Methods in Pragmatics
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Handbooks of Pragmatics

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Methods in Pragmatics

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Preface to the handbook series

Wolfram Bublitz, Andreas H. Jucker and Klaus P. Schneider

The series *Handbooks of Pragmatics*, which comprises thirteen self-contained volumes, provides a comprehensive overview of the entire field of pragmatics. It is meant to reflect the substantial and wide-ranging significance of pragmatics as a genuinely multi- and transdisciplinary field for nearly all areas of language description, and also to account for its remarkable and continuously rising popularity in linguistics and adjoining disciplines.

All thirteen handbooks share the same wide understanding of pragmatics as the scientific study of all aspects of linguistic behaviour. Its purview includes patterns of linguistic actions, language functions, types of inferences, principles of communication, frames of knowledge, attitude and belief, as well as organisational principles of text and discourse. Pragmatics deals with meaning-in-context, which for analytical purposes can be viewed from different perspectives (that of the speaker, the recipient, the analyst, etc.). It bridges the gap between the system side of language and the use side, and relates both of them at the same time. Unlike syntax, semantics, sociolinguistics and other linguistic disciplines, pragmatics is defined by its *point of view* more than by its objects of investigation. The former precedes (actually creates) the latter. Researchers in pragmatics work in all areas of linguistics (and beyond), but from a distinctive perspective that makes their work *pragmatic* and leads to new findings and to reinterpretations of old findings. The focal point of pragmatics (from the Greek *prãgma* 'act') is linguistic action (and inter-action): it is the hub around which all accounts in these handbooks revolve. Despite its roots in philosophy, classical rhetorical tradition and stylistics, pragmatics is a relatively recent discipline within linguistics. C. S. Peirce and C. Morris introduced pragmatics into semiotics early in the twentieth century. But it was not until the late 1960s and early 1970s that linguists took note of the term and began referring to performance phenomena and, subsequently, to ideas developed and advanced by Wittgenstein, Ryle, Austin and other ordinary language philosophers. Since the ensuing *pragmatic turn*, pragmatics has developed more rapidly and diversely than any other linguistic discipline.

The series is characterised by two general objectives. Firstly, it sets out to reflect the field by presenting in-depth articles covering the central and multifarious theories and methodological approaches as well as core concepts and topics characteristic of pragmatics as the analysis of language use in social contexts. All articles are written specifically for this handbook series. They are both state of the art reviews and critical evaluations of their topic in the light of recent developments. Secondly, while we accept its extraordinary complexity and diversity

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(which we consider a decided asset), we suggest a definite structure, which gives coherence to the entire field of pragmatics and provides orientation to the user of these handbooks. The series specifically pursues the following aims:

- it operates with a wide conception of pragmatics, dealing with approaches that are traditional and contemporary, linguistic and philosophical, social and cultural, text- and context-based, as well as diachronic and synchronic;
- it views pragmatics from both theoretical and applied perspectives;
- it reflects the state of the art in a comprehensive and coherent way, providing a systematic overview of past, present and possible future developments;
- it describes theoretical paradigms, methodological accounts and a large number and variety of topical areas comprehensively yet concisely;
- it is organised in a principled fashion reflecting our understanding of the structure of the field, with entries appearing in conceptually related groups;
- it serves as a comprehensive, reliable, authoritative guide to the central issues in pragmatics;
- it is internationally oriented, meeting the needs of the international pragmatic community;
- it is interdisciplinary, including pragmatically relevant entries from adjacent fields such as philosophy, anthropology and sociology, neuroscience and psychology, semantics, grammar, discourse and media analysis as well as literary studies;
- it provides reliable orientational overviews useful both to students and more advanced scholars and teachers.

The thirteen volumes are arranged according to the following principles. The first three volumes are dedicated to the foundations of pragmatics with a focus on micro and macro units: *Foundations* must be at the beginning (volume 1), followed by the core concepts in pragmatics, *speech actions* (micro level in volume 2) and *discourse* (macro level in volume 3). The following six volumes provide *cognitive* (volume 4), *societal* (volume 5) and *interactional* (volume 6) perspectives and discuss *variability* from a *cultural and contrastive* (volume 7), a *diachronic* (volume 8) and a *medial* (volume 9) viewpoint. The remaining four volumes address *methodological* (volume 10), *sociomedial* (volume 11), *fictional* (volume 12), and *developmental and clinical* (volume 13) aspects of pragmatics:

1. Foundations of pragmatics
Wolfram Bublitz and Neal Norrick
2. Pragmatics of speech actions
Marina Sbisà and Ken Turner
3. Pragmatics of discourse
Klaus P. Schneider and Anne Barron

4. Cognitive pragmatics
Hans-Jörg Schmid
5. Pragmatics of society
Gisle Andersen and Karin Aijmer
6. Interpersonal pragmatics
Miriam A. Locher and Sage L. Graham
7. Pragmatics across languages and cultures
Anna Trosborg
8. Historical pragmatics
Andreas H. Jucker and Irma Taavitsainen
9. Pragmatics of computer-mediated communication
Susan Herring, Dieter Stein and Tuija Virtanen
10. Methods in pragmatics
Andreas H. Jucker, Klaus P. Schneider and Wolfram Bublitz
11. Pragmatics of social media
Christian R. Hoffmann and Wolfram Bublitz
12. Pragmatics of fiction
Miriam A. Locher and Andreas H. Jucker
13. Developmental and clinical pragmatics
Klaus P. Schneider and Elly Ifantidou

Preface

Pragmatics is no doubt an unusually large and diverse subfield of linguistics. Over the last thirty or forty years it has grown from a small area for a few specialists to one of the dominating approaches. There is an ever increasing number of dedicated journals, textbooks and handbooks that testify to its importance and widespread appeal. The series of handbooks in which this volume appears in itself comprises 13 volumes and a total of almost 9,000 pages of overviews of specific areas of research within pragmatics. Each volume individually and the entire series as a whole make a strong claim for the broad diversity of objects, theories and research methods within the scope of pragmatics. And indeed, we strongly believe that this diversity, which some might perhaps see as a lack of unity and coherence, is, in fact, enriching and empowering. It is the opposite of a dogmatic adherence to one single methodology, one single theoretical approach or one single type of data of analysis. It is the aim of this volume to give an overview of the full breadth of research methods in today's pragmatics.

The handbook opens with three papers devoted to the basics of any pragmatic investigation. It presents general surveys of data types, methods and ethics of data collection, and the different methods of transcribing spoken language. The second part of the handbook comprises surveys of what we have decided to call "introspectional pragmatics" (see the introduction to part 2 for a justification of the term). Today's pragmatic research relies mostly on empirical methods, but important work is still being done within this research tradition, which goes back to some of the early luminaries of the field, the philosophers of language John L. Austin, John Searle and H. Paul Grice. The remaining three parts of the handbook are devoted to empirical methods of pragmatic research. Part 3 comprises overviews of experimentational methods in pragmatic research, such as discourse completion tasks, comprehension tasks and psycholinguistic production tasks. Part 4 on observational pragmatics looks at methods that focus on (usually relatively) small sets of data, such as ethnomethodology, conversation analysis or discourse analysis, while part 5 on corpus pragmatics looks at methods that rely on much larger data sets and usually employ computer tools for pragmatic analysis.

As editors of the current volume and as general editors of the entire series of handbooks it is our pleasure to thank Birgit Sievert and Barbara Karlson for their enthusiasm and unfailing support for both this volume and the entire series. We also thank Larssyn Staley for copy editing most of the current volume and Sophie Decher for compiling the index of names, and above all we would like to thank our contributors for their exemplary diligence, co-operation and patience.

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I. Introduction

1. Data in pragmatic research

Andreas H. Jucker

Abstract: This introductory chapter gives a broad-brush overview of the various types of data in the field of empirical research in pragmatics. It starts with a discussion of the various types of analytical units in pragmatics, taking as its starting point single utterances, which are contrasted to smaller units, such as deictic elements, stance markers, discourse markers, hedges and the like, as well as to larger units, such as sequences of utterances and entire discourses. Data for pragmatic research comes in different modalities. Spoken language and written language are the most obvious modalities, but digital language with its own complexities, sign language and non-verbal behaviour have recently become increasingly important as data for pragmatic research. Moreover, research data can be categorised on the basis of their location on four scalar dimensions. The first dimension concerns the amount of constraints on the interactants and the allowable contributions. The second dimension scales the level of fictionality or factuality of the language under observation. The third dimension assesses the amount of research interference in the production of the data, and the fourth dimension, finally, situates data according to the researcher focus between the two poles of small amounts of highly contextualized data to big data searches of largely decontextualized phenomena.

1. Introduction

There is no research in pragmatics without data. Data – in one form or another – form the essence of what pragmatic research is about. Research – at a very basic level – consists in the search for generalizable patterns in the data. This is true for large computer searchable corpora, it is true for transcriptions of multi-party conversations and it is also true for thought experiments. Thus the researcher must start by collecting data in order to answer a specific research question. The type of data and the method of collecting the data are closely connected to the research question that drives the analysis and to the theoretical framework within which the analysis is carried out. A certain method of data collection will typically provide a very specific type of data and lend itself to a specific way of analysing it, or – viewed from the opposite direction – a certain research question will require a specific set of data that needs to be collected and analysed with a specific method. In general, we can distinguish four different aspects of research: 1) type of data, 2) method of data collection, 3) analysis of data and 4) theoretical framework.

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This opening chapter will focus on the first of them, and the following chapter by Schneider will be devoted to the second.

Often, researchers justify and defend a particular analytical and theoretical framework while they take a certain type of data and a certain method of data collection for granted. A certain type of data and a certain method of data collection are regularly presented as the only viable option. Unbiased overviews of different data collection methods and discussions of their inherent strengths and weaknesses are relatively rare (but see, for instance, Kasper and Dahl 1991; Kasper 2000; Jucker 2009a; Leech 2014: chapter 9). This volume starts from the premise that there is no single best type of data and no single best method for collecting data for pragmatic analyses. In fact, all four aspects of research mentioned above have to be assessed in relation to specific research questions (Jucker 2009a; Golato 2017: 21).

In general, the data of any pragmatic research is language used in actual contexts, and language is ever pervasive. We interact with other people, we watch television, attend lectures, read newspapers, consult user manuals, recite poems, surf the Internet, interact via social media, look at advertising messages, listen to public announcements on the train and so on and so forth. For each and every one of us the mix of communicative situations that we encounter every day is different, but every one of us is embedded in a flow of language. Even in our thoughts and in our dreams language plays an important role. Potentially all these situations, all these instances of language use could be the object of scholarly investigations. However, pragmatics has a long history of preferring – explicitly or implicitly – some types of data over other types, giving preference to unconstrained spoken interaction in natural settings. Written language, on the other hand, has often been rejected as unsuitable for pragmatic analyses because it is secondary (see section 3.1 below). Fictional language, as for instance in novels or plays, has met even more resistance because of its artificiality (see Jucker and Locher 2017). But even certain types of spoken language are occasionally seen as less ideal or unsuitable for pragmatic analyses, in particular language produced in highly constrained communicative situations, such as courtroom or classroom interaction because of the clear assignment of communicative roles and the constraints on the allowable contributions for the different participants.

Such an approach to language data that distinguishes between more acceptable and less acceptable types of data is based on an understanding of language as a more or less coherent and homogeneous entity where variations are seen as deviations. In such a framework, the linguist's task is considered to be the description of the common core of a language, and for this task only certain types of language use, such as maximally unconstrained spoken interaction, qualify as legitimate data. However, today many, perhaps most, pragmaticists adopt a very different view of language. Language is inherently variable and heterogeneous, and linguists are interested exactly in this variability. Every type of language has to be assessed on its own merits, and every type of language, whether spoken or written, deserves

to be investigated. This shift in perspective from homogeneity to heterogeneity has been identified as one of a number of paradigm shifts in linguistics (see Traugott 2008: 208; Jucker and Taavitsainen 2013: 6).

This handbook categorically adopts a perspective that focuses on the heterogeneity of language and on a diversity of research questions, data types, analytical approaches and theoretical frameworks. Its contributions provide overviews of a wide range of different methods of data collection and data analysis. In this first chapter, however, I shall provide an overview of the different types of data that are used by pragmaticists while the second chapter by Klaus P. Schneider provides an overview of the different types of data collection methods.

The early philosophers of language and pragmaticists, Austin and Searle, relied on their intuition in their seminal work on speech acts. Their data consisted of their own intuition about the use of language. As any competent native speaker, they knew what it meant to make a promise, to ask a question or to give advice, and they used this intuitive knowledge to dissect the relevant elements, what Austin (1962) called the felicity conditions, of these speech acts. In the philosophical tradition, intuition is an important source of data. According to Schneider,

> the word 'intuition' designates an uninferred or immediate kind of knowledge or apprehension, as opposed to discursive knowledge, mediated by accepted methods of demonstration. (Schneider 1995: 606)

For philosophers, it is important to discuss the possible foundation of such intuitive knowledge. "Introspection", according to Schneider, is a special type of intuitive knowledge. The objects of such knowledge are understood as being situated on an inner stage of a person. From there they can be retrieved by "looking inside" (Schneider 1995: 606). Feelings, emotions or the workings of our own native language are examples of such intuitive knowledge.

In the field of pragmatics, it is useful to make a terminological distinction between "intuition" or "intuitive knowledge" on the one hand and "introspection" on the other. Intuition here refers to the knowledge that a researcher brings to the task of investigating his or her native language, together with the ability to fabricate test sentences that can be assessed on the basis of their grammaticality or accessibility. The term "introspection", on the other hand, has been used for a long time in the fields of cognitive psychology and (applied) psycholinguistics to refer to experimental methods, involving thinking-aloud protocols and other elicitation techniques (see chapter 2 by Schneider). The papers in a volume edited by Færch and Kasper (1987), for instance, use the term introspection for a range of methods adopted from cognitive psychology, such as verbal reports by learners about their thought processes (see also Clark, this volume).

The terminological distinction helps to differentiate between the work of the language philosophers, who use their own intuitive knowledge about their native language to theorize about the use of language, and the work of experimental prag-

maticists, who use a range of elicitation techniques to access the native speaker introspection of the participants of their experiments. In a wider sense, all experimental work can be seen as accessing the introspection of native speakers. In production experiments, such as dialogue construction tasks or discourse completion tasks the elicited data consist of the language use that the participants consider to be typical or at least appropriate for a given situation. In comprehension and evaluation experiments, the introspective knowledge is accessed in a somewhat more direct form.

Before I turn to the different types of naturally occurring data, I will provide an outline of the different units of analysis in section 2. Section 3 will then be devoted to the different modalities of naturally occurring data and the different ways of conceptualizing these differences. It will cover not only the difference between spoken and written language but also the status of online and digital data, and the importance of sign language, i. e. the language systems used by deaf communities, and gestures as an additional layer of face-to-face communication. Section 4 deals with important dimensions or scales of observational data. It deals with constrained versus unconstrained language, and with the distinction between fictional and factual data. It also addresses the question of researcher interference. And it considers the difference between small snippets of data and huge corpora. This last dimension does not really concern the type of data under investigation but the research focus and whether the researcher attempts to discern communicative patterns on a micro scale of a short extract of a conversation, for instance, or whether the patterns are searched for across millions or even billions of words of running text.

2. Units of analysis

Utterances are – in a sense – the most basic units of analysis in pragmatics. They were the focus of the early language philosophers who asked how utterances can be used to change the world. Words are used to build utterances, which are used as speech acts to perform actions. Utterances are also the focus of researchers who are interested in how conversationalists interpret what they hear. Grice (1975), for instance, provides an account of how people systematically read between the lines of the utterances they hear; and Sperber and Wilson (1995) develop a comprehensive theory of utterance interpretation. Utterances are also seen as the main building blocks of larger structures, e. g. as turns-at-talk, where the focus is on the micro context of utterances and on the question of how one utterance is shaped by and helps to shape its immediate context. They are also seen as building blocks in layered hierarchies of conversational interactions (e. g. Sinclair and Coulthard 1975; Schiffrin 1987). In some cases, the focus of the pragmatic analysis is on units that are smaller than utterances, e. g. deictic elements, discourse markers,

stance markers and pragmatic noise. In other cases, it is on units that are larger than utterances, e. g. on entire discourses or texts or even on discourse domains. In this section, I would like to disentangle the different perspectives and give an overview of the units of analysis in pragmatics (see also Jucker 2008).

2.1. Utterances

The pioneering work of the language philosophers and early pragmaticists, Austin (1962) and Searle (1969), focused on what they called "speech acts", i. e. on utterances that are used to perform actions. Since this early work, the investigation of speech acts has been one of the most important pillars of pragmatic research. The early work relied on philosophical methods and the researcher's intuition about the nature of particular speech acts and how they are used to perform specific actions. Later work employed experimental methods, such as discourse completion tasks (e. g. Blum-Kulka, House and Kasper 1989), role plays and role enactments (e. g. Trosborg 1995), and, more recently, also corpus-linguistic methods (e. g. Deutschmann 2003). But in all cases the focus lies on single utterances and on how these utterances are used to perform specific actions. In some cases, the focus is extended to neighbouring speech acts. Compliments, for instance, regularly elicit responses, and some research, therefore, focuses on both elements of the pair and their sequential organisation (e. g. Golato 2005), but much of the research on compliments and compliment responses nevertheless focuses exclusively on either one or the other of the pair (see overview in Alfonzetti 2013).

Grice (1975) adopted a different perspective. He did not ask how utterances are used to perform actions but rather how conversationalists interpret utterances. How are listeners able to systematically read between the lines of what other people say? Utterances regularly mean more than what they explicitly say; they implicate additional meanings. Grice's Cooperative Principle is an attempt to give a systematic account of how listeners figure out the implicatures of individual utterances. Sperber and Wilson (1995), in their Relevance Theory, extended these questions to utterance interpretation in general. Listeners use pragmatic reasoning not only to recover implicatures from the utterances that they hear, but much more basically to work out even the explicitly communicated meaning of utterances. Blakemore's (1992) introductory textbook is even entitled *Understanding Utterances: An Introduction to Pragmatics*. Utterances, according to this theory, are underdetermined. They are ambiguous and vague. Nevertheless in actual situations, conversationalists generally pick out the intended meaning. They disambiguate and enrich the explicit content of utterances and come up with pragmatically meaningful interpretations of these utterances.

Utterances are also the building blocks of larger units. On a micro level, researchers have focused on the immediate context of utterances. It was the ethnomethodologists Sacks, Schegloff and Jefferson (1974), in particular, who initi-

ated a large body of research on the minutiae of the turn-taking system. They were interested in how one utterance – or turn-at-talk – is followed by another such unit with a minimal gap and no or minimal overlap between the units. This strand of research focuses on the transition between utterances and on the micro context in which utterances occur.

Researchers in this theoretical framework also noted that certain types of utterances tend to occur in pairs, so-called "adjacency pairs". Questions are followed by answers; greetings by greetings; invitations by acceptances or refusals and so on. This kind of research focuses on the pairings of utterances and on preferred or dispreferred combinations (see for instance Bilmes 1988; Schegloff 2007; Clift 2014). Dispreferred reactions, such as refusals or rejections, are generally clearly marked, while preferred reactions, such as acceptances, are generally unmarked. Thus, conversation analysis does not deal with utterance acts alone but with the sequencing of such acts, their interaction and the principles of their ordering.

With a slight shift of focus, utterances can also be seen as the building blocks of larger structures. Sinclair and Coulthard (1975), for instance, propose an analysis of classroom interaction consisting of a layered hierarchy (see e. g. Edmondson 2014). In this system, single utterances, and sometimes even parts of utterances are the smallest units, the so-called acts. They combine to form moves, such as "initiation", "response" or "feedback". Moves by different interlocutors combine to form exchanges. The three moves initiation, response and feedback, for instance, together form an exchange which is typical for classroom interaction. The teacher asks a question or uses some other way to initiate a reaction by the pupils. One of the pupils responds and the teacher gives feedback on the response. At a higher level, several exchanges combine to constitute transactions, which typically start with a preliminary exchange and – after a series of medial exchanges – end with a terminal exchange. Several transactions together, finally, make up an entire lesson.

2.2. Micro units (smaller than utterances)

While utterances may be seen as the most basic units of analysis in pragmatics, pragmaticists regularly focus on smaller elements as well. These elements have in common that their description requires pragmatic explanations, i. e. explanations that take into account the way in which these elements are used in actual situations and how they link the utterance in which they occur to the communicative situation in which they are used. Typical examples are deictic elements, stance markers, discourse markers, hedges and pragmatic noise. Deictic elements include a wide and diverse range of linguistic expressions which link the utterance in which they occur to its larger context (Levinson 1983: chapter 2; Chapman 2011: 39–42; Hanks 2011). Expressions like *now*, *then*, *next Thursday* or *this evening* connect the utterance in which they occur to its temporal frame; expressions like *here*, *on this side*, *behind*, *come* and *go* connect it to its spatial frame; and expressions like

but, *therefore*, *however*, *in conclusion* and *anyway* connect it to the discourse in which it occurs, to mention just the most important categories.

