Workshop on Coherence*, Amsterdam; Philadelphia, John Benjamins,
- Bublitz, Wolfram, Lenk, Uta & Ventola, Eija (Eds.) (1999) *Coherence in spoken and written discourse : how to create it and how to describe it : selected papers from the International Workshop on Coherence, Augsburg, 24-27 April 1997*, Amsterdam ; Philadelphia : John Benjamins, c1999.
- Cameron, Deborah & Kulick, Don (2003) *Language and sexuality*, Cambridge, Cambridge University Press.
- Cameron, Lynne (2003) *Metaphor in educational discourse*, London, Continuum.
- Cameron, Lynne & Deignan, Alice (2006) The Emergence of Metaphor in Discourse. *Applied Linguistics*, 27, 671-690.
- Chomsky, Noam (1965) *Aspects of the theory of syntax*, Cambridge (Mass.) : M.I.T.Press, 1965.
- Chomsky, Noam (1972) *Language and mind*, New York : Harcourt Brace Jovanovich, (1972).
- Clyne, Michael (1987) Cultural differences in the organization of academic texts : English and German. *Journal of Pragmatics*, 11, 211-241.
- Coll, Richard K., France, Bev & Taylor, Ian (2005) The role of models and analogies in science education: implications from research. *International Journal of Science Education*, 27, 183 - 198.
- Costelloe, Timothy (2008) Giambattista Vico. IN Zalta, Edward N., Nodelman, Uri & Allen, Colin (Eds.) *Stanford Encyclopedia of Philosophy*. Stanford, Stanford University.
- Cresswell, Julia (2010) midwife. IN Cresswell, Julia (Ed.) *The Oxford Dictionary of Word Origins*. Oxford, Oxford University Press.
- Cruse, D. Alan (2004) *Meaning in language : an introduction to semantics and pragmatics*, Oxford, Oxford University Press.
- Danesi, Marcel (1993) *Vico, Metaphor, and the Origin of Language*, Bloomington, Indiana, Indiana University Press.
- Deignan, Alice (2005) *Metaphor and Corpus Linguistics*, Amsterdam, Philadelphia, John Benjamins Publishing Company.
- Deppermann, Arnulf & Hartung, Martin (2011) Was gehört in ein nationales Gesprächskorpus? Kriterien, Probleme und Prioritäten der Stratifikation des "Forschungs- und Lehrkorpus Gesprochenes Deutsch" (FOLK) am Institut für Deutsche Sprache (Mannheim). In Felder, Ekkehard, Müller, Marcus & Vogel, Friedemann (Eds.) *Korpuspragmatik. Thematische Korpora als Basis diskurslinguistischer Analysen*. Berlin, New York, de Gruyter, 414-450.
- Deroey, Katrien L. B. (2012) What they highlight is...: The discourse functions of basic wh-clefts in lectures. *Journal of English for Academic Purposes*, 11, 112-124.
- Deroey, Katrien L. B. & Taverniers, Miriam (2012) Just remember this: Lexicogrammatical relevance markers in lectures. *English for Specific Purposes*, 31, 221-233.
- Dubois, Betty Lou (1980) The use of slides in biomedical speeches. *The ESP Journal*, 1, 45-50.
- Dudley-Evans, Tony (1994) Genre Analysis: an Approach to Text Analysis for ESP. In Coulthard, Malcolm (Ed.) *Advances in written text analysis*. London, Routledge, 219-228.

- Duguid, Alison (2007) Soundbiters Bit. Contracted Dialogistic Space and the Textual Relations of the No. 10 Team Analysed through Corpus Assisted Discourse Studies. In Fairclough, Norman, Cortese, Giuseppina & Ardizzone, Patrizia (Eds.) *Discourse and contemporary social change*. Bern, Berlin, Bruxelles, Frankfurt am Main, New York, Oxford, Wien, Peter Lang, 73-94.
- Duguid, Alison (2010) Investigating anti and some reflections on Modern Diachronic Corpus-Assisted Discourse Studies (MD-CADS). *Corpora*, 5, 191-220.
- Ehlich, Konrad (1999) Alltägliche Wissenschaftssprache. *Deutsch als Fremdsprache. Zeitschrift zur Theorie und Praxis des Deutschunterrichts für Ausländer (Info DaF)*, 26, 3-24.
- Evans, Gerald E. (1988) Metaphors as Learning Aids in University Lectures. *The Journal of Experimental Education*, 56, 91-99.
- Fairclough, Norman (1995) *Critical discourse analysis : the critical study of language*, London : Longman, 1995.
- Fandrych, Christian (2005), 'Räume' und 'Wege' in der Wissenschaft: einige zentrale Konzeptualisierungen von wissenschaftlichem Schreiben im Deutschen und Englischen. In Fix, Ulla & Gotthard Lerchner, Marianne Schröder, Hans Wellmann (Eds.) *Zwischen Lexikon und Text. Lexikalische, stilistische und textlinguistische Aspekte*. Leipzig/Stuttgart, Sächsische Akademie der Wissenschaften, 20-33.
- Fandrych, Christian (2006) Bildhaftigkeit und Formelhaftigkeit in der allgemeinen Wissenschaftssprache als Herausforderung für Deutsch als Fremdsprache. In Ehlich, Konrad (Ed.) *Die Wissenschaft und ihre Sprachen* Bern, Berlin, Bruxelles, Frankfurt am Main, New York, Oxford, Wien, Peter Lang,
- Fandrych, Christian & Graefen, Gabriele (2002) Text commenting devices in German and English academic articles. *Multilingua - Journal of Cross-Cultural and Interlanguage Communication*, 21, 17-43.
- Fiehler, Reinhard (2004) *Eigenschaften gesprochener Sprache*, Tübingen, Gunter Narr.
- Firth, John Rupert (1957) *Papers in linguistics, 1934-1951*, London, Oxford University Press.
- Firth, John Rupert & Palmer, F. R. (1968) *Selected papers of J. R. Firth, 1952-59 / edited by F. R. Palmer*, Harlow : Longmans, 1968.
- Fischer-Starcke, Bettina (2009) Keywords and frequent phrases of Jane Austen's *Pride and Prejudice* A corpus-stylistic analysis. *International Journal of Corpus Linguistics*, 14, 492-523.
- Fishman, Joshua A. (1971) *Sociolinguistics : a brief introduction*, Rowley (Mass.), Newbury House.
- Flowerdew, John (Ed.) (2002) *Academic discourse*, London, Longman.
- Fodor, Jerry A. (1983) *The modularity of mind : an essay on faculty psychology*, Cambridge, Mass.; London, MIT Press.
- Freedman, Aviva & Medway, Peter (1994) *Genre and the new rhetoric*, London, Taylor & Francis.
- Gee, James Paul (1996) *Social Linguistics and Literacies: Ideology in Discourses*, London, Taylor and Francis.
- Gessinger, Joachim (1992) Metaphern in der Wissenschaftssprache. In Bungarten, Theo (Ed.) *Beiträge zur Fachsprachenforschung. Sprache in Wissenschaft und Technik, Wirtschaft und Rechnungswesen*. Tostedt, 29-56.
- Gibbs, Raymond W. (1992) Categorization and metaphor understanding. *Psychological Review*, 99, 572-577.
- Gibbs, Raymond W. (2008) *The Cambridge handbook of metaphor and thought*, New York, Cambridge University Press.
- Gibbs, Raymond W. & Santa Cruz, Malaika J. (2012) Temporal Unfolding of Conceptual Metaphoric Experience. *Metaphor and Symbol*, 27, 299-311.
- Gillaerts, Paul & Gotti, Mauricio (Eds.) (2005) *Genre variation in business letters*, Bern, Peter Lang.
- Glück, Helmut (Ed.) (2000) *Metzler Lexikon Sprache*, Berlin, Metzler / Directmedia.