Stance markers are linguistic elements by which speakers convey their evaluations, personal attitudes and emotions as well as their level of commitment towards propositions (for an overview see Biber et al. 1999: chapter 12; Keisanen and Kärkkäinen 2014; Gray and Biber 2015; Landert 2017). They are a diverse group and – depending on the specific perspective – have been known under a variety of names, such as modality markers, subjectivity or intersubjectivity, hedges and so on. Typical linguistic elements that convey stance are modal and semi-modal verbs (e. g. *might* or *have to*), adverbials (adverbs, such as *obviously* or *fortunately*, or prepositional phrases, such as *in actual fact*) and complement clauses (e. g. *it's amazing that*). But stance can also be expressed through evaluative word choice and even with paralinguistic and non-linguistic means, including tone of voice, loudness, body posture, facial expression and gestures.

Discourse markers, too, comprise a heterogeneous set of elements that have received a lot of attention from pragmaticists with a range of different definitions and different terms. Schiffrin (1987: 31) defines them as "sequentially dependent elements which bracket units of talk", while Fraser (1999: 931) defines them as signalling "a relationship between the interpretation of the segment they introduce, S2, and the prior segment, S1". He further claims that "they have a core meaning, which is procedural, not conceptual, and their more specific interpretation is 'negotiated' by the context, both linguistic and conceptual" (Fraser 1999: 931; see Beeching 2016: chapter 1 for a discussion of different terms and definitions).

Pragmatic noise is a term that was introduced by Culpeper and Kytö (2010: chapters 9 to 12). They use it to refer "to items such as AH, HA, HAH, O, OH, HO, UM, HUM, as well as reduplicative forms like HA, HA or HA, HA, HA" (Culpeper and Kytö 2010: 199). They acknowledge that the term overlaps with the category of interjections, but it also includes laughter, pause-fillers and hesitation markers. Culpeper and Kytö investigate a corpus of Early Modern English dialogues, which means that they have to focus on the written representations of such elements in their data of plays and court records. But such elements have recently received more and more attention from researchers working on present-day materials (for an overview of work on pauses and hesitations see, for instance, Stenström 2011). Reber (2012) provides a detailed analysis of how speakers display affectivity in social interaction with a range of elements that she calls "sound objects", i. e. interjections, such as *oh*, *ooh* and *ah* or paralinguistic signals, such as whistles and clicks.

Thus pragmatic analyses regularly focus on linguistic elements that are smaller than utterances and indeed on paralinguistic and non-linguistic elements. But there is also a large body of work that focuses on entities larger than utterances.

2.3. Macro units (larger than utterances)

Utterances occur in contexts, and – as I have pointed out above – some researchers focus on the contextualisation of individual utterances into larger entities, be that as pairs of utterances or as entire discourses that are made up of structured sequences of utterances. Some pragmatic research, however, starts from a more global perspective and focuses primarily on larger units, which are variously called discourse or text. The term text is often restricted to written language while the term discourse is used for spoken language, but both terms are notoriously inconsistent across different research traditions (see Fetzer 2014 for an overview of different conceptualisations of the term discourse and Esser 2014 for an overview of taxonomies of discourse types).

A particular strand of this research goes back to the 1970s and 1980s and was originally labelled "textlinguistics". It was an attempt to seek linguistic regularities beyond the sentence boundaries, which manifested itself explicitly in book titles such as *A Text Grammar of English* (Werlich 1982). Werlich develops a typology of different types of text as well as an outline of the principles of text construction, their function and the contexts of their occurrence. In a similar way, de Beaugrande and Dressler (1981) investigate how texts are used in communication. Can we distinguish between acceptable and unacceptable texts in the same way that we can distinguish between grammatical and ungrammatical sentences? Which elements provide the cohesive ties that keep the sentences of a text together and render the text coherent? This tradition was particularly strong among German speaking scholars (see for instance the numerous introductions to textlinguistics written in German, e. g. Coseriu 1980; Sowinski 1983; Heinemann and Viehweger 1991; or more recently Schubert 2008). Many scholars tried to apply textlinguistic questions about the structure and function of texts to specific genres or text types. Suter (1993), for instance, focuses on wedding reports in local English newspapers. Wedding reports are descriptions of local weddings that have taken place in the week preceding the publication. The analysis focuses on the situational context in which these articles appear, the text production process, their content, thematic structure and their communicative function. Suter adds a diachronic dimension by contrasting wedding reports published in the 1930s to reports published in the 1980s. Auf dem Keller (2004) provides a similar analysis of textual structures in advertisements for books and medical supplies in eighteenth-century English newspapers. And Jacobs (2014) investigates press releases, i. e. texts from businesses, government agencies or political parties issued to the media in the hope of wider publicity.

The term discourse can not only be used to refer to the macro unit that is larger than the individual utterance, but also in a wider sense to refer to a discourse domain. In this sense, it refers to the entire range of linguistic practices in a particular, socially defined domain, as, for instance, in the discourse of sports or the discourse of science (Jucker 2008: 901; see also Henke 2005). Such domains are

large and overlapping. Historical pragmatics has a long tradition of investigating such domains, in particular, the discourse of science and mass media discourse (see, for instance, Jucker 2005; Claridge 2010; or the papers in Brownlees 2006 and Jucker 2009b).

In line with this chapter, this overview of units of analysis in pragmatics has focused on data units, such as utterances, discourse markers or entire discourses. Such a perspective does not cover the entire breadth of pragmatic research because pragmatic research does not always take a particular linguistic unit as a starting point. A good example would be the large area of politeness and impoliteness research. Here, the starting point is not a particular linguistic unit and how speakers use this unit in interaction, but rather particular types of interaction and the effects that such interaction has on the participants. This kind of research looks into the effects of communication and searches for elements that create these effects, whether they are words, such as terms of address, specific mitigators or speech acts (see e. g. Watts 2003). Cognitive approaches likewise do not take a linguistic unit as a starting point. They ask about the interrelationship between language and cognition (see Schmid 2012). Such approaches are interested in cognitive processes and how they are reflected in linguistic structures. They do not set out to analyse specific linguistic items, such as deictic elements, even if deictic elements may play a prominent role in their argumentation (see for instance Levinson 2003).

3. Medium of transmission

According to a simplistic view of language, there is a straightforward distinction between spoken language and written language. In one case we speak and listen, in the other we write and read. However, the situation is considerably more complex in particular for research in pragmatics. In the case of communication via electronic devices, such as computers, tablets and mobile phones the complexity increases even more. In addition to the spoken and the written mode, there is also sign language, which uses hand shapes and movements to communicate, and when we talk to each other, we also communicate with gestures, with our posture, with facial expressions and so on. The current section gives an overview of the important distinctions and introduces some of the models that have been developed to conceptualise them.

3.1. Spoken versus written language

The relationship between spoken and written language can be and has been described in many different ways. The written language, for instance, can be seen as derivative and secondary. By and large, all living languages have a spoken form but not all of them have a written form. Thus, the linguist's main task – one might

argue – involves the description of the spoken language. However, the advances of corpus linguistics have had the effect of shifting the primacy of description to the written language because language that already exists in written form is much more readily available for corpus compilation. Early corpora, such as the Brown Corpus or the LOB Corpus consisted entirely of written language, and even later corpora, such as the BNC or COCA only contain relatively small samples of transcribed spoken language. Biber et al.'s (1999) standard grammar of the English language treats the spoken language of conversation as a register next to fiction, news and academic texts. Biber (1988) investigated the variation between speech and writing in a systematic way. He contrasted large sections of the London-Lund corpus of spoken English and the LOB corpus of written English on the basis of features with specific discourse functions which he clustered into textual dimensions in order to evaluate specific texts according to their informational density, or their affective and interactional content.

It is probably fair to say that for a long time pragmaticists – in contrast to corpus linguists – ignored written language because of its secondary nature. However, there were also early attempts to think more carefully about the relationship between spoken and written language from a communicative or pragmatic point of view. Koch and Oesterreicher (1985, 2007; see also Koch 1999; Jucker and Taavitsainen 2013: 21–22), for instance, developed a model to clarify and visualise the distinction. They take the mode of transmission to be a dichotomy between phonic and graphic. Language is transmitted either in the phonic code or in the graphic code. In addition to this dichotomy, there is a scale between the opposite poles of communicative immediacy and communicative distance. The two codes are not restricted to one end of this scale but they have preferences. The graphic code has a preference for situations and genres of communicative distance while the phonic code has a preference for situations and genres of communicative immediacy. This is schematically illustrated in Figure 1.

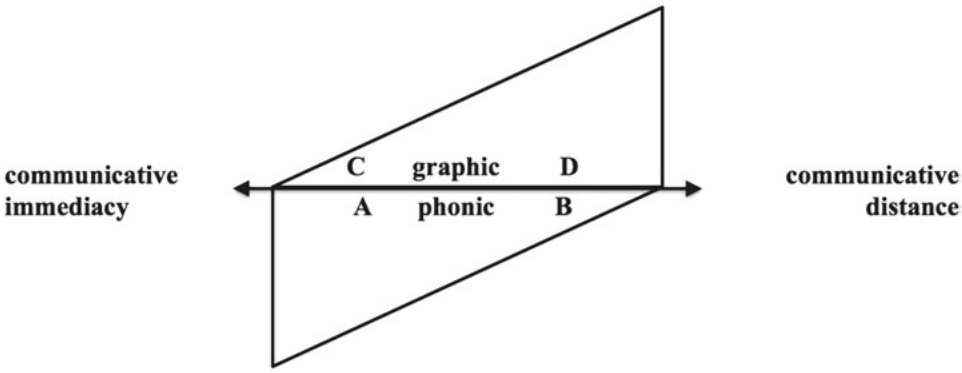

Figure 1: Koch and Oesterreicher's model of communicative immediacy and distance (Koch 1999: 400)

In this model, communicative immediacy is characterized by the parameters in the following list (Koch 1999: 400):

(a) physical (spatial, temporal) immediacy
(b) privacy
(c) familiarity of the partners
(d) high emotionality
(e) context embeddedness
(f) deictic immediacy (*ego-hic-nunc*, immediate situation)
(g) dialogue
(h) communicative cooperation of the partners
(i) free topic development
(j) spontaneity

Communicative distance, on the other hand, is characterized by the opposite values of these parameters, i. e. physical distance, lack of familiarity, low emotionality and so on. The four letters in the two triangles represent more typical or less typical situations. The letter A stands for communicative exchanges in the phonic code that are characterized by communicative immediacy, that is to say typically a face-to-face interaction between conversationalists who know each other well. The situation is informal, private, not public, and spontaneous. Topics can be freely chosen and changed and so on. But there are also communicative exchanges in the phonic code that are characterized by communicative distance; area B in the lower triangle. This applies to monologues, such as lectures, in formal, public situations with conversational partners who do not know each other well, and in situations that define specific topics and topic developments. Communicative immediacy is more typical for the phonic code. This is represented by the larger area A. Communicative distance is less typical, represented by the smaller area B. Most communicative situations in the phonic code are situated somewhere along the scale. Telephone conversations lack only a few of the communicative immediacy features of face-to-face conversations, while job interviews already show many of the communicative distance features of very formal, monologic situations.

The letters C and D stand for situations of communication in the graphic code. C represents the less typical situation of graphically communicated messages in situations of communicative immediacy. At the time when Koch and Oesterreicher developed their model this referred mainly to printed interviews, private letters, and entries in a personal diary. D represents the more typical situation of graphically communicated messages in situations of communicative distance. Legal texts, academic writing or articles in high-brow newspapers would be typical examples. Here, too, there are a lot of situations that are located between the two extremes. Today's situation with a wealth of typed messages transmitted electronically the situation has changed considerably. Communication via hand-held devices, via

social media and so on provide an entirely new situation for area C of communicative immediacy in the graphic code.

For researchers in historical pragmatics the relationship between the spoken and the written language is particularly important. In the early days of historical pragmatics, researchers often felt obliged to apologize for the use of written data in pragmatically driven investigations. In the absence of genuinely spoken data, they searched for instances of written language that were as close as possible to spoken language, such as dialogues in plays or transcripts of courtroom interactions. Rissanen (1986: 98), for instance, argued that "texts which record speech for some reason or another, are closer to spoken language than texts which are not based on actual speech". In fictional writing, the situation is even more complex. Authors regularly include oral features into their writings to give the dialogues of their characters an air of authenticity even if the features do not directly correspond to features attested in actual spoken discourse. Scripted and performed interactions between actors in plays also differ from normal everyday interactions in systematic ways (see Bublitz 2017).

In an early paper on historical pragmatics, Jucker (1998) sketched the various ways in which written language can be related to spoken language. Even genuinely written data can be classified into instances that tend to be monologic because there is normally little opportunity for the readers to interact with the writer and dialogic instances where such interaction is possible and expected.

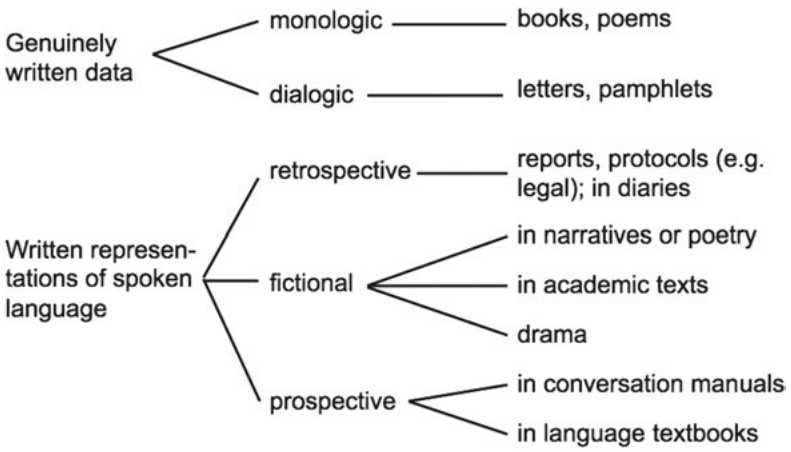

Figure 2: Data in historical pragmatics: the "communicative view" (Jucker 1998: 5, see also Jucker and Taavitsainen 2013: 23)

Written representations of spoken language can be separated into three different types. Reports, protocols and diaries regularly report actual spoken interactions, while conversation manuals and language textbooks record (invented) sample con-

versations that are meant to be used by the readers on future occasions. A third type is made up by fictional texts that record fictional conversations, for instance in play texts or in narrative literature but also, historically, in academic texts that were often written as fictional conversations between a master and a student (see also Culpeper and Kytö 2000 for a similar model and Kytö 2010 for an overview).

Landert and Jucker (2011) build on Koch and Oesterreicher in order to develop a model that adds two more dimensions to the dichotomy of phonic versus graphic and the scale of linguistic immediacy: the scale of accessibility and the scale of privacy. The distinction between phonic and graphic is not visually represented in their model. They argue that their model applies both to messages transmitted in the phonic code and to messages in the graphic code. In Figure 3, they provide prototypical examples from the sphere of graphically transmitted messages.

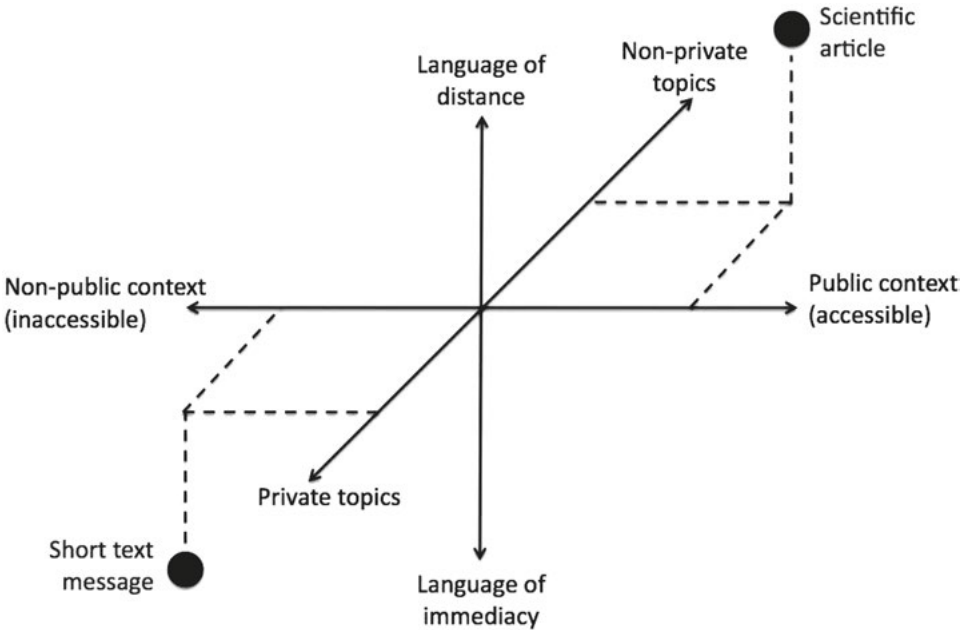

Figure 3: Enriched communicative model (Landert and Jucker 2011: 1427)

The scale of accessibility is defined by the ease of access to a particular message by others. In non-public situations, only very few people have access to a message. A typical message would be a short text message transmitted via a mobile phone intended for one single addressee. Such a message typically – but not necessarily – deals with private topics, which Landert and Jucker (2011: 1427) define as topics that "affect single individuals or very small groups of people", while non-private topics are topics "that lack this concentration on a private individual or a very small group". With this terminological move they disentangle the privacy of topics

from the accessibility of messages. This makes it possible, for instance, to describe more accurately what may be seen as a tendency in some sectors of today's mass media to make the private lives of celebrities public. The topics and issues remain private, according to this terminology, even if they are made public, i. e. publicly accessible. Scientific articles are prototypical examples of messages in the graphic code which deal with issues that are not restricted to a small group of individuals and which are made publicly accessible for a larger range of people.

3.2. Online/digital data

The communicative affordances of computer technology that have been developing over the last few decades have added new dimensions to the distinction between spoken and written language. To some extent there is still the dichotomy of the phonic code and the graphic code. We use computers and handheld devices to communicate with our voice (e. g. Internet telephony), and we use the same devices for all sorts of communication in the graphic code. However, the new technology has added an additional layer of affordances and has, therefore, opened up a large range of new research opportunities.

A clear terminology has not yet established itself for this type of communication. The most widespread term is probably "computer-mediated communication". It was already well-established in the 1990s and popularized by Herring (1996). There is a journal which uses this designation, the *Journal of Computer-Mediated Communication*, and a dedicated handbook (Herring, Stein and Virtanen 2013), entitled *Pragmatics of Computer-Mediated Communication*. But there are a host of other terms, such as "electronically mediated communication" or "electronic discourse", "digitally mediated communication" or "digital communication", "Internet-mediated communication", and "keyboard-to-screen communication" (see Crystal 2011: 1–3; Jucker and Dürscheid 2012: 35–37; or Locher 2014: 555–557 for a discussion of terminology). The different terms focus on different aspects of this special type of communication and they are not always entirely co-extensive in what they include or exclude. Herring's (2007: 1) definition of computer-mediated communication as "predominantly text-based human-human interaction mediated by networked computers or mobile telephone" explicitly includes communication via mobile phones, which begs the question whether mobile phones can be seen as computers. At the time when Herring proposed this definition, this was perhaps less clear than it is today. Terms such as "electronic discourse" (Locher 2014), "digital communication" (Tagg 2015) or "keyboard-to-screen communication" (Jucker and Dürscheid 2012) avoid the issue of classifying the electronic devices used to send and receive messages as computers or not and focus on the way in which the signals are transmitted or how they are encoded and received.

There are several important features that distinguish digital data from spoken and from written data. Spoken communication typically takes place in a situation

of synchronicity. The interactants are co-present, if not spatially then at least temporally (e. g. on the telephone). Messages are encoded and decoded at the same time. Written communication, on the other hand, typically takes place in an asynchronous situation. Messages are normally decoded only some time, perhaps even a very long time, after having been encoded. Computer-mediated communication uses the graphic code but it can be more or less synchronous. Jucker and Dürscheid (2012: 39) argue that the term "quasi-synchronous" is more appropriate for this type of communication. It covers all cases in which interactants exchange messages in quick succession, e. g. turn-by-turn in Facebook chat, or message-by-message in WhatsApp conversations. As such the term "quasi-synchronous" has fuzzy boundaries and coincides more or less with the term "synchronous" in cases where messages are transmitted not turn-by-turn, but stroke-by-stroke. And it coincides more or less with the term "asynchronous" in the case of, for instance, email messages that are exchanged in relatively quick succession.

Two further distinctions that are blurred in many forms of digital data are the oppositions between monologic and dialogic, and the opposition between discourse or text and utterance. Written communication tends to come in the form of monologic texts, while spoken communication most frequently comes in the form of dialogic utterances. For digital data, such a distinction is much less useful.

> For chat contributions, to take one specific example, neither the term "text" nor the term "utterance" seems to fit. They are realized in the graphic code, and thus may resemble a text. But they are also spontaneous, unplanned, context embedded (e. g. "What are you doing now?"), short and situated in a dialogic (more precisely: in a quasi-synchronous) context, and thus are more like prototypical utterances. (Jucker and Dürscheid 2012: 40)

As an alternative, Jucker and Dürscheid (2012: 42–44) propose the term "communicative act". Communicative acts can have a high expectation of being taken up and responded to by an interactant (in which case they are more utterance-like) or – at the other end of the scale – a small expectation of being taken up and responded to (in which case they are more text-like). Examples are chat contributions, which have a high expectation of uptake even if some contributions occasionally go unanswered, and user manuals, which have a very low expectation of uptake even if some frustrated user might occasionally try to get in contact with the author of the manual to complain about faulty or inscrutable instructions.

Digital data is further differentiated from traditional written data in its fluidity. Written texts, and in particular printed texts, are characterized by a high level of fixity. Once a text has been printed, it cannot easily be changed. Handwritten corrections within a printed text are easily recognizable as such. New printings of books are, of course, possible and common but each printing stays basically unalterable and fixed in its original form. This is not true for digital data. Texts that are stored digitally can easily be modified. Online news media, for instance, can update their texts on a minute-by-minute basis. This is why it has become standard

to add a time stamp to quotations of electronic texts. There is no guarantee that the text is still the same when it is checked some time later.

Finally, digital data are characterized by a vastly increased multimodality. Computer-mediated communication regularly combines language, images, memes, sounds and music. Still pictures and video clips have become very important in many forms of computer-mediated communication, especially on social-network sites or instant messaging applications, such as Facebook, Instagram, WhatsApp or Snapchat (see boyd 2014; Hoffmann and Bublitz 2017).

3.3. Sign language data

The term sign language is here used to refer to a class of languages used by deaf communities, such as German Sign Language or American Sign Language. They are equally complex in their structural features as spoken language, and, of course, they are not to be confused with the improvised gestures used by tourists in attempts to communicate with locals with whom they do not share a common language. In contrast to popular opinion, sign language is not only conveyed through hands but also through body language and facial expressions (Sutton-Spence and Woll 1999: 81; Quinn 2017: 55).

> Signs are, of course, a subset of human gestures, just as words are a subset of human vocalizations. Signs are distinguished from gestures by having an internal structure composed of elements which form a system of contrasts, and whose usage is rule-governed. (Woll and Kyle 1998: 855)

Like spoken language, sign language is ephemeral. If it is not recorded, it vanishes without a trace. Both spoken language and sign language are encoded and decoded at the same time, i. e. with synchronous production and reception. While the modality of spoken language is auditory, the modality of sign language is visual-spatial (Quinn 2017: 55). Relatively little is still known about the history of sign language in general and of specific sign languages. Recordings have only become available during the twentieth century. There are older accounts of deaf people who used signs to communicate (going back to Plato), but records or detailed descriptions of the signs that were used are missing (Woll and Kyle 1998: 855). One problem for the investigation of sign languages is that there is no generally accepted notation system. Moreover, photographs and drawings can only reproduce still pictures, and superimposed arrows can only provide a very limited rendering of the dynamics of signing and the way in which hand signs are accompanied and supported by body language and facial expressions (see, for instance, Sutton-Spence and Woll 1999: xi–xxi).

Pragmatic research on sign languages covers a wide spectrum. Groeber and Pochon-Berger (2014) as well as Cibulka (2016) deal with the peculiarities of turn-taking in signed conversations in Swiss German and in Swedish Sign Lan-

guage respectively. They focus on different types of holds, that is to say the freezing of a sign in turn-final position. The movement of the hand is momentarily suspended while hand shape and hand position are maintained. They show how holds perform important functions in the taking of turns and in the projectability of the next turn. Roush (2011), on the other hand, investigates issues of politeness and impoliteness in American Sign Language. In contrast to Groeber and Pochon-Berger (2014) and Cibulka (2016), who used a corpus of video recordings of signed interactions, he used an ethnographic approach by observing native signers in public gatherings of deaf communities and taking copious field notes (Roush 2011: 338). He focused in particular on metadiscursive terms and markers which were used to evaluate or describe the ongoing interaction. Mapson (2015) used data collected through semi-structured group discussions in order to analyse the ways in which professional interpreters developed their awareness of politeness in British Sign Language.

Kearsy, Smith and Zwets (2013) analysed the framing of constructed actions in British Sign Language narratives, and they used elicitation techniques in order to collect their data. 15 participants with British Sign Language as their preferred language were shown four short film clips and asked to retell the narratives to another deaf native signer of British Sign Language (one of the authors of the article) (Kearsy, Smith and Zwets 2013: 125).

3.4. Data of nonverbal behaviour

The importance of gestures and other forms of nonverbal behaviour in communication cannot be overestimated. As Kendon (2014) points out:

> Willingly or not, humans, when in co-presence, continuously inform one another about their intentions, interests, feelings and ideas by means of visible bodily action. For example, it is through the orientation of the body and, especially, through the orientation of the eyes, that information is provided about the direction and nature of a person's attention. (Kendon 2014: 1)

This opens up a vast range of research opportunities for pragmaticists, but there are various ways in which the scope of research can be focused on a subset of the visible bodily actions. The quotation above restricts the focus to those visible bodily actions that have an informative effect on a co-present human being, whether the effect was intended or not. The scope can be further reduced by restricting it to bodily actions that come with a communicative intention by the producer, that is to say actions that are meant to communicate. But this is a very fuzzy distinction and difficult to apply systematically. A more systematic restriction focuses on gestures that are used as part of an utterance, as for instance the use of hands in pointing to an object, in indicating the size or shape of an object or in emphasising what is being said. Cienki (2017) draws the line in a similar way. He focuses on

"movement of the hands and forearms by speakers when the movement is not part of an instrumental action (such as holding a pen and writing) and does not involve touching oneself or another (as in scratching one's head or patting someone on the back)" (2017: 61).

> We colour and flavour our speech with a variety of natural vocal, facial and bodily gestures, which indicate our internal state by conveying attitudes to the propositions we express or information about our emotions or feelings. Though we may be aware of them, such behaviours are often beyond our conscious control: they are involuntary or spontaneous. (Wharton 2009: 1)

Research of gestures and nonverbal behaviour shares some of the problems of research of sign languages. There is not a sufficiently established way of capturing the dynamic, spatio-temporal nature of gestures and other bodily actions in sufficient detail, but the problems are exacerbated for gestures because of the fuzzy nature of bodily actions that are relevant for communication (see Kendon 2014: Appendix 1 for a set of transcription conventions for gestural actions; see also Streeck 2009).

4. Observational data: Four dimensions

In the previous section, I focused on the different modalities of language and their relevance for pragmatic research. In this section, the focus shifts to four scalar dimensions that characterize observational data. The first dimension is the situational dimension, which distinguishes between speech contexts that are highly constrained in terms of what participants are expected – or indeed allowed – to say at specific points in the interaction and speech contexts that impose few – if any – such constraints on the contributions. The fictionality dimension distinguishes between fictional texts on the one hand and factual texts on the other. The third dimension distinguishes between different levels of researcher interference which ranges from data that came into existence without any researcher intervention and data that were purposefully elicited by a researcher. The fourth dimension, finally, distinguishes between researcher perspectives that focus on very small snippets of data to those that focus on a new generation of mega corpora. The first two dimensions are concerned with the nature of the data itself while the latter two are concerned with the researchers and their influence or perspective on the data.

All these dimensions are often invoked – explicitly or implicitly – in discussions about the suitability of certain types of data for specific research questions or even for pragmatic research in general. Here, they are not presented in an evaluative sense. There is no claim that one end of a particular scale is, in general, better than the other end, even though it may turn out to be better suited to specific types of research questions.

4.1. Situational dimension: Constrained versus unconstrained

Levinson (1979) defined the notion of "activity type" in terms of the allowable contributions and the constraints it imposes on participants, setting and so on:

> In particular I take the notion of an activity type to refer to a fuzzy category whose focal members are goal-defined, socially constituted, bounded, events with constraints on participants, setting, and so on, but above all on the kinds of allowable contributions. Paradigm examples would be teaching, a job interview, a jural interrogation, a football game, a task in a workshop, a dinner party and so on. (Levinson 1979: 368)

However, it seems clear that not all the activity types that he gives as examples are subjected to the same level of constraints. They can conveniently, but admittedly somewhat impressionistically, be situated on a scale from highly constrained situations to situations with relatively few constraints. At one end of the scale, we find speech situations that assign clear roles to the different participants and impose a large amount of restriction on the allowable contributions. Teaching, job interviews and jural interrogations are obvious examples. In each case the participants are assigned roles that come with very specific expectations as to the contributions that they are to make in this situation. Who asks questions? Who answers them? Who introduces new topics? And so on. At the other end of the scale we find speech situations in which there are no discernible role differences assigned by the situation. The dinner party mentioned by Levinson may be situated close to this end even though there are, of course, differences between the rights and obligations of the host or hostess and the guests. Other obvious examples might be a chat among friends on a long car drive, the locker room exchanges among the members of a sports team before or after a match, or the interactions of a group of children on the playground. In all these situations, there are also expectations as to what are appropriate or inappropriate contributions to the interaction, and some participants play a more important role while others play only subordinate roles. But the roles the individuals adopt are the result of the constellation of participants. They are not imposed by the speech situation in the way that an interview assigns differential roles to the interviewer and the interviewee.

Between the extreme cases there are interesting intermediate cases, such as a football game and a task in a workshop. A game of football imposes specific speaking rights to the referee, the coach and the team captain and imposes sanctionable restrictions on the allowable contributions by all the participants. But in contrast to interviews, spoken contributions are of subordinate importance, and there are few restrictions on the exchanges between the players themselves. A task in a workshop might also impose some restrictions on the allowable contributions, depending on the complexity of the task and the roles of the participants (e. g. supervisor and apprentice, etc.). An additional example would be a chat during a coffee break at a place of work. The situation itself may impose relatively few constraints but the

larger situation of the workplace with its differences in hierarchy may impose its own constraints on who initiates new topics and who breaks up the coffee break to go back to work.

The situational dimension is occasionally invoked in an evaluation of data in that unconstrained data is considered to be more genuine and, therefore, more likely to reveal the intricacies of conversational interaction without the interference of constraints imposed by the speech situation. However, the suitability of relatively constrained or relatively unconstrained data depends very much on the research question at hand. Speech situations, or activity types, cannot be placed on this scale with a high level of precision, but the scale itself helps to create an awareness for the varying importance of such constraints for specific situations.

4.2. Fictionality dimension: Fictional versus factual

Fictional language comes in many different guises. Obvious cases of fictional language are novels or short stories and other narratives that are the product of the imagination of an author without any claims to depict actual people and actual facts. It also includes theatre plays and telecinematic discourse, in which a scriptwriter invents dialogues that are performed by actors. But there is no clear-cut distinction between fictional data and non-fictional or factual data. Historical novels, for instance, may include depictions of historical figures next to invented figures within events that are partly historically attested and partly invented by the author. Television documentaries may include staged conversations performed by actors, and reality television may include a mixture of scripted and improvised conversations (see Jucker and Locher 2017: 5). Everyday conversations may include anecdotes, jokes and even personal narratives that consist of a mixture of factual and fictitious characters and events.

It is useful to draw a careful terminological distinction between the terms "fictional" and "fictitious" (see Klauk and Köppe 2014: 5–6; Jucker and Locher 2017: 6). The former refers to utterances, texts, pictures, movies, comics and so on, while the latter refers to characters, entities and events that have no correspondence outside of the text and do not exist in the real world. Fictional texts, then, deal with fictitious characters, entities and events. Factual texts, on the other hand, deal with characters, entities and events that have an existence in the real world, and in this sense texts can be factual even if they assert falsehoods about these characters, entities and events.

For a long time, pragmatics was not interested in fictional data. It was considered to be artificial, contrived and not sufficiently "real", and, therefore, not suitable for pragmatic analyses. Whenever pragmaticists, for instance in the area of historical pragmatics, resorted to fictional data, they felt the need to apologize for doing so (see for instance Brown and Gilman 1989: 159 or Salmon 1987: 265). They pointed out that in the absence of any "real" conversational data, fictional

data seemed to be a reasonably good approximation especially in the case of a skilful dramatist, such as William Shakespeare. Today, fictional data are seen as sufficiently interesting in themselves. They no longer serve as a substitute for "real" data but are analysed on their own terms. Many of Shakespeare's characters talk in iambic pentameters. It is safe to assume that at the turn from the sixteenth to the seventeenth century – or indeed at any other time – probably nobody used iambic pentameters in their everyday interactions. Shakespeare's dialogues do not represent real-life conversations but that does not make it less interesting to investigate the ways in which Shakespeare chose to depict his characters, how his characters interact, how they address each other, how they insult each other, how they are polite or impolite to each other and so on and so forth (see the collection of overviews of pragmatic approaches to fictional data in Locher and Jucker 2017).

4.3. Researcher interference dimension: Low versus high

The researcher interference scale relates to the amount of interference the researcher exerts on the production of language data. At one end of the scale there are language data that were produced entirely without the interference of a researcher. At the other end there are language data that were carefully elicited by a researcher in a highly controlled context. Figure 4 provides relevant examples along the scale.

Researcher Interference	Control		Relevant examples
Low	Low	1	Speech recording without researcher involvement
		2	Surreptitious recording by researcher
		3	Non-surreptitious recording by researcher
		4	Participant observation recording
		5	Semi-structured interview
		6	Role play or role enactment
		7	Dialog construction task
High	High	8	Oral DCTs

Figure 4: Researcher interference dimension

Speech recordings without any researcher involvement, number 1 in Figure 4, may, of course, be considered to be the most authentic type of data (Kasper 2000: 316) and, therefore, ideal for pragmatic research. It may be argued to be as close as possible to actual speech. However, with this type of recording the researcher depends entirely on the previous availability of data that were recorded for some non-research related purpose. Golato (2017) calls this "naturally occurring data" and refers to Potter's (2002: 541) "(conceptual) dead social scientist's test", which

asks whether the data would still exist even if the researcher got run over on the way to work. The researcher would not be able to carry out an interview, but a counselling session would take place even if the researcher failed to turn up.

Radio and television broadcasts are examples of recordings that do not depend on the presence of a researcher and – as forms of public spoken language – they are generally easily available. This makes them attractive as data for pragmaticists in spite of the lack of the researcher's control over the data. He or she cannot manipulate the situation in order to elicit special types of language patterns, e. g. specific speech acts and the like. The participants of such recordings are obviously aware of the fact that they are being recorded. The recording situation and a potentially very large audience are likely to constrain the language production of the participants in many ways. Thus, in spite of their usefulness, such recordings cannot be used as substitutes for unconstrained language use, and for many research questions such speech recordings are not available at all. Much of the content of the spoken component of corpora consist of such recordings. The *Corpus of Contemporary American English*, for instance, contains 109 million words of spoken language (out of a total of 520 million words), which consist entirely of transcripts of unscripted conversations from television and radio programmes (http://corpus.byu.edu/coca/) (see, for instance, Leech 2014: 256–260 on the inclusion of spoken language to corpora, such as the BNC or ICE).

This might make it interesting for researchers to collect the type of spoken data that they are interested in by setting up surreptitious recordings, number 2 in Figure 4. This would eliminate the observer's paradox (Labov 1972: 209) that we cannot observe behaviour when it is not being observed, but today's standards of ethical research – and in many countries even legal constraints – rule out such a procedure (see, for instance, Duranti 1997: 117; Flöck 2016: 36). It is no longer acceptable – as apparently it was in the early days of speech recordings – to record people surreptitiously and only ask them after the event (but see Hambling-Jones and Merrison's 2012: 1121 argumentation that in some situations surreptitious recordings and retrospective consent might be superior to pre-obtained consent).

With non-surreptitious recordings, number 3 in Figure 4, the researcher has to accept the observer's paradox and the effects that the recording equipment might have on the participants. This category, of course, comprises a rather large range of possible situations from dinner table conversations to specifically elicited narratives or service encounter recordings. In some cases, the researcher takes part in the conversations that he or she records, which turns them into participant observation recordings. Schiffrin (1987), for instance, carried out what she called sociolinguistic interviews with groups of people from her neighbourhood and with whom she shared an ethnic identity. She points out how her participation complicated the observer's paradox (Schiffrin 1987: 41). The analyst's role might influence the development of the interaction and it might influence the interpretation of the results because the analyst is no longer a neutral outsider. Rüegg (2014), to

mention a more recent example, investigated thanks responses from a variational perspective. She collected her data by recording visits to restaurants in Los Angeles in three different price ranges. The recordings of the interactions between a waiter and a small group of guests were not surreptitious but the interactions clearly had a primary purpose that was outside the linguistic research questions. They had to do with offering and ordering food and drinks and with the incidental necessities of serving food and drinks, clearing the table and so on.

Number 1 to 4 on the researcher interference dimension can all still be considered "naturally occurring data" but it is clear that there are differences in the level of researcher interference and – concomitantly – in the level of researcher control. With participant observations, the researcher can, of course, try to influence the flow of the conversation and thus take at least some control of what kind of language the participants produce, especially if they manage to create speech situations in which the pragmatic element under investigation is likely to occur in a naturalistic way because of the necessities imposed by the situation.

The remaining numbers on the dimension shift the balance from naturally occurring data to elicited data (dealt with in more detail in Schneider, this volume). They impose more and more control on the language production of the participants. While a semi-structured ethnographic interview, number 5, leaves some room for a broader range of responses from participants, role plays or role enactment tasks, number 6, ask for very specific behaviour, in which the responses depend – at least to some extent – on the acting abilities of the participants and their willingness to play along. Dialog construction tasks, number 7, ask participants to create – usually in written form – an entire dialogue including the utterances by several participants in order to elicit the participants' intuition about typical or appropriate dialogues in a given situation. Discourse completion tasks, number 8, finally impose the highest level of control on the participants' language production. Usually they are expected to produce a speech act of a very specific type, such as an apology, a request or a response to a compliment.

4.4. Researcher perspective dimension: Micro versus macro

The researcher perspective dimension relates to the amount of data that is being investigated. It does not distinguish between different types of data as the three dimensions outlined above. It is concerned with the perspective adopted by the researcher. At one end of the scale the researcher investigates a very small amount of usually richly contextualized data, prototypically a single conversation or even just a small extract of a conversation where the researcher knows a lot about the participants and the context in which the conversation took place. At the other end of the scale the researcher searches for patterns of language use in large corpora consisting of millions or even billions of words. Bednarek (2011: 546) illustrates this dimension with Figure 5:

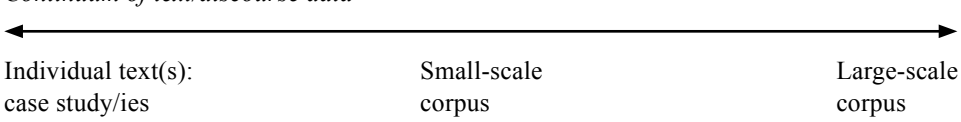

Figure 5: Researcher perspective dimension (Bednarek 2011: 546)

Case studies of individual texts allow for rich contextualisations while large-scale corpora only provide very minimal contextualisations, that is to say the amount of data and the contextual richness can be seen – in a very abstract way – as a reciprocal function. With an increasing amount of data, the contextual richness becomes smaller and smaller. And, reciprocally, high contextual richness can only be achieved if the amount of data is very small. The investigative precision, to use Leech's term with a slightly different meaning, does not favour one over the other. In fact, the investigative precision can only be increased by increasing the amount of data with a given value of contextual richness or vice versa.

A brief example may illustrate these interdependencies. The phrase *I'm sorry* generally serves as an apology, whose occurrences can be investigated both in a small-scale case study or in a large-scale corpus. In Barbara Kingsolver's novel *Flight Behavior* (2012), there are 20 instances of *I'm sorry*. Each and every one of these instances is richly contextualized, and the reader can work out the level of sincerity that is attached to each one, whether it is a token apology for an interruption as in (1) or whether it is a heart-felt apology for breaking up a marriage as in (2). In an important sense, fictional examples provide a more complete contextualization than real life conversations. In real life, conversationalists under observation from a researcher have a wealth of life experiences that are not accessible to the researcher. In a novel, the depicted characters do not have any life experiences outside of the novel. Whatever is relevant for the novel is depicted in the novel.

(1) "I'm sorry for the interruption, Bobby," Brenda's mother said, cocking one hand on her hip, doing a poor job of looking sorry. (Page 99, Location 1198)
(2) "I'm sorry," she said. "I'm thankful for our children. But I'm not what you need." (Page 527, Location 6500)

Figure 7 shows the frequency development of *I'm sorry* over two centuries of American English. It is based on a corpus of digitized texts containing more than five million books and a total of some 361 billion words in English texts (Michel et al. 2010). But these instances are entirely decontextualized. For copy-right reasons the software does not access a database containing all these books but indexed lists of ngrams derived from these books. Each ngram in the database comes with an indication of the year of publication and its language or language variety but it is

disconnected from its actual context. This is an extreme case of a decontextualized database, and it is, therefore, usually shunned by corpus linguists except for some very preliminary initial searches that can be used to ask more specific questions. In this case, it is impossible to ascertain, for instance, whether the phrase *I'm sorry* was indeed used as an apology or perhaps to perform another speech act, as for instance the expression of condolences.