- Glucksberg, Sam, Keysar, Boaz & McGlone, Matthew S. (1992) Metaphor understanding and accessing conceptual schema: Reply to Gibbs (1992). *Psychological Review*, 99, 578-581.
- Goffman, Erving (1981) *Forms of talk*, Oxford, Blackwell.
- Goschler, Juliana (2008) *Metaphern für das Gehirn: Eine kognitiv-linguistische Untersuchung*, Berlin, Frank & Timme GmbH Verlag für wissenschaftliche Literatur.
- Graefen, Gabriele (1999) Versteckte Metaphorik – ein Problem im Umgang mit der fremden deutschen Wissenschaftssprache. In Dalmas, Martine, Foschi-Albert, Marina & Neuland, Eva (Eds.) *Wissenschaftliche Textsorten im Germanistikstudium deutsch-italienisch-französisch kontrastiv. Trilaterales Forschungsprojekt in der Villa Vigoni (2007-2008)*. Loveno di Menaggio, Villa Vigoni, 149-166.
- Gregory, Michael & Carroll, Susanne (1978) *Language and Situation: Language Varieties and their Social Context*, London, Boston, Routledge and Kegan Paul.
- Grice, Paul (1989) *Studies in the Way of Words*, Cambridge, London, Harvard University Press.
- Grißhaber, Wilhelm (2000) Verfahren und Tendenzen der funktional-pragmatischen Diskursanalyse. In Iványi, Zsuzsanna & Kertész, András (Eds.) *Gesprächsforschung: Tendenzen und Perspektiven*. Frankfurt/M., Berlin, Bern, Bruxelles, New York, Oxford, Wien, Peter Lang, 1-12.
- Gross, Alan G. (1983) Analogy and intersubjectivity: Political oratory, scholarly argument and scientific reports. *Quarterly Journal of Speech*, 69, 37-46.
- Halliday, Michael Alexander Kirkwood (1979) *Language as social semiotic*, London, Edward Arnold.
- Halliday, Michael Alexander Kirkwood (1985) *An Introduction to Functional Grammar*, London, New York, Sidney, Auckland, Arnold.
- Himmelman, Nikolaus P. (2006) The challenges of segmenting spoken language. In Himmelman, Nikolaus P., Gippert, Jost & Mosel, Ulrike (Eds.) *Essentials of Language Documentation*. Berlin, Walter de Gruyter, 253-274.
- Hoad, T. F. (2003) metaphor. IN Hoad, T. F. (Ed.) *The Concise Oxford Dictionary of English Etymology*. Oxford, Oxford University Press.
- Hoey, Michael (1983) *On the surface of discourse*, London, Boston, Sydney, George Allen & Unwin.
- Hunston, Susan (2002) *Corpora in Applied Linguistics*, Cambridge, New York, Cambridge University Press.
- Hyland, Ken (2009) *Academic Discourse. English in a Global Context*, London, New York, continuum.
- Hyland, Ken & Bondi, Marina (2006) *Academic discourse across disciplines*.
- Hyland, Ken & Tse, Polly (2004) Metadiscourse in Academic Writing: A Reappraisal. *Applied Linguistics*, 25, 156-177.
- Hyland, Ken & Tse, Polly (2007) Is There an "Academic Vocabulary"? *TESOL Quarterly*, 41, 235-253.
- Jäkel, Olaf (2003) Die Geschichte der Konzeptualisierung von Wissenschaft als Entwicklungsgeschichte eines metaphorischen Szenarios. In Geideck, Susan & Liebert, Wolf-Andreas (Eds.) *Sinnformeln : linguistische und soziologische Analysen von Leitbildern, Metaphern und anderen kollektiven Orientierungsmustern*. Berlin, New York, de Gruyter, 323-342.
- Juchem-Grundmann, Constanze (2009) Metaphern im universitären Wirtschaftsunterricht - ein Werkzeug des Wissenstransfers. *Metaphorik.de*, 16, 47-67.
- Keränen, Jaana (2005) Using metaphors in computer science education -- cross cultural aspects. *Computer Science, Teacher seminar*. Joensuu, University of Joensuu.
- Kluge, Friedrich (2002) *Etymologisches Wörterbuch der deutschen Sprache*, Berlin, New York, de Gruyter.
- Knobloch, Clemens (2010) Funktionale Pragmatik. Anlässlich: Konrad Ehlich: Sprache und sprachliches Handeln, 3 Bde., Berlin: Walter de Gruyter 2007. Band 1: Pragmatik und Sprachtheorie, Band 2: Prozeduren des sprachlichen Handelns,