Figure 6 shows that the phrase had a very low frequency in the nineteenth century. Its use increased in the first half of the twentieth century with a noticeable decrease in the 1960s and 1970s and a sharp increase after that, which poses interesting follow-up questions whether the decrease in the 1960s and 1970s could in any way be related to social and cultural developments at the time. However, in order to tackle such questions, the research would have to go back to contextualized data samples (see also O'Keeffe, this volume on the development of *I'm sorry* versus *I apologise*).

5. Conclusion

Pragmatics studies the use of language in all its complexities and diversities, which means that language in all its various forms, shapes and varieties provides the data for pragmatic research. Pragmatics no longer focuses on a single type of data, such as, for instance, spontaneous, multi-party conversations that take place in private settings. Pragmatics is not restricted to the modality of spoken language. It is also concerned with written language, with digital language, with sign language and with all aspects of nonverbal communication. Different types of language data invite different types of research questions, and different research questions require different types of data, as well as different methods of collecting and analysing it (see Félix-Brasdefer 2007; Jucker 2009a; Golato 2017).

In many cases, it is the triangulation of different types of data that provide a better understanding of pragmatic issues. Félix-Brasdefer (2007: 163), for instance, uses both role play data and naturally occurring interactions in his study of requests in Mexican Spanish, and Flöck (2016: 84), who compares requests in British English and in American English, uses both audio recordings of informal, naturally occurring conversations and written production data elicited in discourse completion tasks. In both studies the combination of data and methods provided a more comprehensive view of requests than a reliance on one type of data would have made possible.

This introductory chapter has given an overview of different types of data in pragmatic research (data collection methods are covered by Schneider, this volume). Such a task is potentially boundless because virtually all the existing literature in pragmatic research could be situated within the scope of this paper. I have, therefore, focused on the relevant modalities (spoken, written, digital, signed,

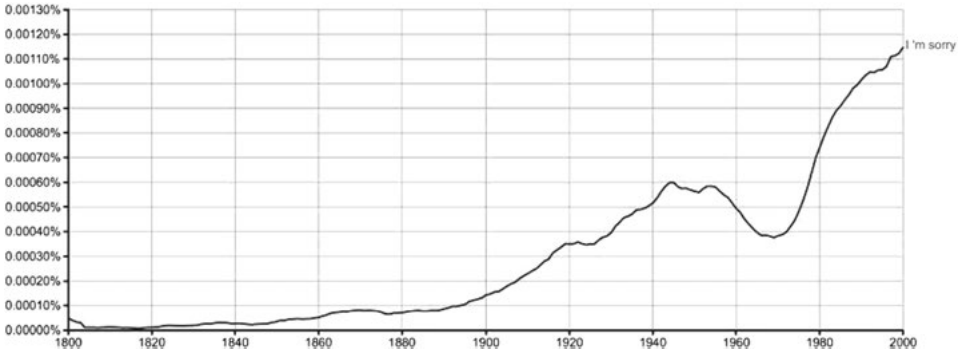

Figure 6: "I'm sorry" in American English from 1800 to 2000 (http://books.google.com/ngrams/)

nonverbal) and their impact on pragmatic research as well as the relevant data dimensions (level of constraints and fictionality) and researcher dimensions (interference/control and research perspective/data size).

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2. Methods and ethics of data collection

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Abstract: This chapter provides an overview of methods and data collection procedures employed in research in pragmatics. Specifically, the focus is on using a corpus and recording naturally occurring spoken discourse, and on production tasks (eliciting conversation, role plays, interviews, discourse completion tasks), and comprehension and judgement tasks (multiple choice tasks, rating scales). In this survey of methods, an attempt has been made to include many different approaches and research traditions, among them speech act analysis, conversation analysis, discourse analysis, Gricean pragmatics, cross-cultural pragmatics, interlanguage pragmatics and (im)politeness research. It is emphasized that there is no best method, that all methods have advantages and disadvantages, and that each method can be used for some purposes but not for others. Therefore, the choice of method depends on the type of research, the research goals and the research questions. There is also a discussion of research ethics, notably the principles of welfare, autonomy, privacy and indebtedness. It is stressed that research ethics has a historical dimension and can be conceptualized as a process of increasing sensitivity. Some practices which were permissible or commonly used in the twentieth century, are not acceptable any longer and considered unethical in pragmatics research today.

1. Introduction

In surveys of methods in pragmatics research, data types and data collection procedures are usually dealt with together. In this handbook, however, we have decided to tease them apart analytically and treat them separately to offer complementary perspectives on crucial methodological issues and thus provide a differentiated view of topics researchers in the field should be aware of. The following example is given to highlight and illustrate the range of issues addressed in this chapter 2.

The probably best known and most influential paper ever written about the speech act of compliment was authored by Manes and Wolfson (1981). On the very first page of their paper, they include the following methodological statement:

> It is our conviction that an ethnographic approach is the only reliable method for collecting data about the way compliments, or indeed, any other speech act functions in everyday interactions. (Manes and Wolfson 1981: 115)

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This far-reaching methodological claim that ethnographic field work, i. e. taking field notes, is "the only reliable method for collecting data" not only for the analysis of compliments, but of any speech act, has received a lot of criticism, as in fact have the results of Manes and Wolfson's study (e. g. Jucker 2009: 1621–1622). They found that in their corpus of 686 American English compliments, gathered by the two researchers and also the students taking their courses, three syntactic constructions prevailed, of which the most frequent one alone accounted for more than fifty per cent of all compliments collected. They furthermore found that in more than two thirds of their compliments, the positive evaluation was expressed through an adjective and that the same five adjectives were used in most cases. In view of these findings on recurring syntactic and semantic patterns, Manes and Wolfson described American English compliments as highly formulaic. This conclusion has, however, been challenged by pointing to the possibility that the two researchers or at least their students gathering the data may have noticed only those formulaic compliments they collected, while less prototypical ones, i. e. less formulaic, more original or more indirect ones, may have gone unnoticed. Moreover, it has justly been criticized that hearing may not have been accurate, since it has been shown that, while it is possible to remember individual words, routines or short phrases with some accuracy, it is difficult to recall the exact wording of entire utterances just overheard, even immediately after hearing them, as the short-term memory is much shorter than people commonly believe (cf. Yuan 2001: 288). These two problems, i. e. a focus on stereotypical realizations and inaccurate hearing, cast serious doubt on the reliability of "the only reliable method" and shows that this particular approach definitely has some shortcomings. On the other hand, there are also obvious strengths. One is that the ethnographic approach is very unobtrusive. It can be used to record at least some aspects of naturally occurring everyday interactions while avoiding the "observer's paradox" (Labov 1972). Further advantages include that the researcher does not depend on the availability and functioning of electronic recording devices. Also it is not necessary to ask the people observed and recorded their consent, neither before nor after taking field notes, while getting consent prior to recording people electronically is an important legal and also ethical issue (see section 4 below). All of the topics illustrated in this example – i. e. strengths and weaknesses of data collection methods, reliability, technical, legal and ethical concerns – will be discussed in detail in the present chapter.

Regarding Manes and Wolfson's article on American English compliments and their formulaic nature and the methodological claim the authors make in it, it must be borne in mind that their article appeared as early as 1981 and that the research reported must have been conducted even earlier. In other words, their article was published at a time when several alternative methods and data collection procedures were not yet available. At that time, recording devices were, as a rule, much bigger and used some kind of tape or disc, corpora of spoken language were much smaller

and not generally accessible, and experimentational methods such as discourse completion tasks had not yet been invented (cf. Ogiermann, this volume). This example demonstrates that the inventory of data collection methods in pragmatics research has developed and grown over time. It would in fact be intriguing to write a history of methods in pragmatics. This, however, is not the aim of the present chapter.

The aim of this chapter is to provide an overview of the many different data collection methods used in pragmatics research today. In this endeavour, a non-evaluative stance is adopted. In this handbook, we firmly believe that there is no best method as such. As each and every method has advantages as well as disadvantages, choice of method depends entirely on the research goals and the research questions to be answered. One method may be better suited to provide an answer to a particular question than another method, but for a different question it may be just the other way around. Therefore, researchers must be clear about the questions they address, and, more generally, which overall approach they wish to adopt and which type of research they want to carry out, and make their methodological choices accordingly. We further believe that any discussion of data collection methods should be free of ideologies. Hence, it is intended to do justice to each data collection procedure, to highlight its respective merits, but to also point out its respective weaknesses so that informed choices can be made. Finally, to compensate for the disadvantages of any chosen method and thus increase its validity, triangulation is recommended, i. e. the combination of different methods and a comparison of data from different sources.

In his monograph on *Research Methods in Applied Linguistics*, Dörnyei (2007) devotes the last chapter to the question "How to choose the appropriate research method" and gives two general recommendations. His first recommendation is summarized as follows: "*feel free to choose the research method that you think will work best in your inquiry*" (Dörnyei 2007: 307; original italics). He further elaborates this recommendation:

> At the end of the day, research is not a philosophical exercise but an attempt to find answers to questions, and just as we can go about this in our everyday life in many different ways, the varied palette of research methodology is clear evidence for the possibility of diverse solutions in the scientific enquiry. (Dörnyei 2007:307)

In this handbook we unreservedly subscribe to the position that research is about finding answers to questions. On the other hand, we would like to stress the crucial role that such questions play in the selection of a data collection method and concerning the appropriateness and suitability of each method for addressing a specific set of research questions. It has, however, to be conceded that other factors also influence the choice of method, e. g., as Dörnyei (2007: 308–312) points out, personal style, personal training and personal experience. And these factors, no doubt, have also influenced writing the present chapter.

The second general recommendation which Dörnyei offers, namely that "*it is worth considering applying a mixed methods research design in every situation"*

(2007: 313, original italics) cautions against the dangers of "monomethodologies" (cf. Miles and Huberman 1994: 43) and underscores our recommendation of triangulation to increase the validity of results. It has to be noted, however, that the concept of "mixed methods research design", which is currently popular in many areas of applied linguistics and beyond, refers to a combination of qualitative and quantitative methods (cf. Angouri 2009, Kim 2013), whereas "triangulation" refers to any combination of different data collection procedures and of data from different sources (cf. Bednarek 2011: 551–552).

The present chapter provides a general overview of data collection methods used in a wide range of approaches and frameworks, with their strengths and weaknesses (section 3), as well as a discussion of practical, legal and ethical issues involved in collecting data (section 4). These discussions are prefaced by general considerations concerning the types of research which provide the coordinates for any investigations in the vast field of pragmatics (section 2).

2. Types of research: Some basic distinctions

Given the centrality of research questions and their importance for the selection of suitable methods and data collection procedures, it is necessary to first briefly consider and discuss the nature of research and the types of research contexts in which different types of questions are asked. Such types of research can be characterized with reference to a number of fundamental distinctions captured by the following dichotomies, which are essentially relevant to any kind of (language-based) research, but will be made immediately relevant to research in pragmatics in the ensuing discussion.

(1) Empirical versus non-empirical
(2) First order versus second order
(3) Inductive versus deductive
(4) Comparative versus non-comparative
(5) Longitudinal versus non-longitudinal
(6) Diachronic versus synchronic
(7) Representative versus non-representative
(8) Qualitative versus quantitative
(9) Micropragmatic versus macropragmatic
(10) Spoken versus written

2.1. Empirical versus non-empirical

It is fair to say that most work in pragmatics today is empirical, i. e. using data collected one way or another, by employing one or more of the procedures and instru-

ments which are discussed in more detail in section 3 below. In more precise terms, empirical work is based on data gathered from people other than the researcher. By contrast, non-empirical work does not involve data gathered from other people. In this case, researchers rely exclusively on their own everyday communicative experience and their pragmatic competence, usually as native speakers of the language they are interested in, sometimes generalizing their specific experience and competence and conceptualizing them as universal.

Initially, in the early days of pragmatics, work was not empirical. Language philosophers such as Austin, Searle and Grice illustrated their theories with fabricated examples. Austin and Searle were speech act theorists. Speech act analysis, on the other hand, as an empirical discipline, was started when linguists, inspired e. g. by Ervin-Tripp's account of alternative realizations of requests in American English (Ervin-Tripp 1976), began to systematically investigate the actual linguistic and situationally appropriate realization of speech acts in large collections of data gathered from people other than the researcher. Classical examples include Manes and Wolfson's and Holmes' work in sociolinguistics, using the ethnographic method (Manes and Wolfson 1981, Holmes 1986, 1988), or Blum-Kulka et al.'s and Trosborg's work in applied linguistics, and specifically in cross-cultural and interlanguage pragmatics, using discourse completion tasks and role plays (Blum-Kulka et al. 1989, Trosborg 1995).

After the "empirical turn in linguistics" (Taavitsainen and Jucker 2015), non-empirical research has sometimes been referred to as "armchair linguistics", using Fillmore's derogatory term (Fillmore 1992). Jucker (2009), however, points out that some ground-breaking research in pragmatics was in fact non-empirical, including the works of the philosophers Austin, Searle and Grice. This is also true of early politeness theories developed in linguistics, such as Lakoff's (1973) and Leech's (1983) theories as well as of other revolutionary work in twentieth-century linguistics, including work by de Saussure (1916) and Chomsky (e. g. 1957, 1965). The "armchair method", i. e. researchers relying on their own competence and everyday experience as a competent speaker of a language, should therefore not be rated negatively.

It is often argued that "armchair pragmatics" is also data-based and, hence, empirical. In this case, the data used is usually called "introspective". This term is, however, ambiguous. In "armchair pragmatics" it means that researchers tap their own competence, whereas in psycholinguistics it means tapping the competence of (a large number of) informants in an experiment (cf., e. g., Færch and Kasper 1987). To highlight the essential difference between psycholinguistic experiments on the one hand and armchair pragmatics on the other hand, data in the latter approach are referred to (maybe less respectfully) as "intuitive", "fabricated" or "invented".

Armchair pragmaticists, using only their own individual communicative experience and pragmatic competence, are not only researchers illustrating their theo-

retical claims, but also playwrights and writers of prose fiction as well as authors of textbooks for (foreign) language teaching. While textbooks for foreign language teaching purposes are often written by teams including native speakers of the learners' target language and native speakers of the learners' native language, there are also some rare cases in which playwrights do not rely on their individual communicative competence alone, but prefer to develop their plays from scratch with their actors (cf. Clements 1983). It has been suggested that dramatic dialogue provides competence data underlying actual performance, rather than actual performance data (e. g. Lakoff and Tannen 1984), and this also applies to dialogue in prose fiction. Needless to say, dramatic dialogue and dialogue in prose fiction are mostly devoid of what has been termed "normal non-fluency" (Short 1996), i. e. hesitations, backchannelling, interruptions, overlap, and so on (cf. Bublitz 2017, also Jucker 2015). The same is true of the examples of language use produced by researchers employing the armchair method.

2.2. First order versus second order

The distinction between first-order and second-order conceptualizations, originally made in systems theory, is especially popular in (im)politeness research (cf. Watts, Ide and Ehlich 1992: 3–4). Kádár and Haugh (2013) define this distinction in the following way:

> The terminology of first-order and second-order is used in various fields of linguistics, as well as other areas. In general, a first-order conceptualization refers to the way in which a phenomenon is perceived by its users, while second-order describes a more abstract, scientific conceptualization of the given phenomenon. (Kádár and Haugh 2013: 41)

Brown and Levinson's politeness theory (1978, 1987), for example, has been criticized for being based on a second-order concept of politeness, while researchers such as Watts (e. g. 2003) have called for an analysis of first-order conceptualizations, i. e. how ordinary language users interpret and understand politeness. First-order conceptualizations of politeness, rudeness, appropriateness, and so on can be elicited e. g. in perception studies in which judgement tasks and rating scales are employed (cf. section 3.4.2 below). First-order conceptualizations of speech acts, on the other hand, can be elicited e. g. in meta-pragmatic interviews, in which ordinary language users may be asked to define particular speech acts (e. g. compliments or threats) or to report events in which particular speech acts occurred (cf. section 3.3.3 below). More generally, first-order conceptualizations of pragmatic phenomena (e. g. speech acts, discourse genres, courtesy, banter) can also be examined by analysing the use of meta-pragmatic terms (e. g. *compliment*, *small talk*, *face*) in fictional and non-fictional discourse (cf. Culpeper 2011, Jucker and Taavitsainen 2014, Schneider 2017).

2.3. Inductive versus deductive

A further relevant distinction is that between inductive and deductive research. Researchers employing the armchair method usually work deductively. They fabricate utterances as examples to prove a point or illustrate a theory. At the other end of what can be seen as a continuum, researchers in conversation analysis and interactional linguistics work radically inductively by subscribing to the ethnomethodological principle of "unmotivated looking" or, more generally, "ethnomethodological indifference" (Garfinkel and Sacks 1970: 345–346), i. e. approaching data, as a default audiotaped naturally occurring conversation, in an unprejudiced manner and letting patterns emerge from the data. This approach is also referred to as purely data-driven. Most work in other areas of pragmatics research is located between the endpoints of the deductive-inductive continuum, usually closer to the inductive end, analysing collections of data guided by theories and hypotheses.

2.4. Comparative versus non-comparative

Work in conversation analysis is comparative in a very general sense of the word. Essentially this work is about structural or, more properly, "organisational" similarities between speech events under comparable circumstances, e. g. telephone calls to an emergency hotline as in Sack's early work. Such similarities include, for instance, what is said at the very beginning or the very end of telephone conversations.

More commonly, however, comparative research in pragmatics is aimed at contrasting different languages and cultures, often for the purposes of foreign language teaching and learning, and, more recently, at contrasting different varieties of a language or social groups sharing the same language. Relevant disciplines are contrastive pragmatics, cross-cultural pragmatics, interlanguage pragmatics and variational pragmatics (cf. Blum-Kulka et al. 1989a, Barron and Schneider 2009, Beeching and Woodfield 2015). Pragmatics research in sociolinguistics, by contrast, was originally non-comparative, focused on one language or one specific variety of a language alone. Classical examples are Pomerantz's study of compliment responses (1978), Manes and Wolfson's study on compliments (1981), and Ervin Tripp's study of requests (1976). All of these studies are focused exclusively on American English, but they are not interested in variation within American English, e. g. across regions, ethnic communities or age groups. More recent sociolinguistic studies in pragmatics are, however, comparative in the sense that they compare their own empirical findings to the findings from earlier studies on the same phenomena. An early example is Holmes' (1995) study of compliments in New Zealand English, in which Holmes explicitly compares her own results to those by Manes and Wolfson on compliments in American English. Holmes furthermore examines gender differences as well as situational variation, notably power differ-

ences and differences in social distance. The study of situational variation can also be characterized as comparative, as different interpersonal relations and constellation and different types of social context are contrasted. Sociolinguistics today is no longer interested in examining speech acts in a national variety of a language, or in gender variation and situational variation alone. Much work in sociolinguistic pragmatics is now focused either on micro units such as discourse markers, quotatives and question tags or on more global concepts such as politeness, relational work and discursive identity construction. Regional, socioeconomic, age and ethnic variation are also taken into account in sociolinguistic pragmatics (cf. e. g. Macaulay 2009, Holmes et al. 2012, Pichler 2013).

Early work in pragmatics was not interested in variation and, hence, not in comparison. Speech act theorists and philosophers such as Austin, Searle and Grice, while using examples from their native English (for which they were later accused of an ethnocentric bias, cf. Wierzbicka 1985), wanted to explore the fundamental nature of human verbal communication. Similarly, politeness theorists of the first generation were interested in the universals of language usage, e. g. Leech (1983) and, most explicitly, Brown and Levinson (1978, 1987). This also applies to early work in impoliteness theory, e. g. to Culpeper (1996), who based his initial approach on Brown and Levinson's theory. Today, however, there is a general awareness of differences between languages and cultures and also between varieties of the language and between subcultures and social groups. This applies in particular to so-called Continental-European pragmatics (cf. Huang 2010), but not to the Anglo-American approach, i. e. Gricean pragmatics, nor to conversation analysis.

2.5. Longitudinal versus non-longitudinal

Research in pragmatics is not, as a rule, longitudinal, i. e. does not follow the same informants across a time span of several years. Most empirical work provides a synchronic snapshot, that is to say an insight into how language users behave at a given point in time. Exceptions include studies on the pragmatic development in a foreign language during a year abroad, i. e. ten to twelve months spent by schoolchildren or, more commonly, college or university students in a foreign country in which their target language is spoken natively (e. g. Barron 2003, Schauer 2009, Ren 2015a). By contrast, studies interested in pragmatic age variation are not normally real-time longitudinal studies, but apparent-time cross-sectional studies, i. e. comparing different age groups coexisting at the same time (e. g. Dinkin, in press). This approach is also suitable for doing research on language change.