- Band 3: Diskurs – Narration – Text – Schrift. *Zeitschrift für Germanistische Linguistik*, 38, 121-138.
- Knorr, Karin D., Krohn, Roger & Whitley, Richard (1981) *The social process of scientific investigation*, Dordrecht; London, D. Reidel.
- Knudsen, Susanne (2003) Scientific metaphors going public. *Journal of Pragmatics*, 35, 1247-1263.
- Koch, Peter & Oesterreicher, Wulf (1985) Sprache der Nähe–Sprache der Distanz. *Romanistisches Jahrbuch*, 36, 15-43.
- Konzett, Carmen (2012) *Any questions? : identity construction in academic conference discussions*, Boston, De Gruyter Mouton.
- Kövecses, Zoltan (2002) *Metaphor : a practical introduction*, Oxford, Oxford University Press.
- Kövecses, Zoltán (2005) *Metaphor in culture : universality and variation*. Cambridge, Cambridge University Press.
- Kövecses, Zoltán (2009) The effect of context on the use of metaphor in discourse. *Iberica*, 17, 11-23.
- Krishnamurthy, Ramesh (2003a) Burning questions, but no burning answers: collocation and idiomaticity. In Dickey, R.J. (Ed.) *10th Annual KOTESOL International Conference proceedings 2002*. Seoul (KR), KOTESOL,
- Krishnamurthy, Ramesh (2003b) Language As Chunks, Not Words. In Swanson, Malcolm & Hill, Kent (Eds.) *JALT2003 Proceedings*. Tokyo, Japan, JALT,
- Kristeva, Julia & Moi, Toril (1986) *The Kristeva reader*, New York, Columbia University Press.
- Kuhn, Thomas S. (1970) *Criticism and the growth of knowledge : proceedings of the International Colloquium in the Philosophy of Science*, London, Cambridge,
- Kuhn, Thomas S. (1970) *The structure of scientific revolutions*, Chicago Chicago U. P.
- Kuhn, Thomas S. (1976) Theory-change as structure-change: Comments on the sneed formalism. *Erkenntnis*, 10, 179-199.
- Kuhn, Thomas S. (1977) *The essential tension : selected studies in scientific tradition and change*, Chicago; London, University of Chicago Press.
- Labov, William (1966) *The social stratification of English in New York City*, [Washington, Center for Applied Linguistics.
- Labov, William (1977) *Language in the inner city : studies in the black English vernacular*, Oxford Blackwell.
- Lakoff, George (1993) The Contemporary Theory of Metaphor. In Ortony, Andrew (Ed.) *Metaphor and Thought*. 2 ed. Cambridge, Cambridge University Press,
- Lakoff, George & Johnson, Mark (1980) *Metaphors We Live By*, Chicago, London, University of Chicago Press.
- Lakoff, George & Johnson, Mark (2003) Afterword. In Lakoff, George & Johnson, Mark (Eds.) *Metaphors We Live By*. Chicago, London, University of Chicago Press, 243-276.
- Lee, David (2001) Humor in Spoken Academic Discourse. *Language, Learning & Technology*, 5, 1094-3501.
- Leezenberg, Michiel (2001) *Contexts of metaphor*, Amsterdam, London Elsevier.
- Limberg, Holger & Geluykens, Ronald (2008) Spoken academic discourse: a critical review. In Kraft, Bettina & Geluykens, Ronald (Eds.) *Institutional Discourse in Cross-Cultural Contexts*. München, Lincom, 245-270.
- Lin, Chia-Yen (2012) Modifiers in BASE and MICASE: A matter of academic cultures or lecturing styles? *English for Specific Purposes*, 31, 117-126.
- Littlemore, Jeanette (2003) The effect of cultural background on metaphor interpretation. *Metaphor and symbol*, 18, 273-288.
- Littlemore, Jeannette (2001) The Use of Metaphor in University Lectures and the Problems that it Causes for Overseas Students. *Teaching in Higher Education*, 6, 333-349.
- Littlemore, Jeannette, Chen, Phyllis Trautman, Koester, Almut & Barnden, John (2011) Difficulties in Metaphor Comprehension Faced by International Students whose First Language is not English. *Applied Linguistics*, 32, 408-429.

- Littlemore, Jeannette & Low, Graham (2006) Metaphoric Competence, Second Language Learning, and Communicative Language Ability. *Applied Linguistics*, 27, 268-294.
- Löbner, Sebastian (2003) *Semantik. Eine Einführung*, Berlin, New York, Walter de Gruyter.
- Low, Graham, Littlemore, Jeanette & Koester, Almut (2008) Metaphor Use in Three UK University Lectures. *Applied Linguistics*, 29, 428-455.
- Martin, J. R. (1985) Process and text: two aspects of human semiosis. IN Benson, James D. & Greaves, William S. (Eds.) *Systemic perspectives on discourse Vol. 1, Selected theoretical papers from the 9th International Systemic Workshop*. Norwood, N.J, Ablex.
- Materna, Jirí (2007) *Keyness in Shakespeare's Plays*, Brno, Masaryk University, 103-108.
- Mauranen, Anna *Reflexive academic talk: Observations from MICASE*, Ann Arbor, University of Michigan Press, 165-178.
- Meißner, Cordula (2009) Figurative Verben in der alltäglichen Wissenschaftssprache des Deutschen. Eine korpuslinguistische Pilotstudie. *Apples – Journal of Applied Language Studies*, 3, 93-116.
- Michael, Mike (2001) Technoscientific bespoking: Animals, publics and the new genetics. *New Genetics and Society*, 20, 205-224.
- Mitchell, Terence Frederick (1957/75) The language of buying and selling in Cyrenaica: a situational statement. In Mitchell, Terence Frederick (Ed.) *Principles of Firthian Linguistics*. London, Longman,
- Myers, Greg (2000) Powerpoints: Technology, lectures, and changing genres. *Analysing Professional Genres*. Amsterdam, John Benjamins, 177-192.
- Nesi, Hilary (1995) A modern bestiary: a contrastive study of the figurative meanings of animal terms. *ELT Journal*, 49, 272-278.
- Nesi, Hilary (2001) A corpus-based analysis of academic lectures across disciplines. In Cotteril, Janet & Ife, Anne (Eds.) *Language across boundaries*. London, BAAL in association with Continuum Press,
- Nesi, Hilary (2003) Editorial. *Journal of English for Academic Purposes*, 2, 1-3.
- Nesi, Hilary (2012) Laughter in university lectures. *Journal of English for Academic Purposes*, 11, 79-89.
- Nesi, Hilary & Gardner, Sheena (2012) *Genres across the disciplines: student writing in higher education*, Cambridge, Cambridge University Press.
- O'Keeffe, Anne & McCarthy, Michael (Eds.) (2010) *The Routledge handbook of corpus linguistics*, Abingdon; New York, NY, Routledge.
- O'Keeffe, Anne & Walsh, Steve (2012) Applying corpus linguistics and conversation analysis in the investigation of small group teaching in higher education.
- Partington, Alan (2006) *The linguistics of laughter*, Oxford, Routledge.
- Partington, Alan (2010) Modern diachronic corpus-assisted discourse studies (MD-CADS) on UK newspapers: an overview of the project. *Corpora*, 5, 83-108.
- Pike, Kenneth L. (1954) *Language in relation to a unified theory of the structure of human behaviour*, Glendale, California Summer Institute.
- Pragglejaz (2007) MIP: A Method for Identifying Metaphorically Used Words in Discourse. *Metaphor and Symbol*, 1-39.
- Räsänen, Christine (2002) The conference forum: A system of interrelated genres and discursive practices. In Ventola, Eija, Shalom, Celia Naomi & Thompson, Susan (Eds.) *The language of conferencing*. Frankfurt am Main; New York, Peter Lang, 69-93.
- Redder, Angelika (2000) Textdeixis. In Brinker, Klaus, Antos, Gerd, Heinemann, Wolfgang & Sager, Sven F. (Eds.) *Text- und Gesprächslinguistik / Linguistics of Text and Conversation. Ein internationales Handbuch zeitgenössischer Forschung / An International Handbook of Contemporary Research*. Berlin, New York, Walter de Gruyter,
- Reershemius, Gertrud (2012) Research cultures and the pragmatic functions of humor in academic research presentations: A corpus-assisted analysis. *Journal of Pragmatics*, 44, 863-875.

- Rehbein, Jochen (1977) *Komplexes Handeln. Elemente zur Handlungstheorie der Sprache*, Stuttgart, Metzler.
- Rehbein, Jochen (1995) Segmentieren. *Verbmobil Memo*. Hamburg, Universität Hamburg.
- Rehbein, Jochen (2001) Das Konzept der Diskursanalyse. *Linguistics of Text and Conversation*. Berlin, New York, Walter de Gruyter, 927-945.
- Ritchie, David (2003) "ARGUMENT IS WAR" -Or is it a Game of Chess? Multiple Meanings in the Analysis of Implicit Metaphors. *Metaphor and Symbol*, 18, 125 - 146.
- Rolf, Eckard (2005) *Metaphertheorien : Typologie, Darstellung, Bibliographie*, Berlin, Walter de Gruyter.
- Rowley-Jolivet (2002) Science in the making: Scientific conference presentations and the construction of facts. In Ventola, Eija, Shalom, Celia & Thompson, Susan (Eds.) *The language of conferencing*. Frankfurt am Main; New York, Peter Lang, 95-125.
- Rowley-Jolivet, Elizabeth (1999) The pivotal role of conference papers in the network of scientific communication. *ASp: La Revue du GERAS*, (paper version: 179-196), (electronic version: 172-116).
- Saeed, John I. (2003) *Semantics*, Oxford, Blackwell.
- Saussure, Ferdinand de, Bally, Charles, Harris, Roy, Riedlinger, Albert & Sechehaye, Albert (1983) *Course in general linguistics*, London, Duckworth.
- Scherer, Carmen (2000) *Korpuslinguistik*, Heidelberg, Winter.
- Schiffrin, Deborah, Tannen, Deborah & Hamilton, Heidi E. (Eds.) (2003) *The Handbook of Discourse Analysis*, Oxford, Blackwell.
- Schmidt, Thomas & Wörner, Kai (2012) *Multilingual Corpora and Multilingual Corpus Analysis*, Philadelphia, John Benjamins.
- Scott, Mike (1997) PC analysis of key words--and key key words. *System*, 25, 233-245.
- Scott, Mike (2012) WordSmith Tools. 6 ed. Liverpool, Lexical Analysis Software.
- Scott, Mike & Bondi, Marina (Eds.) (2010) *Keyness in Texts*, Amsterdam / Philadelphia, John Benjamins Publishing Company.
- Scott, Mike & Tribble, Christopher (2006) *Textual patterns [electronic resource] : key words and corpus analysis in language education*, Philadelphia, John Benjamins.
- Searle, John (1979) Metaphor. In Ortony, Andrew (Ed.) *Metaphor and Thought*. Cambridge, Cambridge University Press, 92-123.
- Searle, John R. (1970) *Speech acts : an essay in the philosophy of language*, Cambridge : Cambridge University Press, 1969.
- Searle, John R. (1971) *The philosophy of language*, London Oxford University Press.
- Selting, Margret, Auer, Peter, Barden, Birgit, Bergmann, Jörg, Couper-Kuhlen, Elizabeth, Günthner, Susanne, Meier, Christoph, Quasthoff, Uta, Schlobinski, Peter & Uhmann, Susanne (1998) Gesprächsanalytisches Transkriptionssystem (GAT). *Linguistische Berichte*, 173, 91-122.
- Selting, Margret, Auer, Peter, Barth-Weingarten, Dagmar, Bergmann, Jörg, Bergmann, Pia, Birkner, Karin, Couper-Kuhlen, Elizabeth, Deppermann, Arnulf, Gilles, Peter & Günthner, Susanne (2009) Gesprächsanalytisches Transkriptionssystem 2 (GAT 2). *Gesprächsforschung - Online-Zeitschrift zur verbalen Interaktion*, 10, 353-402.
- Selting, Margret, Auer, Peter, Barth-Weingarten, Dagmar, Bergmann, Jörg, Bergmann, Pia, Birkner, Karin, Couper-Kuhlen, Elizabeth, Deppermann, Arnulf, Gilles, Peter, Günthner, Susanne, Hartung, Martin, Kern, Frederike, Mertzluft, Christine, Meyer, Christian, Morek, Miriam, Oberzaucher, Frank, Peters, Jörg, Quasthoff, Uta, Schütte, Wilfried, Stukenbrock, Anja & Uhmann, Susanne (2011) A system for transcribing talk-in-interaction: GAT 2. *Gesprächsforschung - Online-Zeitschrift zur verbalen Interaktion*, 12, 1-51.
- Semino, Elena (2008) *Metaphor in Discourse*, Cambridge, Cambridge University Press.
- Shalom, Celia Naomi (1993) Established and Evolving Spoken Research Process Genres: Plenary Lecture and Poster Session Discussions at Academic Conferences. *English for Specific Purposes*, 12, 37-50.

- Shalom, Celia Naomi (2002) The academic conference: A forum for enacting genre knowledge. In Ventola, Eija, Shalom, Celia Naomi & Thompson, Susan (Eds.) *The language of conferencing*. Frankfurt am Main; New York, Peter Lang, 51-68.
- Silverman, David (2011) *Qualitative research : issues of theory, method and practice*, Los Angeles, London, Sage.
- Silverstein, Michael (1977) Cultural prerequisites to grammatical analysis. In Saville-Troike, Muriel (Ed.) *Linguistics and anthropology*. Washington, Georgetown University Press, 139-151.
- Simpson, Rita & Mendis, Dushyanthi (2003) A Corpus-Based Study of Idioms in Academic Speech. *TESOL Quarterly*, 37, 419-441.
- Sinclair, John (1991) *Corpus, Concordance, Collocation*, Oxford, New York, Oxford University Press.
- Sinclair, John McHardy & Coulthard, Malcolm (1975) *Towards an analysis of discourse : the English used by teachers and pupils*, London, Oxford University Press.
- Skrandies, Peter (2011) Everyday academic language in German historiography. *gfl-journal*, 1, 99-123.
- Stoll, Pamela (1998) Text as conversation: An interpretive investigation of utterances in a women's magazine. *Journal of Pragmatics*, 29, 545-570.
- Stubbs, Michael (2001) Texts, corpora, and problems of interpretation: a response to Widdowson. *Applied Linguistics*, 22, 149-172.
- Swales, John (1990) *Genre analysis. English in academic and research settings*, Cambridge, Cambridge University Press.
- Swales, John (2001) Metatalk in American academic talk. *Journal of English Linguistics*, 29, 34-54.
- Swales, John (2004) *Research Genres: Explorations and Applications*, Cambridge, Cambridge University Press.
- Sweetser, Eve (1984) Semantic structure and semantic change: a cognitive linguistic study of modality, perception, speech acts, and logical relations. *Linguistics*. Berkeley, University of California, Berkeley.
- Tognini-Bonelli, Elena (2001) *Corpus Linguistics at Work*, Amsterdam and Philadelphia, John Benjamins.
- Tognini-Bonelli, Elena & Camiciotti, Gabriella del Lungo (Eds.) (2005) *Strategies in academic discourse [electronic resource]*, Philadelphia, J. Benjamins.
- Ventola, Eija (1984) Orientation to Social Semiotics in Foreign Language Teaching. *Applied Linguistics*, 5, 275-286.
- Ventola, Eija (2001) Discourse studies in the English-speaking countries. *Linguistics of Text and Conversation*. Berlin, New York, Walter de Gruyter, 979-994.
- Ventola, Eija (2002) Why and what kind of focus on conference presentations? In Ventola, Eija, Shalom, Celia Naomi & Thompson, Susan (Eds.) *The language of conferencing*. Frankfurt am Main; New York, Peter Lang, 15-50.
- Virtanen, Tuija (2009) 49. Corpora and discourse analysis. *Corpus Linguistics*. Berlin, New York, Mouton de Gruyter, 1043-1070.
- Walsh, Steve (2006) *Investigating classroom discourse*, Abingdon, Oxon, Routledge.
- Walsh, Steve (2011) *Exploring classroom discourse : language in action*, London, Routledge.
- Webber, Pauline (2005) Interactive features in medical conference monologue. *English for Specific Purposes*, 24, 157-181.
- Weijenberg, Jan (1980) *Authentizität gesprochener Sprache in Lehrwerken für Deutsch als Fremdsprache*, Heidelberg, Groos.
- Weissberg, Bob (1993) The graduate seminar: Another research-process genre. *English for Specific Purposes*, 12, 23-35.
- Wichmann, Anne (2008) 11. Speech corpora and spoken corpora. *Corpus Linguistics*. Mouton de Gruyter, 187-207.
- Widdowson, Henry (1998) Communication and Community: The Pragmatics of ESP. *English for Specific Purposes*, 17, 3-14.
- Wooffitt, Robin (2005) *Conversation analysis and discourse analysis : a comparative and critical introduction*, London ; Thousand Oaks, Calif., Sage.