2.6. Diachronic versus synchronic

The distinction between diachronic and synchronic research is often not well understood by students who mistake diachronic research for research on historical lan-

guage and synchronic research as research on present-day language. While it is true that pragmatics research is predominantly focused on present-day language use, historical pragmatics is also a burgeoning field (cf., e. g., Jucker and Taavitsainen 2010). Within this field, a distinction can be made between historical pragmatics in a narrow sense, i. e. synchronically focused on a period of time in the history of a language, and diachronic pragmatics interested in language change, i. e. comparing periods in the history of a language to examine variation in time (cf. Jacobs and Jucker 1995). Diachronic pragmatics, although usually conceptualized as a branch of historical pragmatics in the broad sense of the term, is not restricted to the study of historical language, but may also deal with recent or ongoing changes in language use. An example is Dinkin's study of responses to thanks in Canadian English (in press), in which he compares juvenile and older speakers and their use of different response realizations, based on which he postulates ongoing language change in responding behaviour. A further example is Chen's partial replication of an earlier study of compliment responses in American English and Chinese (Chen 1993). Chen replicated the Chinese part of this earlier study, employing the same production questionnaire, which includes four discourse completion tasks, and collecting his data in the same city in the People's Republic of China, i. e. Xi'an, to warrant immediate comparability (Chen and Yang 2010). He found that Chinese speakers no longer overwhelmingly rejected the compliments, thus following Leech's modesty maxim (Leech 1983), but predominantly accepted the compliments, thus following Leech's agreement maxim. After approximately seventeen years, the Chinese responses had become more similar to the American responses established in the earlier study, thus reflecting, Chen and Yang argue, the economic and societal changes in mainland China. This example illustrates that diachronic work is also a type of comparative research, and that comparability is an important issue in this type of research and crucial for arriving at reliable results (cf. Schneider 2014). A further example is Jucker and Landert (2015), who do not examine speech acts in everyday conversation, but turn-taking and narrative structures in radio talk shows. Overall, however, studies analysing recent and ongoing changes in language behaviour are still relatively rare.

2.7. Representative versus non-representative

Students often ask whether an empirical study in pragmatics is representative or not. What they usually mean is whether the population involved in an empirical project and the sample used are large enough to yield reliable results. Yet, representativeness is not a matter of quantity. Rather, the question is: representative of what? Generally, empirical studies in pragmatics focused on a particular country, e. g. the United States of America or the People's Republic of China, or a national variety of a language, e. g. American English or New Zealand English, are not representative of the entire population in the respective nation-state. That is to say,

such studies do not normally work with carefully stratified samples reflecting the overall demographic composition of the population in the nation-state in question. In this regard, studies in pragmatics cannot compete with studies in e. g. sociology or other social sciences. In fact, there is one particular sociological group whose verbal behaviour pragmaticists know more about than about the behaviour of any other group of society. This group is the group of college and university students, as researchers often, and for obvious reasons, recruit their own students as "guinea pigs" in their empirical work, and this does not apply to pragmatics alone, but also to linguistics at large and many other disciplines interested in human behaviour, e. g. psychology (cf. Kasper 1993). In other words, researchers frequently use what is known as a "convenience sample", which is understandable considering the practical difficulties in recruiting informants for a study, and feasibility should not be underestimated (Edmondson 1981: 78). On the other hand, students, depending on their teachers and lecturers, may not participate voluntarily, which is a serious ethical issue (cf. section 4 below). Moreover, as students of linguistics and pragmatics, these informants are not, strictly speaking, ordinary language users. Accordingly, findings from studies involving students, and especially the researcher's own students, should be interpreted cautiously and not be overgeneralized.

2.8. Qualitative versus quantitative

By and large, pragmatics research used to be qualitative rather than quantitative. Researchers are interested in, for instance, the communicative functions of discourse markers, the mechanisms of turn-taking, the options available for realising a particular speech act in a given language, or strategies of being polite or impolite. At the same time, researchers use relatively large populations and data sets and apply to them statistical analyses, mostly descriptive statistics (cf., e. g., Ogiermann and Sassenroth 2012). In the context of empirical pragmatics research, "relatively large" usually means several hundred. For example, for their study of apologies in email discussion lists, Harrison and Allton (2013) analysed 260 instances. Manes and Wolfson's (1981) study of compliments in American English was based on 686 ethnographically collected instances. Spencer-Oatey et al. (2008) gathered 2,490 reactions to compliment responses by employing multiple choice tasks. Blum-Kulka et al. (1989a: 16) used DCTs to collect over 30,000 instances of requests and apologies, rendering their *Cross-Cultural Speech Act Realization Project* one of the largest, if not the largest, empirical project in speech act research to date. By contrast, in their recent study of apologies in Australian English and Bahasa Indonesian, Jones and Adrefiza (2017), who were also interested in gender differences, involved a total of only 24 informants altogether, six male persons and six female persons each representing the two language varieties under study (Jones and Adrefiza 2017: 97). These informants were given three discourse completion tasks, orally administered, providing a maximum of 72 apologies in all

(although the appendices seem to suggest that a much smaller number of instances was given; cf. Jones and Adrefiza 2017: 113–118), rendering their design a case studies approach rather than anything else. Even though the two authors do not provide percentages but raw numbers, great caution is required to draw any conclusions from such small datasets, given that some of the features analysed, e. g. intensifiers, occur with frequencies between 0 and 3 instances (Jones and Adrefiza 2017: 106).

Despite the availability and accessibility of machine-readable corpora, some of which are extremely large, the amount of data for empirical studies, especially in the area of speech act research, cannot be easily increased beyond the numbers given in the preceding paragraph. The main reason for this is that function-to-form searches, taking illocutionary categories as their starting point to find realizations of a given speech act, are not, or only rudimentarily, available at present (cf. O'Keeffe, this volume), since pragmatic corpus annotation is still in its infancy (cf. Archer and Culpeper, this volume). However, as several attempts are currently being made to improve this situation, it should soon be possible to make better use in pragmatics research of the enormous quantities available in language corpora.

2.9. Micropragmatic versus macropragmatic

Very many studies in empirical pragmatics have a micropragmatic focus. These studies are either focused on individual speech acts, as in, first and foremost, contrastive, cross-cultural and intercultural studies, predominantly employing discourse completion tasks and also role-plays. Or they are focused on units smaller than speech acts ("micro units", cf. chapter 1 of this volume), e. g. discourse markers, as in some studies in variational pragmatics, in which corpus-linguistic methodology is preferred (e. g. Aijmer 2013). Historical pragmatics also has a traditional micropragmatic focus (e. g. Jucker and Taavitsainen 2008) as well as work in the Gricean tradition, which, while not interested in speech acts, predominantly concentrates on utterance-size units in their analyses.

A macropragmatic focus, on the other hand, is found in areas sometimes considered outside the scope of pragmatics, especially from the perspective of researchers working in the Gricean tradition. These areas are in particular bottom-up conversation analysis and top-down discourse analysis. In this handbook, and in the handbook series this volume belongs to, CA and DA are, however, considered integral parts of and important disciplines in pragmatics (cf. Schneider and Barron 2014). Scholars doing research in these two particular traditions are interested in, among many other phenomena, speech act sequences and other units larger than individual utterances ("macro units", cf. chapter 1 of this volume) such as remedial interchanges (e. g. Owen 1983), conversational openings and closings (e. g. Schegloff 1972, Schegloff and Sacks 1973) as well as entire speech events such as service encounters (e. g. Félix-Brasdefer 2015). As a default, research of this type is based

on self-compiled, and therefore relatively small, corpora of audio recordings or, more recently, video recordings, especially when the focus of analysis includes non-verbal communication and multimodality.

2.10. Spoken versus written

Given its roots in speech act theory and considering the great impact of ethnomethodology and conversation analysis, pragmatics has a traditional focus on spoken rather than written language. Needless to say, however, written language is also used communicatively, intentionally and for practical and social purposes, i. e. to get things done and to manage interpersonal relations, and this includes hand-written and machine-written texts as well as digital manifestations of written language (for further differentiations, cf. chapter 1, this volume). The pragmatics of written language use has been studied from various perspectives in discourse analysis, critical discourse analysis (CDA), text linguistics, text analysis and genre analysis (for overviews, cf., e. g., Mahlberg 2014, Wodak 2011, Esser 2014, Tardy and Swales 2014). Investigations have dealt with discourse types, genre conventions, structural, functional and contextual features, sequential aspects, obligatory and optional elements, and manipulative representations of events, to name but a few focuses of analysis. These examples once again show that the nature of the research questions depends on the respective theoretical background and disciplinary affiliation of the researchers, which impact the choice of method and data collection procedure (cf. also Bednarek 2011: 546–551). Research on the pragmatics of written language use was initially based on small self-compiled corpora of texts, e. g. research articles, as, for instance, in Clyne (1987). Clyne examines 26 research articles authored by native speakers of Australian English and 26 research articles by German scholars, of which nine were written in their native German and 17 in English as a foreign language. His study is comparative in two ways, as he contrasts academic styles in research articles not only across languages, but also across disciplinary cultures, specifically in linguistics and sociology. Today, researchers investigating the pragmatics of written discourse frequently employ large machine-readable corpora, irrespective of the framework that they work in. Yet, whether or not large machine-readable corpora are employed depends again on the specific research questions researchers wish to answer, and in particular, of course, whether a suitable corpus is actually available. Barron (2012), for example, is a large-scale contrastive genre analysis of 34 public information messages, such as government initiated road safety or health campaigns, in Ireland and Germany, which includes both written and spoken language (as well as visual communication and music) and considers a total of 244 written or spoken texts (posters and messages in print media, and clips on radio or television and in the cinema). For this particular project, no corpus was already available, it had to be specifically compiled.

3. Strategies and instruments for data collection

Against the background of the discussion of types of research in the preceding section, the present section provides an overview of strategies and instruments for data collection used in pragmatics (cf. also Kasper and Dahl 1991, Kasper 2000, 2008, Jucker 2009, Bednarek 2011, Golato and Golato 2013, Leech 2014: 247–260). Previous overviews are often focused on particular areas of pragmatics, e. g. interlanguage pragmatics, or particular units of analysis, e. g. speech act analysis. Methods employed in the Gricean paradigm are, as a rule, not included (cf., however, the chapters by Clark and by Gibbs, this volume). This means that the focus is mostly on production rather than on comprehension. Furthermore, there is a strong bias towards spoken language in these overviews, methods of collecting written data are not normally covered; Archer et al. (2012: 11–23), although quite brief, and especially Bednarek (2011) are two exceptions. While most authors provide a general overview, Cohen (2012), in his survey of research methods in intercultural pragmatics, takes the example of doctor-patient interactions to discuss methodological issues, including issues of research design, data collection, and data analysis.

Data collection methods in pragmatics research can be subsumed under three headers: intuition, observation and experimentation. For these three broad categories, Jucker (2009), in his survey of methods for speech act research, adopts the metaphors "armchair", "field" and "laboratory" (cf. Clark and Bangeter 2004). Prototypical armchair research, in which researchers exclusively rely on their own communicative experience and pragmatic competence, and which is therefore defined as individual second-order introspection (cf. section 2), can be used to deductively develop theories and to postulate e. g. principles and maxims of communication. "Armchairing" has been used by language philosophers and theorists to formulate e. g. speech act theory, relevance theory, and (early) politeness theories, the Co-operative Principle (CP) and Politeness Principle (PP), conversational maxims and politeness maxims (e. g. Austin 1962, Searle 1969, Sperber and Wilson 1995, Grice 1975, Leech 1983). This method is not an empirical method. Individual intuitions of the researchers are not data in the sense this term is usually used in. No tools or specific procedures are available or employed to collect these data. Therefore, the armchair method is not further discussed in the present chapter (cf. the chapters by Bublitz, Sbisà, Huang, and Clark in Part II of the present volume). Jucker (2009: 1615), who calls the prototypical armchair method "philosophical method", also classifies the "interview method" as an armchair method, because it is also based on intuitions, specifically the intuitions of the interviewees. Yet, since interviewing involves collective (first-order) introspection and requires the recruitment of informants, audio- or video-recording and transcription work, it is dealt with in the present chapter as an experimentational method (cf. Félix-Brasdefer and Hasler-Barker 2017). The general focus of the present section is on empirical

pragmatics and, since observational data are dealt with in more detail in chapter 1 of this volume, especially on experimentational methods of data collection. All methods discussed, are presented under the headings "Using a corpus" (section 3.1), "Recording naturally occurring spoken interaction" (3.2), "Production tasks" (3.3), "Comprehension tasks and judgement tasks" (3.4), and "Further data collection methods" (3.5). Each experimentational method is exemplified by individual studies, classical and recent, to highlight and illustrate crucial issues pertaining to each method, especially problems of experimental design and problem-solving strategies, as well as the suitability of a method for specific types of research and the potential for providing answers to particular research questions.

3.1. Using a corpus

Empirical pragmatics, by contrast to armchair pragmatics, requires a data corpus, in the general and broad sense of the term. This applies to both fieldwork and laboratory work, respectively requiring a corpus of observational data and a corpus of experimentational data. In linguistics today, the term "corpus" is used in a narrow and very specific sense, referring only to very large electronic machine-readable collections of spoken and/or written language, which were not, as a rule, compiled for any particular research purpose, let alone any particular type of research in pragmatics. Examples of this kind of corpora include the British National Corpus (BNC), the Corpus of Contemporary American English (COCA), and the national or regional corpora belonging to the International Corpus of English (ICE). In general, however, any collection of data, small or large, and whether machine-readable or not, is a corpus. A corpus, in this broad and general sense, may already exist prior to a research project, as is the case for the above examples, or it may be compiled by the researchers themselves for a specific project (cf. Andersen, this volume). Self-compiled corpora are usually much smaller than pre-existing machine-readable corpora in the narrow technical sense, but are tailored to a particular research purpose and permit better control of relevant contextual and demographic variables. In pre-existing large corpora, information about contexts and demographic features of interlocutors are only rarely provided as comprehensively and systematically as in the Santa Barbara Corpus of Spoken American English, if at all. Overall, corpora provide big data, but not big context (cf. Taavitsainen and Jucker 2015: 18).

Using language material from large machine-readable corpora is usually classified as a field method, i. e. a method of gathering naturally occurring data (sometimes called "natural", "naturalistic", "authentic" or "observational"). However, corpus data do not all qualify as observational data. They are naturally occurring to the extent that their existence does not depend on a researcher. Yet there are significant differences between the data types included in machine-readable corpora, sometimes even in the same corpus. A corpus may include written and spo-

ken language, everyday conversation and institutional discourse, fictional material such as novels, film scripts and drama, and nonfictional material such as naturally occurring talk. While there is a long tradition of using drama in discourse analysis (cf. Schneider 2011), there are, of course, also important differences between fictional dialogue on the one hand and authentic conversation on the other hand. Fictional dialogue in prose and drama are (primarily) written representations of talk which do not include what has been termed "normal non-fluency" (cf. section 2.1). COCA, for instance, to highlight a further relevant issue, is popular because of its large size, up-to-dateness, general availability and ease of access, yet it includes exclusively spoken and written media language, e. g. from radio and television programmes, and newspapers and magazines. Some television programmes may be scripted, other programmes, for instance documentaries, may include casual everyday conversation. Researchers must be aware of the specific nature of pre-existing corpora and the data types they contain and select the material for their analyses very carefully. It is definitely helpful that large machine-readable corpora are, as a rule, subdivided into relevant categories, e. g. "spoken", "conversation", "academic"; these categories are, however, not well defined. They are mostly rather broad, lumping together different discourse types and genres, and they vary across corpora.

Large machine-readable corpora are most effectively used in work on the micro-pragmatic level, notably in work on micro-units such as discourse markers and similar phenomena. Form-based corpus searches for such units are quick and exhaustive (cf. O'Keeffe, this volume). These units can then be studied in the co-text of entire speech events. Searches for larger and, more importantly, more variable units such as speech acts are less successful. This applies even to speech acts whose realizations are relatively fixed. For example, in their search for compliments in the BNC, Jucker et al. (2008) found that even the highly routinized syntactic and semantic patterns identified by Manes and Wolfson (1981) in their seminal ethnographic study of American English compliments, which were used as search strings, did not yield the expected results. On the one hand, along with compliments utterances were retrieved which were not compliments although they displayed the same structural properties. On the other hand, compliments structurally not corresponding to the search strings were not found. To overcome these problems of precision and recall, a certain amount of manual sifting was necessary. A popular strategy in corpus-based speech act analysis is the employment of illocutionary force indicating devices (IFIDs) such as performative verbs (e. g. *invite*, *offer*, *apologize*) or other devices used in explicit realizations of speech acts such as *sorry* in apologies. Harrison and Allton (2013) and Lutzky and Kehoe (2017) are two recent studies that proceed in this fashion. Both studies examine apologies in a written digital genre, namely in emails and blogs respectively. Harrison and Allton (2013) base their analysis on a self-compiled corpus of email messages sent to discussion lists on academic and professional topics; Lutzky and Kehoe (2017)

worked with a sub-corpus of the Birmingham Blog Corpus (somewhat confusingly referred to as BBC) and compared their results to Deutschmann's (2003) BNC findings. For their searches, both Harrison and Allton (2013) and Lutzky and Kehoe (2017) used a small inventory of IFIDs which included not only *sorry* and *apologize* but also e. g. *excuse*, *forgive* and *regret*. Needless to say, lexemes such as the latter three occur in a range of speech acts other than apologies, and even *sorry* is not an unambiguous indicator of apologising as it is also used in commiserations and condolences (e. g. *I'm sorry to hear that …*). It is also clear that less explicitly marked and more indirect realizations cannot be retrieved by employing this procedure. This may not be critical for apologies, or thanking, greeting and farewells, yet many other speech acts are rarely or never realized by employing a performative verb; this holds in particular for conflictive and intrinsically face-threatening acts, among them requests, threats and insults. To remedy this situation and solve these problems, Jucker et al. (2012) recommend to search corpora for speech act verbs (e. g. *invite*, *suggest*, *warn*) as well as speech act nouns (e. g. *invitation*, *suggestion*, *warning*) in both their performative and their discursive uses, i. e. not only for realizing the respective speech acts, but also for talking about speech acts (e. g. reporting, commenting, challenging; cf. Schneider 2017). However, as long as hardly any pragmatically annotated corpora exist (cf. Archer and Culpeper, this volume), a certain amount of manual sifting will be required in many corpus-based studies in pragmatics research.

In general, the suitability of corpus data for comparative work is limited as corpus data are, as a rule, not immediately comparable, especially not across corpora. The ICE corpora are a notable exception. Currently thirteen ICE corpora are available, ranging from Canada and East Africa to Sri Lanka and the USA, and many more are planned or under construction. These corpora enable direct comparison due to their parallel design and composition. Each of these corpora consists of approximately 60 per cent of spoken language and 40 per cent of written language, covering dialogue and monologue, private and public, scripted and unscripted, including face-to-face conversations, telephone calls and speeches, some of them broadcast, as well as printed, typed and handwritten material, including journalistic genres and prose fiction <http://ice-corpora.net/ice/design.htm>. The ICE corpora are, however, not very large, each corpus containing approximately one million words only, which by today's standards is rather small, considering that the Brown Corpus (1961), regarded as the first machine-readable corpus, also includes one million words (of written language only), and corpora today often comprise several hundred million words or more. Of some of the existing ICE corpora only the written part is available to date, i. e. for Nigeria, Sri Lanka, USA. The Irish corpus, ICE-Ireland, is exceptional in two ways. First, it is divided into two parts, one for the Irish Republic and one for Northern Ireland, rendering each part only half the size of the other corpora and thus even smaller. Secondly, there is also SPICE-Ireland, which is a pragmatically annotated version of the spoken part of ICE-Ireland

and one of the very few pragmatically annotated corpora accessible today (cf. Archer and Culpeper, this volume). SPICE-Ireland is annotated for Searle's illocutionary types (Directives, Expressives, etc.) and for discourse markers and related phenomena, and is thus particularly suitable for work on these units of analysis. Unfortunately, none of the other ICE corpora is annotated in this way. Searching ICE-Ireland for individual illocutions (i. e. speech acts such as requests, complaints or advice) requires, however, manual sifting, though this is facilitated by the annotation of illocutionary types. A further obstacle to comparative work more generally is the lack of (sufficient) information about situations and about participants in almost all corpora. This problem is especially acute for investigations aimed at examining the impact of macro-social factors such as region, age or gender, e. g. in variational pragmatics.

3.2. Recording naturally occurring spoken interaction

While collecting written language is relatively simple and straightforward, collecting spoken language is much more demanding, and this holds in particular for recording naturally occurring spoken interaction such as everyday conversation. In this case, a high investment of time is required and a number of practical, technical, legal and ethical problems have to be solved (cf. section 4 below), including the acquisition of recording devices and transcription work. For researchers, audio- or video-recording naturally occurring conversation in the truest sense of the word is virtually impossible. Since consent of all participants is required prior to recording, the observer's paradox applies:

> […] the aim of linguistic research in the community must be to find out how people talk when they are not being systematically observed; yet we can only obtain this data by systematic observation. (Labov 1972: 209)

In other words, talk cannot be recorded without participants being aware of the fact and, thus, behaving in less natural ways accordingly. In some studies, it is, however, reported that participants tend to forget about being recorded and behave increasingly naturally the longer the recording takes and the speech event lasts, feeling particularly at ease in familiar situations and among friends. Tannen's study of conversation at a Thanksgiving dinner among six friends, which was audio-recorded for two-and-a-half hours, is a case in point (Tannen 1984, 2005). Another example is Rüegg's (2014) quasi-replication of Labov's (1966) famous department store study. Rüegg, working on socioeconomic variation in American English responses to thanks, audio-recorded talk in several Los Angeles restaurants belonging to three categories reflecting social class differences and labelled as "up", "middle" and "low". In each case, Rüegg had dinner with a group of friends and participated in the dinner conversations as well as in the interactions with waiters and waitresses. All people involved were informed about the recordings beforehand, including the

restaurant owners, but at least the waiters and waitresses seemed to forget it in the situation as they were busy doing their normal job. In Rüegg's study, the careful choice of locations for the recording and the same activities in all the locations, i. e. having dinner, were the *tertium comparationis* permitting immediate comparison and, thus, the analysis of socioeconomic variation in speech act realization.

Félix-Brasdefer (2015) employed a similar strategy. For his contrastive study of service encounters in Mexico and the United States, he selected four types of commercial and non-commercial settings as his third of comparison (small shops, supermarket delicatessens, open-air markets and visitor information centre). His book-length study is based on 147 hours of naturally occurring face-to-face service talk audio-recorded in the selected settings and analysed quantitatively and qualitatively for a range of phenomena including speech act realization, bargaining sequences, turn-taking, and prosodic features as well as cross-cultural and intra-cultural variation – in short, genre conventions on the micro- and macro-level and their invariant and variant features. Shop owners and authorities gave permission to make the recordings. Customers were informed in a written note displayed on the counter that the recordings were being made and had the option to refuse being recorded (cf. also Placencia 2008). The researcher did not participate in the recorded discourse.

Selecting a particular type of spoken discourse and/or a particular type of setting, institutional or otherwise, is also a strategy frequently employed by researchers in conversation analysis and interactional linguistics. For instance, Sacks based early work on a collection of telephone calls which were made to the helpline operated by The Los Angeles Suicide Prevention Center (cf. Schegloff 1992). By focusing on a particular discourse type or context and collecting similar cases, it is possible for researchers working in that ethnomethodological tradition to identify recurrent patterns of speaking, pausing, interrupting, etc. and draw conclusions about participant practices characteristic of the given discourse type or context and more specifically about "systematic", i. e. collective, solutions to interactional problems. In this fashion, researchers can make "seen" what is generally "unseen" and just taken for granted (cf. Garfinkel 1967). This approach underlines again the fundamental importance of comparative work and the centrality of comparability. Generalizations are not easily arrived at by comparing not readily comparable material, as is sometimes the case in investigations which are based on pre-existing machine-readable corpora, or by examining only one individual instance of a discourse type, e. g. a single everyday casual conversation, where it is not clear which properties are recurring or invariable and which are accidental or idiosyncratic. This approach focused on a particular context furthermore demonstrates the overall appropriateness of what is essentially a top-down strategy even in CA, which is primarily concerned with local phenomena. Finally, this approach emphasizes the role of context and the context-sensitivity of pragmatic phenomena, including turn-taking and pre-sequences, but also e. g. speech act realization. For example,

the aforementioned study by Harrison and Allton (2013) shows that there are crucial differences between apologies in email messages to discussion lists and in face-to-face conversation.

In general, it seems much easier to gain access and the permission to record naturally occurring spoken interaction if the researcher is a participant-observer, as was the case in Tannen's and Rüegg's studies. Being a participant also provides the researcher with the opportunity to steer the conversation in a particular direction, which may be crucial for the respective aim and research question. At the same time, participant observation reduces the degree of naturalness or authenticity of the talk. Researchers as external observers, on the other hand, may not have access to relevant information and misjudge the situation and the relationship between the interactants, especially in everyday conversation, but not to the same degree perhaps in e. g. service encounters or institutional discourse. If the observed interactants are strangers, i. e. not known to the researcher, and if what they talk about presupposes knowledge of their shared history and prior encounters, then researchers may not be able to fully understand the recorded discourse. This is a danger when adopting a less obtrusive etic (i. e. an outsider's), rather than an emic (i. e. an insider's) perspective (cf. also Markee 2013). In this case, a more adequate interpretation may only be achieved if researchers have the option to interview the conversationalists after the recording or, ideally, discuss with them the transcripts at a later stage to obtain a fuller picture.

After audio- or video-recording naturally occurring spoken interaction, transcription work is necessary to enable systematic analysis of the recorded material. This work should, however, not be underestimated, because it can be very time-consuming, the more so, the more fine-grained detail is to be transcribed. For instance, transcribing phenomena that researchers in conversation analysis and interactional linguistics are interested in, who would not accept any data type other than audio- or video-recorded naturally occurring spoken interaction, requires a lot of time and experience and presupposes specific training. Transcription work in this case involves e. g. measuring pauses and accurately representing interruptions, overlaps and simultaneous talk. Needless to say, transcribing non-verbal behaviour in video-recordings, in addition to verbal behaviour, is even more demanding and much more time-consuming (for further details about transcribing and systems and conventions of transcription cf. Kreuz and Riordan, this volume).

An alternative method of collecting naturally occurring spoken data is the ethnographic method, i. e. overhearing what other people say and writing it down, traditionally by hand. This method is also known as "taking field notes" and sometimes called "the notebook method" (Jucker 2009: 1616). The advantages of this method include that it avoids the observer's paradox as no consent of the people overheard is required. Moreover, no electronic recording equipment is needed and no transcription work involved. This method has been popular in sociolinguistic research, e. g. in the classical studies by Manes and Wolfson (1981) on American

English compliments and by Holmes (1986 and 1990) on New Zealand English compliments and apologies. So obviously this method is considered suitable for speech act analysis. However, there are at least two serious shortcomings. As mentioned above, at the beginning of this chapter, Manes and Wolfson were the target of methodological criticism. Doubt was cast on their result that compliments in American English are highly routinized and predictable. It was speculated that the data collectors had gathered only prototypical and explicit realizations not least because the investigators' students were among the collectors. More indirect and more creative and original compliments, it was argued, might have gone unnoticed. This criticism applies in fact more generally to any use of the ethnographic method for the purposes of investigations into speech act realizations. It is, *mutatis mutandis*, a version of the recall problem, otherwise considered typical of corpus-based speech act analysis, here specific to the method under inspection. A further shortcoming derives from the limitations of accurate hearing and memorizing. Keeping in mind what was actually said and how exactly it was said until it is written down is a challenging task. The longer, more complex and unpredictable an utterance, the harder it is to reliably enter its wording into a (conventional paper) notebook (cf. section 1 above). Obviously, the notebook method is best suited to the purposes of research on micro-units such as discourse markers, highly routinized speech acts and, perhaps, the contents of more complex speech acts, e. g. what is requested, promised or offered. The method is unsuitable for investigations of the exact wording of freely formulated speech acts, speech act sequences, interaction or turn-taking.

A recent example in which the ethnographic method was employed is Bieswanger's (2015) study of responses to thanks in American English and Canadian English. Focusing on a particular type of male and female informant (based on apparent demographic categories), he asked directions in New York City and in Vancouver. He paid special attention to his informants' reactions to his acts of thanking, after he had received the desired information, and manually wrote down their responses when his interlocutors were out of sight. Given the more limited inventory of realization strategies for responses to thanks, their brevity and their high degree of routinization, his data are more robust and reliable than the compliment and apology data collected by Manes and Wolfson and by Holmes. Bieswanger was not an eavesdropping bystander, but a participant in all interactions, invariably using the same type of question and of thanking, thus achieving a high degree of data homogeneity and comparability, which was central for his investigation conducted in the framework of variational pragmatics and comparing two national varieties of English. By contrast, Manes and Wolfson as well as Holmes were each focused on one particular national variety and addressed different research questions, among others how many different contexts compliments and apologies occur in and what topics they refer to, i. e. respectively the entity complimented and the offence apologized for. Bieswanger, who gathered his data alone, collected a total of 120 instances (30 male and 30 female informants in each

of the two cities) and provides raw numbers and percentages. Dinkin (in press) used the same strategy as Bieswanger, i. e. asking directions, in his study of age variation and apparent time changes in Canadian English responses to thanks. Like e. g. Manes and Wolfson and Holmes, Dinkin involved his students in the data collection and gathered more than 1,500 responses to thanks, on which he performed detailed quantitative and statistical analyses.

The responses to thanks collected by Bieswanger and by Dinkin were naturally occurring as the informants were not aware that their responses were recorded. On the other hand, their responses were not naturally occurring in the strict sense of the word, because they were elicited by the investigator. With explicit reference to Labov's (1972) department store study, Dinkin calls this procedure "rapid anonymous elicitation". In other words, the adopted procedure can be seen as halfway between truly naturally occurring spoken interaction, recorded by an observing non-participant, and data elicited in interactions initiated by the investigator under laboratory conditions. This procedure is, in other words, similar to experimentational methods, which will be discussed in section 3.3 below. As directions are asked from total strangers (hence "anonymous elicitation"), the interactions do not have any social consequences, which is a distinctive feature of almost all experimentational work, whereas truly naturally occurring interaction typically does have consequences in real life. Asking directions is an elicitation procedure also used in psychology, where it is considered an experimental method (cf. Gibbs, this volume).

3.3. Production tasks

This section deals with a wide range of different methods used to collect language data produced by language users. The common denominator of these different methods is that they are all experimentational methods. This means that they all meet the following five criteria:

(1) The language produced does not occur naturally, i. e. it does not arise from the genuine needs and desires of language users, but occurs on the initiative of a researcher.
(2) The language produced is elicited under conditions determined by the researcher, sometimes referred to as "laboratory conditions". That is to say, the researcher usually decides on time, place and setting of the data elicitation.
(3) All language users serving as informants are consciously aware that they are involved in an experiment and that their language productions are recorded, not necessarily electronically, and then used for research purposes. To this, they have given their consent, and they participate voluntarily (see section 4 on ethical issues).
(4) All informants follow instructions and complete a task designed by the researcher.

(5) At least in most cases, the language produced does not have any social consequences, unlike naturally occurring discourse. This lack of consequences contributes to the often bemoaned artificiality of the elicitation situations and the language produced therein.

The production tasks discussed in this section include elicited conversation, role plays, interviews and discourse completion tasks. They can be seen to form a continuum with decreasing interactionality and, at the same time, increasing researcher control (cf. also chapter 1, this volume, section 4.3 on researcher interference). Most of the production task formats discussed here can be, and have been, employed for testing purposes as well, specifically for assessing the pragmatic competence of foreign language learners and second language users (cf., e. g., Roever 2005, 2013).

3.3.1. Eliciting conversation

The essential difference between elicited talk and naturally occurring talk is that the former meets the above criteria. By comparison to other production tasks, researcher interference is minimal. As a rule, two participants are involved, who can be themselves, i. e. they are not requested to adopt social roles other than their own. The participant constellation is usually symmetrical, the type of talk elicited is conversation, and the topics are not predetermined. Under the heading "elicited conversation", Kasper (2008: 287) also subsumes tasks in which researchers specify topics, interactional goals or discourse roles. Such tasks are, however, very similar, if not identical, to the type of role play commonly referred to as role enactment (cf. 3.3.2).

Instructions which seem to work particularly well require participants who are complete strangers to get to know each other (e. g. Svennevig 1999). These instructions seem to work well not least because this situation is ecologically valid, i. e. participants can relate to it and have relevant previous experience, and may also be genuinely interested in getting to know somebody new. Thus, the language produced in this situation may even have social consequences. Getting acquainted was also the task in Haugh and Carbaugh's (2015) comparative study of initial encounters between speakers of American English and between speakers of Australian English, which was focused on self-presentation and self-disclosure, as the respective interactional practices were found inductively to differ across the two varieties of English under inspection. A total of 46 dyadic interactions was recorded audio-visually, amounting to a corpus of nineteen and a half hours. The informants were invited to participate in a project about "communication in English"; the specific research goal was not revealed. The participants were taken to a room and told that they were being recorded for the purposes of this project. They were allowed to talk about any topic they wished to discuss and to determine

the end of the recording themselves. The resulting recordings varied in length from approximately fifteen minutes to close to two hours. On the issue of social consequences, the investigators note:

> That getting to know people was indeed the aim of many participants was also evidenced by the fact that a number of these encounters resulted in further contact being made between those participants on their own initiative. (Haugh and Carbaugh 2015: 467)

Unlike in the anonymous elicitation reported in section 3.2, Haugh and Carbaugh had relevant information about their participants that they retrieved from a background questionnaire, as commonly used in experimentational work, providing demographic information such as age, regional affiliation and educational background.

Elicited conversation displays all features of naturally occurring conversation relevant to the purposes of pragmatics research, i. e. prosodic, formal, actional, interactional, organizational, etc. features. Collections of this data type may, therefore, serve as a corpus for examining a range of different phenomena, including intonation, discourse markers, speech act realization, adjacency pairs, speech act sequences, conversational openings and closings, turn-taking, interruptions and silence, to name but a few.

3.3.2. Role plays

Role plays are a commonly known task format frequently employed e. g. in foreign language teaching in schools or in communication trainings, including intercultural trainings, in business contexts. Role plays can be defined as "simulations of communicative encounters, usually (but not necessarily) conducted in dyads on the basis of role descriptions or instructions" (Kasper 2008: 288). Several subtypes have been distinguished with reference to the following parameters: nature and status of the roles ascribed, length and detail of instruction, and amount of the data elicited (cf. also Félix-Brasdefer, this volume).

Perhaps the most basic distinction is that between role plays (in a narrow and specific sense of the term) on the one hand and role enactment on the other hand. In the latter case, participants can simply be themselves and do not have to adopt a social role different from their own. In this regard, role enactment resembles elicited conversation (cf. section 3.3.1 above). By contrast, in role plays (narrowly defined) participants, e. g. college students, may be requested to take on roles such as teacher, bank manager or policeman, in other words roles for which they lack qualifications and experience. Role plays of this kind are nonetheless recorded if researchers are interested in particular role relations and scenarios, if only for the practical reason that it is much easier to recruit students as participants in research projects than actual teachers, bank managers or policemen. However, in this case, researchers have to bear in mind that the ecological validity of their data is limited.

The instructions for role plays (in the broad sense) can be very short and rather vague or extremely long and complex. The following examples (a) – (c) illustrate the shorter type (short instructions are also used e. g. by Hassall 2012, longer ones e. g. by Göy et al. 2012). The below examples are taken from an early project in discourse analysis which was based entirely on a role play corpus (Edmondson 1981: 77):

(a) Sheila wishes to borrow records off a flatmate
(b) Two travellers discover by accident that they seek the same destination
(c) Librarian notices student returning book has copiously annotated the text

In this particular research project, the participants were university students. All three of the above examples describe scenarios for which university students can be expected to have relevant experience, and this also applies to the remaining 21 scenarios used in that project. The scenarios can, therefore, be considered ecologically valid. However, unlike the second example, which is gender neutral, the first example explicitly requires male as well as female participants to act out Sheila's role. To facilitate the task, detailed background information on Sheila and her current situation (Edmondson 1981: 184) was given in writing, prior to the recording session, to the participants playing Sheila's role. Detailed background information was in fact given for all characters, including the assignment of male or female identities also in those cases which seem to be gender neutral in the instructions, e. g. flatmate, travellers, librarian and student in the above examples. Thus, the brief instructions illustrated above are all complemented with detailed background information about the characters involved. The total of 24 scenarios is not a random number chosen by the investigator, but was achieved by systematically varying relevant variables, including among others power, familiarity and whether something a person had done was positive and negative for the interlocutor (e. g. copiously annotating the text of a library book in example (c) above). The validity of the data is limited in those situations in which the student participants were required to play the role of e. g. a librarian, a landlady or a shopkeeper. While these roles do not correspond to the participants' identities in real life, it could be argued that university students have sufficient experience with librarians, landladies and shopkeepers to be able to play these roles more appropriately than social roles more alien to them. How the scenarios used in this project were actually developed is not revealed. It can be assumed that they were designed by the researcher himself employing the armchair method, which is a procedure commonly employed in experimentational studies. An alternative procedure is to ask members of the targeted participant group about relevant encounters, e. g. in an interview (cf. section 3.3.3 below).

Edmondson made more than two audio-recordings of each of his scenarios, which is a wise strategy if the time and means are available. He then chose two recordings for each scenario. Selection criteria included communication breakdown in the role play and participants' overacting or unnatural behaviour according

to the participant comments after the recording. The resulting collection comprised 48 role-plays, which were transcribed and analysed for discourse markers (termed "fumbles" in this project) and individual illocutions, and, most importantly, how these combine into interactional structures in spoken discourse.

Recently, Félix-Brasdefer (2009) carried out a role play-based investigation of requests in three Latin American varieties of Spanish (Mexico, Costa Rica, Dominican Republic). His population consisted of 18 participants per variety; all 54 participants were male. The three scenarios written for the role play recordings all included a symmetrical relationship between the interactants, but differing degrees of social distance. The 162 interactions in the role-play corpus were used to analyse aspects of requesting behaviour not normally examined. The focuses of analysis included not only the realization of request head acts, but also sequential features of requesting and request negotiations such as "initial" versus "post-initial requests", and also several types of downgrading including prosodic downgraders such as tempo, loudness and rate of delivery. These features were compared across the three Spanish-speaking cultures in the framework of variational pragmatics. This example shows how role play data, which display essentially all features of spoken interaction (albeit, perhaps, in a less natural way, due to the observer's paradox and the artificiality of the situation) may contribute to speech act analysis.

In her monograph-length study of discourse markers in British English, specifically *well*, *just*, *you know*, *like*, *sort of* and *I mean*, Beeching (2016) employed a corpus of 81 role enactments involving undergraduate students, which were based on the same instructions (Beeching 2016: 230). This corpus had been recorded at her university for a different purpose between 2010 and 2014 (Beeching 2016: 30–31). The data from this corpus were triangulated with data from the British National Corpus and the Old Bailey Corpus (Beeching 2016: 49–50). Additionally, 62 informants in two age groups (18–20 and 50–70) were asked to rate each of the six discourse markers on a five-point scale on four dimensions ("polite/impolite", "direct/indirect", "educated/uneducated", "friendly/unfriendly") (Beeching 2016: 40–41, 231–233; on rating tasks, cf. section 3.4.2 below).

Role plays with long and complex instructions for each participant are often referred to as simulations. While role plays with shorter instructions are preferred for teaching purposes in foreign language classrooms, simulations are often preferred for training purposes in business contexts; they are also employed in pragmatics for data collection in empirical research projects. A case in point is Pohle's (2009) study of Irish English business discourse, with a particular focus on offers and offer sequences in the context of negotiating talk. For this project, Pohle employed a simulation called *Munster Trips-Grand Canal Hotel Negotiation Simulation*, which she had adapted from Groth's (2001) *Brit Trips-Midway Hotel Negotiation Simulation*, originally developed for educational purposes. The participants were eight middle-aged Irish males with formal qualifications in Commerce or Business Studies and practical experience in business negotiations (the demographic infor-

mation was provided in a post-simulation questionnaire). While strictly speaking the participants took on identities different from their own and assumed the roles of hotel manager or tour operator, there was a huge overlap with their own professional identities and their experience as sellers and buyers. The simulated negotiations were inconsequential, in opposition to simulations employed in research in behavioural economics that involve real money. Pohle's simulation did not involve any gains or losses, apart, perhaps, from immaterial ones concerning professional face and reputation. The simulations were video-recorded; additional audio-recordings were made to enhance the quality of the recordings and to facilitate the transcription work. The instructions for this simulation (commonly referred to as "simulation briefs") were for the hotel manager three and for the tour operator four pages long, for which the participants were given twenty minutes reading and preparation time. Groth (2001) gave his participants one hour, but these participants were students and not professionals. Simulations used in research can also be much more complex and simulation briefs considerably longer than in Groth's and Pohle's case. For instance, in Martin's (2001) sales negotiation simulation participants were given two weeks preparation time working on the briefs.

At the other end of the complexity continuum is a production task format called "closed role play". Closed role plays involve only one participant and elicit only single-turn responses. The scenarios which participants are asked to produce an oral response to may be provided by the investigator in an oral or written description or by a computer as aural and visual input, as in a multimedia elicitation task (MET) (Schauer 2004). Closed role plays do elicit spoken data, thus permitting the analysis of specific features of spoken language use, e. g. the oral performance of speech acts. Yet, since closed role plays yield only single-turn responses, they cannot be used for research on interactional features, e. g. sequential aspects or turn-taking phenomena. This type of role play is therefore more adequately labelled "oral discourse completion task" (cf. section 3.3.4 below).