- Ylönen, Sabine (2003) Konferenzdeutsch. Unterschiede mündlicher und schriftlicher Wissenschaftssprache. In Zhu, Jianhua & Zimmer, Thomas (Eds.) *Fachsprachenlinguistik, Fachsprachendidaktik und interkulturelle Kommunikation. Wirtschaft - Technik - Medien*. Frankfurt a. M., Peter Lang, 209-229.
- Zhu, Xiaoan (2003) Die kognitive Funktion der Metapher in der deutschen Fachsprache. In Zhu, Jianhua & Zimmer, Thomas (Eds.) *Fachsprachenlinguistik, Fachsprachendidaktik und interkulturelle Kommunikation. Wirtschaft - Technik - Medien*. Frankfurt a. M., Peter Lang, 273-284.

9 Appendices

9.1 Appendix 1: word- and keyword lists used in this study

Word list English corpus

Rank	Word	Frequency
1	#	10244
2	THE	2243
3	AND	1624
4	OF	1467
5	H	1284
6	TO	1201
7	THAT	1095
8	A	1091
9	I	1036
10	YOU	845
11	IN	836
12	S	815
13	SO	750
14	ERM	740
15	ER	728
16	IT	696
17	IS	549
18	THEY	543
19	WE	462
20	BUT	380
21	FOR	345
22	WAS	334
23	THERE	333
24	THIS	332

25	T	330
26	AS	305
27	KNOW	296
28	HAVE	287
29	OR	283
30	ARE	282
31	ON	282
32	BE	269
33	NN	268
34	HH	266
35	ONE	251
36	WITH	243
37	WHAT	242
38	VERY	238
39	AT	236
40	CAN	234
41	JUST	222
42	THEN	219
43	KIND	218
44	RE	210
45	ABOUT	202
46	SOME	200
47	XXX	199
48	DO	190
49	WORK	189
50	FALSE	183
51	START	179
52	NOT	178
53	IF	174

54	HE	173
55	YEAH	171
56	PEOPLE	170
57	VE	160
58	WELL	160
59	ALL	159
60	SHE	153
61	THINK	152
62	FROM	150
63	WERE	149
64	HOW	148
65	AN	144
66	BECAUSE	143
67	OKAY	139
68	THEIR	134
69	WHICH	133
70	LAUGHS	132
71	M	132
72	DIS	130
73	LAUGHTER	127
74	LIKE	122
75	OVER	121
76	WHEN	121
77	WHO	121
78	WHERE	120
79	HERE	119
80	THEM	118
81	ACTUALLY	117
82	HAD	114

83	COUGH	113
84	MORE	113
85	BY	112
86	CLICK	110
87	THESE	110
88	WOULD	108
89	SAY	106
90	MB	105
91	MY	105
92	RIGHT	104
93	DON	102
94	REALLY	102
95	TECHNOLOGY	102
96	DIFFERENT	101
97	SOMETHING	101
98	GET	99
99	TIME	99
100	GOING	98
101	OTHER	97
102	SEE	94
103	TWO	94
104	BEEN	93
105	MUCH	92
106	TALK	92
107	NAME	91
108	THOSE	88
109	WAY	88
110	NO	86
111	STUDENTS	86

112	THINGS	86
113	UP	86
114	AGAIN	85
115	MEAN	85
116	NOISE	82
117	GO	79
118	COUGHING	78
119	LANGUAGE	78
120	SAID	77
121	COURSE	76
122	STUTTERS	75
123	PLACE	74
124	LOOK	73
125	OUR	72
126	ALSO	71
127	EM	71
128	GOOD	70
129	COULD	69
130	GOT	68
131	HAS	68
132	APPROX	67
133	USE	67
134	WANT	67
135	D	66
136	MANY	66
137	MOST	66
138	EXAMPLE	65
139	NEW	65
140	LL	64

141	ME	64
142	OUT	64
143	SEC	64
144	THAN	64
145	DID	63
146	QUITE	63
147	UM	63
148	BACK	62
149	INTO	61
150	LEARNING	60
151	NOW	60
152	EVEN	58
153	UNINTELLIGIBLE	58
154	SAME	57
155	BIT	55
156	FORM	55
157	HM	55
158	PJH	55
159	THING	54
160	THROUGH	53
161	FIRST	52
162	STATES	52
163	ANY	50
164	ENGLISH	50
165	STATE	50
166	DIDN	49
167	LITTLE	49
168	QUESTION	49
169	USED	49

170	BEING	48
171	HER	48
172	NEED	47
173	YES	47
174	SORT	46
175	YEARS	46
176	YOUR	46
177	PLACES	45
178	THREE	45
179	HIS	44
180	MIGHT	44
181	COME	43
182	EACH	43
183	LONG	43
184	WORLD	43
185	ANOTHER	42
186	BETWEEN	42
187	CONTRACTED	42
188	DATA	42
189	PART	42
190	TEACHING	42
191	WILL	42
192	FACE	40
193	LOOKING	40
194	LOT	40
195	SPEAKERS	40
196	ALWAYS	39
197	DOES	39
198	END	39

199	LEARNERS	39
200	MAKE	39

Keyword list English corpus

Rank	Keyword	Frequency ⁵²
1	#	10244
2	H	1284
3	ERM	740
4	ER	728
5	S	815
6	NN	268
7	HH	266
8	T	330
9	RE	210
10	XXX	199
11	FALSE	183
12	VE	160
13	LAUGHS	132
14	DIS	130
15	LAUGHTER	127
16	COUGH	113
17	CLICK	110
18	MB	105
19	DON	102
20	NOISE	82
21	COUGHING	78
22	STUTTERS	75
23	EM	71

⁵² This is the frequency in the main corpus of this study, not the frequency in the reference corpus.

24	APPROX	67
25	SEC	64
26	LL	64
27	UM	63
28	UNINTELLIGIBLE	58
29	PJH	55
30	HM	55
31	DIDN	49
32	M	132
33	PLACES	45
34	TECHNOLOGY	102
35	CONTRACTED	42
36	SPEAKERS	40
37	ZEALAND	39
38	LEARNERS	39
39	START	179
40	NATIONALISM	38
41	KINDA	35
42	BIGRAMS	34
43	SPEAKER	33
44	CLASSROOM	32
45	ACRONYM	30
46	UNIVERSITY	29
47	PRESS	29
48	THOUSAND	28
49	D	66
50	UNITED	27
51	PRESIDENT	27
52	STARTS	27

53	NAME	91
54	NOISES	26
55	ASSESSMENT	24
56	KIND	218
57	INSTRUCTION	23
58	WHITEHOUSE	23
59	MIKE	23
60	CONTENT	23
61	NINETEEN	23
62	WASN	22
63	SPEECH	22
64	RK	22
65	FILES	21
66	WORK	189
67	SHE	153
68	BOSS	20
69	SELF	20
70	PRIMING	20
71	BACKGROUND	20
72	ISN	20
73	GONNA	20
74	ONLINE	20
75	AFRICA	19
76	WOULDN	19
77	BIGRAM	19
78	FEEDBACK	18
79	COMMUNICATION	17
80	RECORDED	17
81	PUBLICATION	17

82	ARI	17
83	DOESN	17
84	MCCURRY	17
85	PROGRAMME	16
86	SCOTT	16
87	NATION	16
88	CORPUS	16
89	NATIONALISING	16
90	HAVEN	16
91	VARIATION	15
92	MATERIALS	15
93	SOUTH	15
94	PATTERNS	15
95	POPULATIONS	15
96	SKILLED	15
97	CHAT	15
98	WHITE	14
99	EMPIRE	14
100	GRAMMAR	14
101	APPROPRIATE	14
102	HONG	14
103	KONG	14
104	WON	14
105	PASSIVE	14
106	DIMENSIONS	14
107	PERCENT	14
108	NICKI	14
109	IDIOLECTS	14
110	FREQUENCY	13

111	NATIONS	13
112	TRADITIONAL	13
113	PERSONALITY	13
114	BOUNDARIES	13
115	CIVIL	13
116	WEST	13
117	WONDERING	13
118	PROJECT	13
119	WARS	13
120	CONVERSATION	13
121	CHINESE	13
122	MA	13
123	FILE	13
124	PRONOUNCES	13
125	ETHNIC	13
126	STUDENTS	86
127	RESULTS	12
128	RUSTLE	12
129	SETTLED	12
130	HOURS	12
131	NINETY	12
132	NATIVE	12
133	CLICKS	12
134	BLAH	12
135	COINS	12
136	VERSION	12
137	LISTENING	12
138	WANNA	12
139	TOPICS	12

140	SITUATIONS	12
141	WEB	12
142	CS	12
143	LEARNER	12
144	SOFTWARE	12
145	WORLD	43
146	NON	11
147	HELENA	11
148	RANKING	11
149	PROFESSOR	11
150	PROFESSIONAL	11
151	CORPORATION	11
152	INSTRUCTIONAL	11
153	TRANSLATION	11
154	SPOKE	11
155	SEVENTY	11
156	CULTURAL	11
157	CULTURES	11
158	AVOID	11
159	CHINA	11
160	DEPARTMENT	11
161	MASTER	11
162	UNINTELLIGABLE	11
163	TOOL	11
164	MINORITIES	11
165	CO	11
166	PLACE	74
167	TYPICAL	10
168	SUPPORT	10

169	PRESENTATION	10
170	FORGET	10
171	SPEND	10
172	INITIALLY	10
173	INPUT	10
174	RECORD	10
175	WORKBOOK	10
176	SECRETARY	10
177	RELATIONAL	10
178	FAMILIAR	10
179	SLAVES	10
180	CUT	10
181	AFTERNOON	10
182	FACE	40
183	LEARNING	60
184	MIGRANT	9
185	TOLERANT	9
186	GREEK	9
187	PERFORMANCE	9
188	TONY	9
189	CLASSROOMS	9
190	CITY	9
191	L	9
192	LINGUISTICS	9
193	TEAM	9
194	TAPE	9
195	AMERICANS	9
196	HOUR	9
197	JOBS	9

198	DISCOURSE	9
199	EGON	9
200	RUSTLING	9

Word list German corpus

Rank	Word	Frequency
1	#	2955
2	H	1548
3	DIE	926
4	UND	758
5	DER	567
6	ÄH	488
7	DAS	488
8	ALSO	454
9	IN	423
10	ICH	402
11	AUCH	367
12	ÖH	321
13	HH	309
14	ES	298
15	ÄHM	242
16	JA	242
17	DANN	223
18	IS	218
19	SIE	216
20	NN	214
21	VON	210
22	ZU	200
23	DASS	198

24	FÜR	198
25	SO	196
26	IM	194
27	MIT	193
28	HM	190
29	ABER	186
30	SCHMATZT	186
31	MAN	171
32	DEN	170
33	ODER	166
34	EINE	156
35	NICHT	154
36	DA	152
37	SIND	151
38	ALS	146
39	DIS	144
40	WIE	144
41	EIN	139
42	NOCH	136
43	SICH	134
44	AUF	130
45	VAU	130
46	O	129
47	IST	126
48	DIESE	125
49	WAS	123
50	SW	112
51	WIR	112
52	NICH	109

53	S	105
54	HIER	104
55	HABEN	98
56	DEM	95
57	EBEN	95
58	KANN	94
59	DES	93
60	NUR	92
61	WIRD	91
62	WENN	89
63	ZUM	88
64	SEHR	86
65	JETZ	84
66	NE	84
67	HAT	83
68	GIBT	82
69	HAB	81
70	WAR	78
71	HAM	73
72	NATÜRLICH	73
73	AUS	71
74	WERDEN	70
75	EINER	68
76	BEISPIEL	65
77	N	65
78	BEI	63
79	GANZ	63
80	SCHON	63
81	AN	61

82	ENGLISCH	61
83	UNVERSTÄNDLICH	60
84	HHH	54
85	UM	53
86	EIGENTLICH	52
87	WEIL	51
88	DIESER	50
89	ZWEI	50
90	ÖHM	49
91	JETZT	48
92	LERNER	47
93	SVO	47
94	LR	46
95	SOV	46
96	LACHT	44
97	STRUKTUREN	43
98	IMMER	42
99	NR	42
100	SAGEN	42
101	ÜBER	42
102	WO	42
103	EINEM	41
104	EINEN	41
105	NACH	40
106	WIEDER	40
107	DIESEN	39
108	SPRACHE	39
109	KÖNNEN	38
110	ZUR	38