3.3.3. Interviews

Interviews are well known to the general public as a journalistic genre, and also widely employed in research to elicit language production, and used especially in sociolinguistics (cf. Kasper 2008: 287). Interviews may be considered a subtype of elicited talk, which is, however, much more constrained than elicited conversation. The participant roles in interviews are fixed, one participant is the interviewer, the other participant is the interviewee; there may also be more than one interviewee. The relationship between interviewer and interviewee is an asymmetrical one, with the interviewer in the more powerful position. The interviewer asks the questions (requests for information), the interviewee gives the answers (provides the information). The interviewer also controls the topics of the interview. Labov (1970) took great care to make the relationship between interviewer and interviewee more

symmetrical and thus less intimidating than before. This was particularly important in his work with Afro-American adolescents, who had been interviewed before by much older interviewers who were European Americans, usually the researchers themselves. Labov introduced interviewers who were also Afro-Americans and much closer in age to the interviewees. Moreover, he created a more relaxed atmosphere by serving the interviewees soft drinks and snacks. These were some of Labov's successful methodological innovations. Under these new conditions, the interviewees were more cooperative, less monosyllabic, and spoke more freely.

In sociolinguistic interviews, interviewees are standardly asked to tell their life story, share some experience, narrate dangerous incidents or funny episodes. In these cases, sociolinguists work on the assumption that the more emotional a story, the more emotional the speech, which makes it possible for them to compare standard and vernacular speech, and formal and informal styles. The language produced in interviews can, of course, also be analysed to examine a range of phenomena interesting to pragmaticists, e. g. backchannelling, turn-taking and repair (e. g. Færch and Kasper 1982). Speech act realizations can also be studied. For instance Schneider (2007) compared responses to thanks in closing sequences of ethnographic interviews (about attitudes towards regional dialects in England), radio interviews and shop encounters to examine the impact of the discourse genre on speech act realization, in this case treating ethnographic interviews, which are similar to sociolinguistic interviews (cf. also Roulston 2013), as one discourse genre among others.

Interviews as a method of data collection can also be employed for distinctly different research purposes. They can, for instance, be used by researchers to elicit first-order conceptualizations of such categories as politeness and rudeness or particular speech acts. For instance, interviewees may be asked to share their understanding of compliments, threats or insults, to explain the difference between suggestions and proposals, or between requests, orders and commands, or they may be asked to define small talk, gossip or banter. While lay persons' interpretations of such terms can also be induced from instances of these meta-pragmatic terms in naturally occurring spoken or written discourse (cf. section 2.2 above, also Haugh, this volume), lay persons may explicitly be asked what their understanding is in an interview. In this case, the interview is not a sociolinguistic interview, but a meta-pragmatic interview (cf. Kasper 2008: 296–297). First-order conceptualizations elicited in meta-pragmatic interviews can then be compared to second-order conceptualizations of the same phenomena developed in armchair research and may thus complement expert definitions and theoretical constructs (cf., e. g., Watts's postulate that (im)politeness theories should be informed by lay persons' interpretations of politeness and impoliteness; e. g. Watts 2003).

A further goal for which interviews can be used to collect data is to ask interviewees to provide examples of a particular speech act, i. e. utterances realising e. g. a complaint or an invitation. For instance, they may be invited to remember the last

compliment they received (e. g. Herbert 1989) or to tell the interviewer when and how they were last exposed aggression. Interviews used for this particular purpose resemble oral discourse completion tasks (also referred to as closed role plays). Additionally, interviewees may be requested to provide examples of e. g. situations in which small talk is likely to occur, in what type of situations compliments are expected, or what they would say in a particular context. In this manner, interviews can also be employed to generate scenarios for role plays or discourse completion tasks. Scenarios elicited in this way should be ecologically more valid than scenarios thought up in an armchair way by the investigators themselves, especially if the views of several interviewees on typical scenarios converge.

Retrospective interviews conducted after the completion of a production task, e. g. a role play or a discourse completion task, may help the researcher to better understand what the informants said, why they said what they said and how they said it. Such an interview may provide additional information and may shed light on some of the informants' decisions, choices and realizations. For instance, in her longitudinal study of request modification in graduate learners of English, Woodfield (2012) used a role play method and after the last recording session conducted retrospective interviews with her participants to elicit additional qualitative data. In these interviews, she asked such questions as "What went through your mind while you were doing the role-play?" and "How did you decide to say what you did?" (Woodfield 2012: 48; cf. also Barron 2003).

After a role play, the audio- or video- recording may be replayed to the participants in part or in total, and the informants may be interviewed by the researcher about particular passages, either to achieve a better hearing of what had been said or to elicit comments and explanations. For the same purposes, informants may alternatively be shown the transcript of a recording. However, due to the delay informants may no longer accurately remember some details or tell the interviewer what they think they had said and why, thus providing unreliable data.

Finally, interviews known as "oral proficiency interviews" (OPIs) are an integral part of many standardized language tests that are used internationally (e. g. IELTS). These interviews are included to assess the language proficiency of foreign language learners, including their pragmatic competence in the target language. Specifically, they are intended to reveal to what extend learners have acquired the necessary oral skills and interactional competence to perform successfully in an interview, e. g. to understand the interviewer's questions and to react in an appropriate manner (e. g. Seedhouse 2013).

3.3.4. Discourse completion tasks

Discourse completion tasks (DCTs) are especially popular in contrastive, cross-cultural and interlanguage pragmatics (cf. Ogiermann, this volume). DCTs are overwhelmingly administered in writing, which contributes to the popularity of this

method, as written data do not require any time-consuming transcription work. On the other hand, this feature has received a lot of criticism. There are, however, studies, though not very many by comparison, in which DCTs are administered orally to elicit genuine spoken language and not written representations thereof. Jones and Adrefiza (2017) are a recent example (for a comparison of written and oral discourse completion tasks, cf. Yuan 2001, whose comparison also involves field notes and naturally occurring conversation).

A DCT consists of a brief description of a situation which requires a reaction from informants. The situations described typically involve two interactants and are comparable to role play scenarios. Informants are requested to give only a single-turn answer to complete the discourse in each situation; as a rule they are expected to produce a particular speech act, e. g. a complaint, or an apology as in the following example (Tanaka et al. 2008: 90, original italics):

> You have a meeting with your lecturer at 2.30 p.m. You arrive there at exactly 2.30 p.m., but he is cross with you, saying you promised to be there at 2.00 p.m. Your lecturer says in an annoyed tone:
> Your lecturer: *You're 30 minutes late! We agreed to meet at 2o'clock. What happened?*
> You: ……

The informants' turn may be preceded by a turn of their fictional interlocutor, as in the above example. The informants' turn may also be followed by a turn of that interlocutor, termed "rejoinder", whose function it is to limit the options that informants have to complete the discourse and, thus, make it more likely that informants produce the speech act the researcher is interested in. The occurrence of a rejoinder does have an effect on what informants actually write and how they write it (cf. Johnston et al.1998).

As a rule, several DCTs are included in a production questionnaire. The number of DCTs in a questionnaire may differ widely from study to study depending on the respective research questions and the background of the research. For instance, Blum-Kulka et al. (1989), in their paradigmatic Cross-Cultural Speech Act Realisation Project (CCSARP) focused on requests and apologies, employed a questionnaire including sixteen DCTs. Ren (2015b), in his study of requests, compliments and refusals used twenty DCTs, Mulo Farenkia (2015), in his study of invitation refusals and other speech acts, used twenty-nine, and Chen (1993), in his study of compliment responses, used only four. The length of the questionnaire is not an arbitrary decision taken by the researchers. Chen based the design of his questionnaire on the topic categories identified by Holmes (1988) in her ethnographic study of New Zealand English compliments, e. g. appearance and possession. The length of the questionnaire obviously also depends on the number of speech acts under study and, more importantly, on the number of situational variables that are systematically varied. For example, Ogiermann (2009), in her study of apologies in English, Polish and Russian, employs eight DCTs which are controlled for power,

distance, the apology receivers' gender and their face harmed (Ogiermann 2009: 85).

Length of questionnaire is not to be underestimated. The longer a questionnaire, the lower the informants' cooperativity and their motivation to complete all DCTs included. Also, informants tend to get bored when they realize what a questionnaire is about, which is not what researchers normally tell their participants before they complete a questionnaire. However, the focus of interest becomes apparent the longer a questionnaire is, particularly if all DCTs are designed to elicit the same speech act. This effect can be mitigated by including distractors. Yet, distractors make a questionnaire even longer.

In the Questionnaire on English Usage (QEU) a different approach was adopted, as different research questions were addressed. This questionnaire includes fifteen tasks, of which nine are discourse completion tasks, four are multiple choice tasks, and two are dialogue production tasks (also called dialogue construction tasks or free discourse completion tasks; cf. Barron 2003). While multiple choice tasks are well known and frequently used in many contexts, academic and otherwise (cf. section 3.4 below), dialogue production tasks (DPTs), in which informants are asked to individually write short dyadic conversations, are only rarely found in pragmatics research. The three task formats included in the QEU occur in random order. The fifteen tasks in this questionnaire were not designed to cover just one or two but seven different speech acts (some occurring more than once) and two types of phatic discourse. Among the seven speech acts there are initiating as well as reacting acts, e. g. requests and responses to thanks, and polite as well as impolite speech acts, e. g. apologies and responses to insults. All targeted phenomena also occur in the questionnaire in a random order. With these features – three different task formats and nine different pragmatic phenomena –, the QEU is a written mixed-task multi-focus questionnaire (cf. Schneider 2005: 110–111). Given this diversity, no distractors were needed.

The Questionnaire on English Usage was obviously not designed to systematically study the impact of micro-social factors such as power and social distance on the realization of one or two speech acts (although there is some degree of the situational variation between the tasks intended to elicit a speech act which occurs more than once in the questionnaire). The QEU was originally developed for the project "The Pragmatics of Irish English" (Barron and Schneider 2005). The initial idea was to capture a pragmatic profile of a community of speakers, in this case native speakers of Irish English. Later, a neutral version of the QEU, in which e. g. typically Irish names such as Niamh and Sinead were replaced by names more generally used in the English-speaking world, was used to collect data in further Anglophone countries, specifically in England, the USA and Canada, from first language speakers, and in Ghana from second language speakers. The QEU was also used to collect data from German learners of English as a foreign language at school and at university level, and also, with a German translation of the QEU,

German first language data. It is thus possible to establish native speaker norms and pragmatic profiles of individual speakers, and to conduct research in interlanguage pragmatics in the classical tripartite design of comparing learner performance to native speaker performance in both the target language and the native language of the learners. Recently, the QUE has been employed to collect data in Namibia to obtain a pragmatic profile of English as it is used in this multilingual country in which it is spoken in second and foreign language varieties of different proficiencies which seem to form a continuum. In this project on Namibia, the QEU data are supplemented with meta-pragmatic focus group discussions (cf. also Ho 2013), role plays, sociolinguistic interviews, field notes and public spoken and written media discourse (cf. Schröder and Schneider, in press).

Discourse completion tasks have been subject to extended criticism. First, it has been criticized that DCTs elicit written data to gain insights into spoken discourse, thus missing many features characteristic of oral communication, such as hesitations, repair and intonation. This is, of course, an issue of data validity. Second, it has been criticized that writers have much more planning time than they would ever have in conversation. A reaction to these two points of criticism is the introduction of oral DCTs. Third, it has been found that informants feel obliged to write something in the lines provided in the questionnaire, even though they would rather remain silent in a similar situation in real-life contexts. In response to this, a variant of the classical DCT format has been developed which provides informants with a further option usually phrased as e. g. "In real-life, would you prefer to say nothing in this situation?" A fourth point of criticism is that informants may imagine distinctly different scenarios given the brevity of the instructions. A solution to this problem is to ask informants to think aloud and verbalize everything which goes through their mind while they are completing a production questionnaire. Recordings of these verbal reports may reveal how informants imagine the situations described in DCT instructions. An alternative method would be to explicitly ask informants in retrospective interviews how they imagined the situations (cf. section 3.3.3 above). It has further been criticized that only single-turn contributions are elicited, although in naturally occurring discourse many speech acts are negotiated across a number of turns. An attempt to elicit dialogical data is the creation of dialogue production tasks in which informants have to write entire dialogues. DPTs are usually completed individually, but they could also be completed by two participants jointly. Entire email messages were elicited by employing a tool also referred to as a discourse completion task (Pan 2012). Pan's questionnaire, which included six such DCTs, was designed for a study on interlanguage requests in institutional discourse (Pan 2012: 160–161).

Finally, it has been pointed out that informants completing a production questionnaire do not write what they would actually say in real-life situations, but what they think they would say or what they should say (or, indeed, what they think would please the researcher). In response, it has been emphasized that data of this

type are evidence of and provide access to culture-specific social norms governing verbal behaviour and the expectations of discourse participants (cf. Schneider 2012).

Discourse completion tasks also have undisputed advantages. Written DCTs can be used to collect large datasets from a large number of informants in a short time, e. g. simultaneously from hundreds of students in a lecture hall. Production questionnaires can also be distributed by email or in social media networks. Even larger datasets, from thousands of pre-selectable informants, can be gathered in a very short time by using platforms otherwise used for crowdfunding, e. g. CrowdFlower (www.crowdflower.com, cf. Renkwitz and Sickinger forthcoming). As these are commercial platforms, informants have to be paid small amounts of money. Yet this seems only fair (cf. section 4.4 below). While paying informants is the standard in many empirical disciplines, including e. g. psychology and behavioural economics, this is unfortunately not common practice in pragmatics and other fields of linguistics research. Finally, and most importantly, employing DCTs provides immediately comparable sets of data, which are indispensable for any comparative work in pragmatics, especially in inter-lingual, inter-varietal and cross-cultural research.

3.4. Comprehension tasks and judgement tasks

Production tasks such as interviews, role plays and DCTs (cf. section 3.3 above) require not only productive competencies, but also receptive competencies, i. e. comprehension. The interview questions and the instructions and scenarios in role plays and DCTs have to be understood on a very basic lexico-grammatical level, before informants can give an answer or provide some other response. Furthermore, informants must be able to adequately interpret the respective social situation, the relationship between the participants involved in it and their respective contributions to a discourse, before informants can come up with an appropriate contribution of their own. Yet, there are also experimentational methods which are focused on comprehension alone, specifically on comprehension beyond the level of understanding words and grammatical constructions, i. e. on understanding pragmatic meaning (in the multifarious senses of this term). Tasks of this type are used to study e. g. how people understand particular utterances, especially how people infer what is meant from what is said and what is implied (or implicated). Tasks of this type are also used to study how young children acquire the necessary abilities for understanding pragmatic meaning in their native language, or how students learn these abilities in a foreign language. Comprehension tasks are also employed for testing purposes, and not only for testing children and learners, but also patients suffering from neuro-degenerative diseases, e. g. from dementia. In other tasks of this type, informants are provided with systematically varied linguistic input to find out whether or to what extent these variations impact the

informants' linguistic output given in response. Comprehension tasks often involve judgement. For example, informants may be asked to say whether utterances are true or not, or to what degree they are acceptable, in order to establish whether the informants understand the implicatures. In similar tasks, informants are requested to assess how polite or impolite utterances are, or to what degree they are appropriate or inappropriate in a particular social situation.

As speech act theory is essentially speaker-oriented, empirical speech act research is primarily focused on speech act performance, which is examined by employing production tasks. As Gricean theory, on the other hand, is essentially hearer-oriented, empirical research in the framework of relevance theory is predominantly focused on inferencing and, hence, comprehension tasks are preferred. Finally, judgement tasks designed to elicit politeness ratings or the perception of appropriateness are mostly used in (im)politeness research. Overall, investigations in which comprehension and judgement tasks are employed concentrate predominantly on individual utterances and not on interactional discourse. Such tasks are, therefore, generally not suitable for macro-pragmatic analysis, e. g. the examination of discursive sequences or entire speech events. In the following, two major types of comprehension and judgement tasks are discussed. These are multiple choice tasks (3.4.1) and rating scales (3.4.2).

3.4.1. Multiple choice tasks

Multiple choice tasks (MCTs) are commonly known to the general public, especially from testing contexts. In MCTs, informants are presented with several options, usually four or five, from which they are asked to select one, especially if MCTs are employed for the purposes of pragmatics research. In testing, by contrast, any number of the options presented may be correct answers. Yet, MCTs for research purposes are not, as a rule, about correctness, but essentially about appropriateness. Two subtypes can be distinguished; by default, both are administered in writing. In one subtype, informants merely have to decide without context which of the utterances presented is the most direct and/or the least direct one, or which one is perceived as the most polite or the most impolite one. This subtype is a judgement task suitable for perception studies.

The other subtype, which is probably used more frequently, includes a description of a situation similar to a scenario in a DCT (cf. section 3.3.4 above). Yet unlike in DCTs, informants are not asked to produce a turn-at-talk including a particular speech act, instead they are asked to select from among four or five alternative realizations of a speech act the one they consider most appropriate in the given situation. So this subtype is basically a selection task. Here is an example (Roth 2002: 279):

You are having a massive argument with your friend in the course of which she yells at you: *Oh you bloody liar! I can't believe you're being such a bitch!*
Please circle the letter of the answer which best represents what you would say or do:

a) *Sorry, I think you've misunderstood me.*
b) *Only because you are such a stupid cow.*
c) *Look who's talking.*
d) I would walk out.

Note that while the first three options in this particular example (a–c) include direct speech (here represented in italics), the fourth option gives informants the opportunity to select a non-verbal response. In another variant, an additional slot is added to provide informants with the space to formulate an answer of their own, as in a DCT, if they regard neither of the alternative realizations as appropriate.

Basically, the options informants can select from may be fabricated by the researcher or taken from previous research. Intuitive fabrication is, however, not recommended as researchers may not be aware of crucial alternative realizations (cf. Kasper 2000: 331). The options included in the above example are taken from DCT data elicited in the same study about responses to insults in British English in which discourse completion tasks were combined with retrospective interviews and MCTs (cf. Roth 2002: 37–50). MCTs seem particularly suitable to investigations into impoliteness and verbal aggression, e. g. swearing or insults, as informants are often inhibited when they are requested to commit "foul language" to paper.

Moreover, Rose (1994) found that in non-Western contexts a questionnaire including MCTs yielded more valid data than a questionnaire including DCTs, specifically with informants from Japan. Further studies support these findings (cf. Kasper 2000: 330–331). Postgraduates from China (personal communication) have also repeatedly confirmed that Asian students feel uncomfortable with DCTs, not knowing what to write, and clearly prefer MCTs. Obviously, the processing demands posed by MCTs are lower in terms of cognitive cost than in a free recall task such as a DCT. Rose's study was focused on request realization. More recent studies have, however, challenged the reliability of MCTs in speech act production research. This data collection method seems to be better suited to research into comprehension (cf. Roever 2005).

3.4.2. Rating scales

Rating scales, specifically Likert scales, are used to elicit assessments of utterances or situations in terms of correctness, appropriateness, politeness, formality, and so on. For this purpose, scales are employed which predominantly range from 1 to 5 (cf. Dörnyei 2003: 36–39). For instance, in a study of compliment responses among Malaysian multilinguals, Min (2015) devised a questionnaire (in four languages) in which the participants were asked to rank the five answers in each of

her multiple choice tasks on a five-point appropriateness scale, with 1 = "least appropriate", 5 = "most appropriate".

In cross-cultural and interlanguage pragmatics, rating scales are used to elicit pragmalinguistic assessments as well as sociopragmatic assessments. In the former case, participants are asked to judge the appropriateness of linguistic realizations of a particular speech act in a given social situation, in the latter case participants are asked how they perceive and understand a situation in terms of e. g. power, distance, degree of imposition or severity of offence. Sociopragmatic assessments can play a crucial role in the development of such instruments as role plays tasks and discourse completion tasks. Researchers may outline scenarios for such tasks and then ask participants in a pre-test to rate the contextual variables involved. This is a procedure that helps to increase the validity of a study (cf. Kasper 2008: 295–296).

In politeness research, rating scales are less popular today than they used to be before the advent of discursive approaches according to which politeness cannot be judged in individual utterances and out of context (cf. e. g. Watts 2010). Leech (2014: 250–251), however, insists that what he calls "pragmalinguistic politeness" can be assessed without context, e. g. by rating alternative realizations of a speech act, and that participants' ratings reflect a default interpretation. It should be emphasized here that such default interpretations reveal first-order conceptualizations of politeness. Leech also rejects Kasper and Dahl's (1991: 219) criticism that participants imagine a specific situational context if no context is provided by the researcher in a judgement task. He argues that there is no proof of their assumption and claims that participants rely on a "generalized context". Some proof might be gained from think-aloud protocols simultaneously recorded during the completion of judgement tasks (cf. section 3.3.4 above).

Rating scales are also used for triangulation purposes, specifically in support of other methods. For instance, in a comparative study on perceptions of impoliteness across five cultures (England, China, Finland, Germany and Turkey), Culpeper et al. (2010) first asked their student participants to report impoliteness events and then gave them a rating task to assess the severity of the offence in the events reported.