111	IRGENDWIE	37
112	TESTGRUPPE	36
113	VOR	36
114	WURDE	36
115	MAL	35
116	SOZUSAGEN	35
117	MACHEN	34
118	SEHEN	34
119	VIELLEICHT	34
120	MICH	33
121	STRUKTUR	33
122	DENN	32
123	DEUTSCHEN	31
124	LEUTE	31
125	MEHR	31
126	WEITER	31
127	DOCH	29
128	EHER	29
129	KONTROLLGRUPPE	29
130	LACHEN	29
131	SONDERN	29
132	ERWERB	28
133	MUSS	28
134	DAZU	27
135	DE	27
136	GESAGT	27
137	HABE	27
138	WIRKLICH	27
139	ANDERE	26

140	ANDEREN	26
141	DAMIT	26
142	DIESEM	26
143	GUT	26
144	HALT	26
145	IHRE	26
146	MIR	26
147	MOD	26
148	WURDEN	26
149	DIESES	25
150	SATZ	25
151	EINS	24
152	FRAGE	24
153	I	24
154	SEIN	24
155	WILL	24
156	A	23
157	DREI	23
158	GAR	23
159	GEHEN	23
160	HATTE	23
161	OB	23
162	VERBEN	23
163	ZWISCHEN	23
164	DEUTSCH	22
165	ER	22
166	FALL	21
167	HUSTET	21
168	OV	21

169	PROZENT	21
170	RECHT	21
171	SPRACHEN	21
172	VIEL	21
173	WAREN	21
174	ALLE	20
175	AWARENESS	20
176	GEHT	20
177	GEMACHT	20
178	GENAU	20
179	IHNEN	20
180	KEINE	20
181	KLICKT	20
182	MODALVERBEN	20
183	NUN	20
184	RAHMEN	20
185	RÄUSPERT	20
186	SACHSEN	20
187	SÄCHSISCH	20
188	SÄCHSISCHEN	20
189	SCHNALZT	20
190	SELBST	20
191	WÜRDE	20
192	ALLES	19
193	BISSCHEN	19
194	GEHÖRT	19
195	HYPOTHESE	19
196	KÖNNTE	19
197	MA	19

198	TEST	19
199	TRANSFER	19
200	ÜBERHAUPT	19

Keyword list German corpus

Rank	Keyword	Frequency
1	#	2955
2	H	1548
3	HH	309
4	NN	214
5	SCHMATZT	186
6	ÖH	321
7	SW	112
8	DIS	144
9	VAU	130
10	O	129
11	UNVERSTÄNDLICH	60
12	HHH	54
13	ENGLISCH	61
14	SVO	47
15	SOV	46
16	LR	46
17	NR	42
18	LACHT	44
19	DIE	926
20	TESTGRUPPE	36
21	LERNER	47
22	IN	423
23	KONTROLLGRUPPE	29

24	STRUKTUREN	43
25	MOD	26
26	HUSTET	21
27	OV	21
28	SCHNALZT	20
29	SÄCHSISCHEN	20
30	RÄUSPERT	20
31	MODALVERBEN	20
32	KLICKT	20
33	SACHSEN	20
34	AWARENESS	20
35	EINE	156
36	ERWERB	28
37	SÄCHSISCH	20
38	EVIDENZ	18
39	UND	758
40	LACHEN	29
41	XXX	17
42	SATZKLAMMER	18
43	TRANSFER	19
44	HYPOTHESE	19
45	ITALIENISCH	16
46	IMITATION	16
47	PROZENT	21
48	WORTSTELLUNG	16
49	WURDEN	26
50	AUXILIAREN	14
51	ALSO	454
52	DIESE	125

53	WURDE	36
54	IM	194
55	LANGUAGE	16
56	LEXIKALISCHEN	13
57	STRUKTUR	33
58	VERBEN	23
59	BLÄTTERT	14
60	ERGEBNISSE	18
61	RAHMEN	20
62	BEITRAG	13
63	INTERVIEWS	13
64	OR	14
65	EINER	68
66	DEUTSCHEN	31
67	SATZ	25
68	OBERLAUSITZ	11
69	ELICITED	11
70	SATZPUZZLETEST	11
71	DIALEKT	18
72	TÄTIGKEIT	14
73	ENGLISH	13
74	ZUGRUNDE	13
75	HANDLUNGEN	12
76	ÄH	488
77	ES	298
78	FOLK	10
79	UNGESTEUERTEN	10
80	NICHT	154
81	LIEGENDE	11

82	LERNERN	11
83	ERZGEBIRGE	11
84	DEUTSCH	22
85	TESTSÄTZE	9
86	VOGTLAND	9
87	STUDIERENDEN	9
88	SCHRIFTLICHEN	11
89	MUNDART	11
90	ALS	146
91	SIND	151
92	STADTNAME	8
93	WIRTSCHAFT	8
94	PIZZA	11
95	WÖRTERBUCH	11
96	SPRACHEN	21
97	PROJEKT	15
98	TESTS	9
99	HINGEGEN	9
100	VO	13
101	WERDEN	70
102	DDR	7
103	KAMMAN	7
104	FRANCA	7
105	SÄCHSISCHE	7
106	OBERSÄCHSISCHEN	7
107	LINGUA	7
108	GESTEUERTEN	7
109	LEUTE	31
110	RAUM	16

111	TEST	19
112	VORSTELLEN	18
113	STUDIE	10
114	HANDLUNG	12
115	WIEDERHOLT	9
116	NATÜRLICH	73
117	GRUPPEN	11
118	LEIPZIG	10
119	SPRACHENPOLITIK	6
120	TÄTIGKEITSTHEORIE	6
121	FIXA	6
122	LERNERSPRACHLICHE	6
123	EINFÜHRUNGSREIHENFOLGE	6
124	LERNENDEN	6
125	SORBISCHEN	6
126	MUNDARTPFLEGE	6
127	KULTURRÄUME	6
128	THEORETISCHE	6
129	MUTTERSPRACHEN	6
130	MULTILINGUAL	6
131	FORTSCHRITTE	6
132	WIEDERHOLEN	8
133	FREMDSPRACHEN	8
134	KORPUS	8
135	WECHSEL	18
136	FÜR	198
137	PRODUKTE	7
138	MUNDARTEN	7
139	LINGUISTICS	7

140	VORTRAG	7
141	GEWÄHLT	11
142	STELLUNG	11
143	AUCH	367
144	SPRACHE	39
145	SPRACHLICHEN	14
146	LAIEN	11
147	VON	210
148	PROJEKTE	8
149	ANDEREN	26
150	OBEN	5
151	WO	42
152	EINFACH	15
153	NACH	40
154	SAG	6
155	WIEDER	40
156	NOCH	136
157	LINKS	5
158	SAGT	8
159	WEIß	13
160	WEG	3
161	WENN	89
162	E	8
163	OH	13
164	GLAUB	6
165	MACH	3
166	RECHTS	3
167	AH	14
168	SCHON	63

169	HALT	26
170	WER	8
171	GEHT	20
172	BIN	18
173	RICHTIG	4
174	ZWEI	50
175	MUSS	28
176	WA	4
177	IHR	7
178	HAB	81
179	SE	11
180	M	12
181	IHN	3
182	HA	4
183	NA	12
184	MIR	26
185	DA	152
186	NEIN	7
187	DANN	223
188	NE	84
189	GUT	26
190	HAT	83
191	ACHT	4
192	EINS	24
193	BIS	13
194	GENAU	20
195	DOCH	29
196	SIEBEN	4
197	ACH	4

198	JETZ	84
199	SO	196
200	MA	19

9.2 Appendix 2: Meta data categories used in the corpus of this study

Expertenvorträge (EV) / Specialist Presentations meta data categories with English translations

Example: Talk EV_UK_010

Description (Communication)

01 Projektname

GeWiss

01 eng project name

GeWiss

02 Standort

Großbritannien

02 eng partner location

Great Britain

03 Muttersprachliche Kommunikation

gemischt

03 eng mother tongue communication

mixed

04 Genre

Expertenvortrag

04 eng genre

specialist presentation

05 Nummer der Aufnahme

EV_UK_010

05 eng recording number

EV_UK_010

06 Kurzbezeichnung

Small Talk

06 eng short title

Small Talk

07 Art des Vortrags

Expertenvortrag

07 eng presentation type

invited lecture

08 Thema

Small Talk can be a big Business

08 eng theme

Small Talk can be a big Business

09 Datenschutz

EVE liegt vor

09 eng copyright permission

permission obtained

10 Zusatzmaterial

fehlt

10 eng supplementary material

not available

11 Liste

A

11 eng classification

A

12 Einteilung in ABC-Liste

alle Kriterien zur Einordnung in A-Liste erfüllt

12 eng reason for classification

All GeWiss criteria were fulfilled

13 Zusammenfassung

Der Moderator stellt die nächste Person kurz vor. Die Vortragende bedankt sich für die Einführung und beginnt mit einer Einleitung zu ihrem Thema, „Small Talks“. Sie weist auf Unterschiede in verschiedenen Ländern hin und spricht über die Bedeutung von kurzen privaten Gesprächen am Arbeitsplatz sowie über bestimmte Regeln. Sie beschreibt das Programm, welches sie in Neuseeland eingeführt haben. Außerdem nennt sie unterschiedliche Beispiele und die Ergebnisse bzw. Erfolge des Kurses. Der Vortrag endet nach ca. 47 Minuten, die anschließende Diskussion dauert ca. 15 Minuten.

13 eng summary

The moderator briefly introduces the next speaker. The speaker thanks her for the introduction and begins by introducing her topic "Small Talk". She talks about the meaning of short private conversations at work, the rules they adhere to, and the differences between countries. She goes on to talk about a programme they have introduced in New Zealand. She mentions examples and preliminary results and the success of the courses. The talk ends after about 47 minutes and the discussion afterwards lasts about 15 minutes.

Location

City

Birmingham

Country

Großbritannien / Great Britain

PeriodStart

01-Jun-2010 16:00:00

PeriodDurationDuration

01:03:48.000 (3828000ms)

Description (Location)

01 Institution

Aston University

02 Raum

Hörsaal

02 eng type of room

lecture room

03 Event

Vortrag

03 eng type of event

talk

2 Languages

Basissprache / eng main language (Language)

LanguageCode

deu

Description (Language)

Grad der Mündlichkeit

frei gesprochen

eng degree of spontaneity

eng spontaneous speech

Wechsel in andere Sprache(n) / eng alternation to other language(s) (Language)

LanguageCode

kein / eng none

Description (Language)

Setting

Description (Setting)

01 Anzahl der Teilnehmer

1 Vortragender, 1 Moderator, ca. 20 Zuhörer

01 eng number of participants

1 presenter, 1 moderator, about 20 audience members

02 eng media utilised

PowerPoint slides

02 verwendete Medien

Präsentation

03 Beziehung der Sprecher zueinander und zum Publikum

Für die Vortragenden sind die Zuhörer fremdes Fachpublikum, einige Anwesende darunter sind ihnen jedoch bekannt.

03 eng relationship(s) of speakers to each other and to the audience

For the presenters, the audience is an unknown specialist audience, but the presenters know one or two audience members

04 Identifikation

GD_0677 beginnt mit "We're very pleased to welcome Professor Kylie House" KH_0676 beginnt mit "Thank you very much, Gina".

04 eng identification of exactly at which point each speaker starts speaking

GD_0677 starts with "We're very pleased to welcome Professor Kylie House" KH_0676 starts with "Thank you very much, Gina".

05 an Aufnahme beteiligte Projektmitarbeiter

Klaus Thiele

05 eng GeWiss project staff involved in the recording

Klaus Thiele

06 Involviertheit der Projektmitarbeiter

anwesend

06 eng degree of involvement

present

2 Recordings

Recording: EV_UK_010.mov

Description (Recording)

01 Aufnahmegerät

Sony HVR-A1E

01 eng recording device

Sony HVR-A1E

02 Position

hinten im Hörsaal

02 eng position

at the back of the room

03 Aufnahmebedingungen

normal

03 eng recording conditions

normal

04 Vollständigkeit

Vorstellung der Referenten, Vortrag und Diskussion vollständig

04 eng completeness

full event from start to finish

05 Datenträger

DV-Kassette mit der Beschriftung EV_UK_010

05 eng hard medium

DV tape labelled with EV_UK_010

06 Mediendateien

EV_UK_010.mpeg

06 eng filename

EV_UK_010.mpeg

07 Auflösung

1920 × 1080

07 eng resolution

1920 × 1080

File: file:/G:/eng/Expertenvortrag/Video/EV_UK_010.mov

Recording: EV_UK_010.wav (01:03:48.038; 3828038ms)

Description (Recording)

01 Aufnahmegerät

Marantz PMD660

01 eng recording device

Marantz PMD660

02 Position

vor den Sprechenden

02 eng position

in front of the speaker

03 Aufnahmebedingungen

normal

03 eng recording conditions

normal

04 Vollständigkeit

Vorstellung der Referenten, Vortrag und Diskussion vollständig

04 eng completeness

full event from start to finish

05 Datenträger

nur Datei

05 eng hard medium

file only

06 Mediendateien

EV_UK_010.wav

06 eng filename

EV_UK_010.wav

07 Abtastrate

44,1 kHz

07 eng sampling rate

44.1 kHz

08 Bit depth

16 bit

09 Mono/Stereo

stereo

File: file:/G:/eng/Expertenvortrag/Audio/EV_UK_010.wav

2 Transcriptions

Segmented Transcription: EV_UK_0100

Description (Transcription)

segmented

true

File: EV_UK_010.exs

Basic Transcription: EV_UK_010

Description (Transcription)

Transkribierende/r / eng transcriber

Jennifer Beard

Transkriptionszeit / eng date of transcription

2011-01

Vollständigkeit / eng completeness

vollständig / eng complete

segmented

false

File: EV_UK_010.exb