In the Gricean paradigm, judgement tasks are used to examine pragmatic comprehension in adults as well as in children. Characteristically, participants are asked to rate on a binary scale whether or not an utterance is e. g. true or false, correct or incorrect, appropriate or inappropriate. This task type is commonly used e. g. in empirical work on scalar implicatures, especially truth value judgements (e. g. Barner et al. 2011). Variants of this particular format include felicity judgement tasks, in which participants have to decide which of two (or more) utterances matches a picture, and picture selection tasks, in which participants have to decide which of two (or more) pictures matches a given utterance (cf. Félix-Brasdefer and Hasler-Barker 2017: 34–35, also for examples). Binary scales may, however, not reliably assess pragmatic comprehension competence, as Katsos and Smith

(2010) demonstrate. In a series of experiments with young children, they found that graded judgement tasks employing a five-point rating scale yielded more reliable results (cf. Veenstra and Katsos, this volume, for more examples and discussion).

While the input in judgement tasks is predominantly written, Cohen (2012: 286) proposes that role plays could be used in intercultural pragmatics for both self-assessment and peer-assessment. He further proposes to employ rating scales in combination with video prompts for judging nonverbal behaviour, including the appropriateness of target culture-specific gaze and gestures used by non-native participants. Cohen (2012: 286–287) also refers to Roever's (2010) suggestion to judge the appropriateness of the overall speech style adopted in an entire speech event. These examples show that rating scales and judgement tasks, while overwhelmingly employed to assess individual written utterances, can also be used to assess complete oral interactions including nonverbal behaviour.

Ratings can easily be quantified and subjected to statistical analysis (cf. Félix-Brasdefer and Hasler-Barker 2017: 32). Yet the results from such analysis may only be pseudo-objective. In a small-scale study, informants were asked to assess the appropriateness of naturally occurring emails written by Australian students to their lecturer (Schneider 2013). For the ratings, a five-point scale was employed. Additionally, the informants were provided with space to say which features of the emails they based their assessments on (cf. also Economidou-Kogetsidis 2011). More instructive than the numerical ratings were the participants' comments on features of the emails, which in some cases were perfectly incompatible with the numerical ratings. It was not clear in these cases what the ratings were actually based on. In a study of apologies in Japanese and English, Tanaka et al. (2008) combined judgement tasks with discourse completion tasks, and in a study of Chinese and British reactions to compliment responses, Spencer-Oatey et al. (2008) combined judgement tasks with multiple choice tasks. In both these studies, the participants had to assess aspects of each scenario on three different five-point rating scales, e. g. on the responsibility for the problem (in the apology study) or the conceitedness of the compliment responses. In each of the two studies, the participants were also asked to explain their ratings.

3.5. Further data collection methods

In addition to the methods discussed in the preceding sections, three further methods of data collection for pragmatics research are briefly mentioned here. These are the philological method, the diary method, and a group of methods which can be referred to collectively as psycho- and neurolinguistic methods.

The philological method is a time-honoured method of data collection employed long before corpora in today's technical sense were available. Essentially, researchers employing this method simply read, or more systematically mine, written texts for particular phenomena that they are interested in, usually fictional texts, but

also letters and other non-fictional material. For many decades if not centuries, this method was used e. g. in lexicography to find occurrences of words to be included in dictionaries as examples. In pragmatics research, this method can be used for finding occurrences of speech acts. Jucker (2009: 1616) classifies the philological method as a field method, because the texts searched have occurred naturally for a communicative goal and have not been elicited by investigators for research purposes. Jucker highlights as a strength of this method that researchers may go through the texts repeatedly and thus find all occurrences of a particular speech act. He also mentions as a downside that this method is time consuming and may not yield many instances of the speech act in question. Manually mining a machine-readable corpus, or corpus samples, due to a lack of relevant pragmatic annotation and in order to circumvent the problems of precision and recall (cf. section 3.1 above) may also be considered as deploying the philological method.

The diary method has been used most extensively in second language research. Typically, foreign language learners are asked to keep a diary e. g. about their learning progress during a year abroad. Such diaries may shed some light on topics and issues that are relevant to pragmatics research, e. g. on the learners' perceptions of native speaker practices, behaviours and norms that learners find surprising or annoying. Learners may also report situations and events they experienced as particularly pleasant or threatening, or instances of miscommunication and misunderstandings. As there are, as a rule, only general instructions and no specific guidelines what to enter in such diaries, Kasper (2008: 297) calls these diaries "the least pre-structured type of self-report". Diaries can also be kept by researchers to more systematically collect instances of particular incidents or phenomena (e. g. Zhu 2004). Diary entries may be used in qualitative research to generate new ideas and new research questions, especially for investigations in cross-cultural and interlanguage pragmatics.

A range of methods adopted from psycholinguistics and psychology and, increasingly, neurolinguistics and neurology are currently popular in Gricean pragmatics, notably in "Experimental Pragmatics" in a narrow and specific sense, also known as "XPrag" (cf., e. g., Noveck and Sperber 2004). Some psycholinguistic methods employed to study pragmatic production are, in fact, similar to experimentational methods discussed in section 3.3 above (cf. Gibbs, this volume). Eye-tracking and neurolinguistic methods, on the other hand, which are predominantly used to study pragmatic comprehension, are more specific. These methods include neuroimaging, and specifically event-related potential (ERP), electroencephalography (EEG), and functional magnetic resonance imaging (fMRI) (cf. Golato and Golato 2013: 3–4, and Félix-Brasdefer and Hasler-Barker 2017: 35–36 for examples and discussion, also Clark, this volume, and Veenstra and Katsos, this volume). Eye-tracking is, however, also used in other paradigms of pragmatics. For instance, Auer (2017) reports a study of gaze in conversation from an interactionist perspective in which mobile eye-trackers were worn by the participants in a triadic conversation.

It must be emphasized that neuroimaging methods cannot reveal what is said, how it is said and why it is said or what is understood and how. In general, these methods measure only blood flow in the brain and activation of specific brain areas that correlate with particular linguistic activities. These methods thus provide indirect and supportive evidence of some aspects of pragmatic processing.

4. Ethical issues in data collection

Methods and data collection procedures are not a given, they belong to research traditions and have developed over time. This is why not only recent studies are referred to in the above sections of this chapter, but also classical, pioneering and groundbreaking work. Similarly, technical and ethical aspects of research as well as relevant legislation all have a historical dimension. In his account of methods in discourse analysis, Jones (2013) emphasizes that data collection and transcription are cultural practices. His focus is this:

> how these cultural practices have changed over the years as different *cultural tools* (tape recorders, video cameras and computers) have become available to analysts, making new kinds of knowledge and new kinds of disciplinary identities possible. (Jones 2013: 10; original emphasis)

Yet data collection is not the only dimension of research which is subject to change and cultural impact. Further relevant dimensions are ethics and related legislation. In many countries, and particularly in the English-speaking world, there is explicit legislation concerning research ethics (cf. Dörnyei 2007: 66, also Kono 2013). Needless to say, legislation, and even entire legal systems, change over time and vary across cultures. Ethical norms and ethical concepts are not invariant or universal either. The development of research ethics in particular can be described as an ongoing process of increasing awareness and sensitivity, sometimes leading to overreactions and undue rigidity, which has been referred to as "ethical correctness" (Dörnyei 2007: 72). Furthermore, central ethical notions such as privacy and ownership differ cross-culturally. However, over the past few decades standards of ethical conduct and best practices in empirical research have emerged which are generally accepted and subscribed to by most researchers in pragmatics. Any kind of research, including armchair research, requires ethical conduct and responsible behaviour on the part of the researchers, and this includes in particular scientific integrity and academic rigour. As Dörnyei (2007: 66) puts it: "At the heart of research ethics lies the moral character of the researcher." In addition to such general principles, empirical research involving the collection of data from people other than the researcher makes it necessary to follow further more specific ethical principles. These specific principles include first and foremost the principles of welfare, of autonomy and of privacy (cf. e. g. Lazaraton 2013), and also the principle

of justice (cf. Kono 2013). The first three of these principles can be conceptualized as macroethical principles, i. e. general principles standardly required by review boards and ethics committees at universities and in other institutions. Microethics, by contrast, concerns the more particular requirements in the specific context of an investigation (on the distinction between macroethics and microethics, cf. Guillemin and Gillam 2004). The three macroethical principles mentioned above will be discussed in detail below (sections 4.1–4.3), with particular reference to empirical research in pragmatics. The principle of justice will briefly be dealt with in the context of the principle of welfare in section 4.1. A further principle worth mentioning is the principle of indebtedness, which will also be discussed below (section 4.4). Overall, the ethical principles surveyed in this chapter should not be understood as rigid norms but as guidelines for responsible conduct in data collection.

4.1. The principle of welfare

The principle of welfare concerns the participants' well-being. It is glossed by Lazaraton (2013: 2) as "do no harm." It should go without saying that no research should ever inflict any harm on participating human subjects, neither physical or psychological pain nor material damage, and participants should not be exposed to any risk of suffering such harm. This basic ethical principle seems immediately relevant to e. g. medical studies or research in pharmacology where such risks exist and may be weighed against the benefits for patients. For research in pragmatics, it is also the primary principle of research ethics, although physical pain or material damage is not likely to occur in experimentational work, let alone in field work. Psychological discomfort, on the other hand, may occur, especially in laboratory settings. It is the researchers' responsibility to create a non-threatening atmosphere and make their participants comfortable (cf. section 3.3.3 above on Labov's measures to make interview situations less intimidating). More generally, participants may feel under pressure if they are the investigator's students, which is often the case in pragmatics research. The power differential may be intimidating, the dependent relationship may be inhibiting and the students may not participate entirely voluntarily. Similarly, asking colleagues to participate may be problematic because they may think their professional face is at stake, and involving family members and relatives may also have a negative effect on these individuals as well as on the quality of the data. Kubanyiova (2008: 510) considers such constellations "unethical at the micro-level". Moreover, the so-called principle of justice is relevant here. According to this principle, "participants should be selected based on their relevance to the research rather than convenience in order to avoid manipulation of the study" (cf. Kono 2013: 2). As mentioned in section 2.7 above, involving one's own students is a convenient way for academics and school teachers to recruit participants for their research. What is needed, however, are not convenience samples but relevance samples.

4.2. The principle of autonomy

Arguably, the principle of autonomy is the ethical principle most relevant to data collection in pragmatics research. This principle refers to the researchers' responsibility to respect and protect the autonomy of the individuals participating in their research. This means that participant consent must be obtained whenever researchers wish to collect data from people by observation or by experimentation. Prospective participants must be given the choice of participation, i. e. they must be able to decide whether or not they want to get involved, and if they do, that they take part voluntarily. The decision to participate should be an informed decision, i. e. based on information about all relevant issues concerning the investigation. In other words, informed consent is required, which ideally is given explicitly and in writing. Prospective participants must be informed about the following issues:

(1) the nature and overall aims of the research,
(2) the purposes for which the data are collected,
(3) the tasks participants will be asked to perform,
(4) the possible risks and consequences of participating,
(5) the right to withdraw from the study at any time,
(6) the extent to which confidentiality will be protected, and
(7) who they can contact if they have questions.

Information about these issues is usually provided in relatively standardized consent forms, in which participants declare, by signing the form, that they have read and understood the information, agree with the conditions specified and are willing to participate.

Providing detailed information about the nature and aims of the research may be counter-productive. Disclosing the exact focus of a project may inappropriately bias the participants and negatively impact the data quality (cf. Dörnyei 2007: 70). To avoid such influences, it is common practice to state the focus of a project correctly but in more general terms. If, for instance, a project is aimed at examining the performance of a particular speech act, e. g. apologies or compliment responses, then participants may be told that the project is about language use or about oral communication (in a particular language).

Adult participants can give informed consent themselves. If, however, children or adolescents under age are the targeted participant group, as e. g. in developmental pragmatics or interlanguage pragmatics, then consent must be obtained from their parents or guardians (cf. also Hill 2005). Yet sometimes it is not clear whose consent must be sought. In a school context, for instance, it is not always clear whether it is sufficient or necessary to seek consent from the parents or guardians of each child involved, or whether it is sufficient or necessary to obtain consent from the teacher, the school administration or the school board (cf. Dörnyei 2007: 71 for some discussion). Relevant legislation may differ across countries.

In other contexts it may not be clear whether it is even necessary to obtain consent. In general, review boards and ethics committees often exempt studies for which data are collected from publicly accessible sources. There is, however, some controversy whether public accessibility renders consent unnecessary, which is especially relevant to investigations of language use on the internet and studies of digital genres (cf. Kono 2013: 7). Accessibility in public contexts is sometimes interpreted as informal consent. This interpretation is, however, challenged at least by some experts who maintain that the fact that e. g. blog posts are publicly available and can be accessed by anyone, and are indeed intended to be read by anyone, does not generally legitimize researchers to use and analyse these blog posts in their research without seeking consent. Yet it may not be clear from whom consent should be sought, from the blog owners or from the blog posters. In a more general vein, it may not be clear how providers of internet data might be contacted or whether it is possible at all to obtain consent. Markham and Buchanan (2015) reject prescribed practices for this situation and recommend a case-based approach according to which ethical problems are solved as they occur in a research project. They also emphasize that ethical guidelines for internet research will continue to develop and change.

Generally, informed consent must be acquired prior to data collection. Yet for the collection of naturally occurring spoken discourse this is not deemed desirable, as informing participants would influence the quality of the data (cf. the discussion of the observer's paradox in section 3.2 above). Therefore, to achieve uncompromised data quality some researchers make their recordings surreptitiously and seek consent only after a recording has been made.

Surreptitious recording is, however, a highly sensitive topic and may have not only ethical but also legal implications, depending on when and where the recordings are made. In Germany today, the privately spoken word is protected by law, and making audio recordings of people who are unaware of it is a violation of privacy (cf. also section 4.3), and thus a criminal offence, which can be punished with imprisonment of up to three years (cf. German Criminal Code, Section 201). It could of course be argued that the privately spoken word pertains exclusively to conversations held in private settings where they cannot be overheard by eavesdroppers. Yet this seems to be an inappropriately literal interpretation. Conversations in such public places as e. g. shops or cafés are not automatically public conversations just because the general public has access to these places. Such conversations are not public, simply because they are not intended to be public. They are not meant to be overheard by bystanders, unless it is obvious from loudness and gaze etc. that non-participants are also addressed.

Surreptitious recording was not always forbidden by law. In and before the 1970s, audio recordings made for corpora of spoken language were often made secretly, without the consent or awareness of the participants. The Freiburg Corpus, including approximately half a million words of spoken German recorded in

a wide range of everyday contexts, is a case in point (Engel and Vogel 1975). A further example seems to be the London-Lund Corpus of Spoken English, which includes approximately half a million words of British English (Svartvik and Quirk 1980). However, while the recordings for the genre "spontaneous conversation" were allegedly made surreptitiously, these conversations were neither spontaneous nor were they surreptitiously recorded. In fact, "the recordings were made without prior knowledge of the main participants" only, and, at least in some cases, "one or more participants had knowledge of the recording (and had the task of keeping the conversation going)" (Svartvik and Quirk 1980: 26). This procedure led to some evidently unnatural contributions to the conversations. For more recent corpora of spoken language, the participants were, as a rule, asked their consent prior to the recordings. This applies, for instance, to the Bergen Corpus of London Teenage Language (COLT) (Stenström et al. 2002) and the Hong Kong Corpus of Spoken English (Cheng et al. 2008).

Researchers who inform their participants that they will be recorded often claim that the participants forget about the recording machine and about being recorded (e. g. Tannen 1984/2005, Rüegg 2014). Yet this is very hard to establish and has not been studied systematically. Warren (2006: 23–25), on the other hand, quotes some evidence showing that the participants were well aware of being taped at a relatively late stage in the speech events and explicitly referred to the tape recorder. This may render the discourse less natural than intended, but truly surreptitious recording is not an ethical alternative.

4.3. The principle of privacy

Surreptitious recording is considered unethical, because it impinges on participants' basic rights of freedom and autonomy (cf. section 4.2) and because it represents an intrusion into the private sphere of the secretly taped speakers. It is, however, the researchers' responsibility to protect their participants' privacy and warrant anonymity and confidentiality (e. g. Lazaraton 2013). This includes that researchers must not disclose their participants' identities.

By signing a consent form, participants give permission that the data collected from them may be used for research purposes, and this usually involves publication. If data are published, they must be anonymized by the researcher, both when reporting research findings and when presenting transcripts. No information must be given which permits to draw conclusions as to the exact identities of individuals. In transcripts, all names must be replaced, proper names of persons as well as place names and geographical or other references which allow ready identification of the individuals involved. It is common practice to use pseudonyms in transcripts, often pseudonyms which have the same initials and the same prosodic features, e. g. number of syllables. Instead of pseudonyms, letters (e. g. A, B, C) are also frequently used to distinguish speakers in transcripts. If recordings of spoken language are

published not as transcripts but as sound files, it is much harder to anonymize them, not only because names are not as easily replaced, but more importantly because voices are more easily recognized in audio material than in written representations. Pitch and tempo, for example, could be manipulated to impede recognition, but this does not seem to be commonly done. The sound files of the Santa Barbara Corpus of Spoken American English, for example, have not been manipulated in this way. It could be argued that the detailed demographic information provided about all participants in that particular corpus might facilitate their identification, yet this is not very likely on any significant scale. Video recordings pose a different problem. Not only are they much harder to anonymize, they also reveal aspects of a participant's identity which, while they may not enable exact identification of individuals, the participants would not wish to see published. Such aspects include, for example, particular features of outer appearance that are concealed in sound files. To anonymize videos, software is available which ensures non-recognizability, while at the same time preserving gestures and some facial expression, which may be relevant if non-verbal behaviour is included in the analysis.

Finally, it must be emphasized that crucial ethical concepts such as privacy may differ across cultures (cf. Elm 2009: 70). This is immediately relevant comparative work in cross-cultural pragmatics. Diverging perception of data ownership and property rights, including corresponding legislation, may also be relevant here (cf. Kono 2013: 8). Another important issue is that the distinction between private contexts and public contexts becomes increasingly blurred in digital genres and on the internet (e. g. Markham et al. 2012: 6–7), which may necessitate flexible microethical decisions.

4.4. The principle of indebtedness

The principle of welfare is more generally referred to as the principle of benefice (cf., e. g., Kono 2013: 2), thus shifting the focus from risk avoidance to positive benefits for the participants. While the interdependence of risks and benefits is rather obvious in medical and pharmacological studies, as mentioned before in section 4.1, the benefits may be even less clear than the risks in the case of pragmatics research. In studies in pragmatics, and more generally linguistics, the category "Risks and benefits", invariably included in standardized consent forms, is typically filled in by asserting that there are no benefits, although there should, of course, always be the general benefit of an increase in knowledge from any research project.

More particularly, a specific notion of benefit has developed in sociolinguistics, and also applied linguistics, conceptualized today as "owing" or "giving back". This line of thinking goes back to Labov (1982), who formulated a 'principle of debt incurred'. The underlying idea is that researchers collecting data in a particular speech community are indebted to this community for receiving the

data. It is considered the researchers' ethical responsibility to return the favour and pay back any insights from data analysis that are beneficial to the community in question, whenever such findings are needed. Wolfram (1993), in his "principle of gratuity", ascribes a more active role to researchers, demanding that they should positively strive to find ways to share research findings to profit the community that provided the data (cf. Kono 2013: 5). Similarly, Johnstone (2000: 49–50) distinguishes three types of research, namely research on the researched, research on and for the researched, and research on, for and with the researched (cf. Lazarton 2013: 3–4). The first type is the traditional type of research that uses informants to gain data. The second type involves advocacy for the informants, whereas the third type is explicitly aimed at an empowerment of the informants. This third type of research is primarily in the interest of the participants and not in the interest of the researcher alone. Such motives and attitudes do not seem to be widespread in pragmatics to date. It is, however, not difficult to imagine how results from pragmatics research could profit informants. Such results could, for example, raise an awareness of manipulative practices in discourse or effectively guard against verbal aggression. Also, findings from work on pragmatic variation could make miscommunication and its causes more transparent, while findings from interlanguage pragmatics might be made available more immediately to practitioners in language teaching and testing as well as to authors of textbooks for foreign language learning. More generally, pragmatics research could empower individuals and social groups to more consciously manage interpersonal relations and use language according to their needs and desires.

5. Conclusion: Methods and ethics of data collection

In conclusion, the stance taken in the present chapter, and indeed in this handbook, can be summarized as follows. We firmly believe that there is no best method as such, even though some researchers may claim that the method they have chosen is generally superior to other methods. Trudgill, for example, is a case in point.

> […] if linguistics is not about language as it is actually being spoken and written by human beings, then it is about nothing at all. (Trudgill 1996: xi)

As this quotation shows, Trudgill accepts only observational data, i. e. naturally occurring spoken and written discourse, and thus, albeit implicitly, rejects all experimentational methods. Arguably, his rather radical claim may hold true for what his research is focused on in sociolinguistics. However, it does not hold true, we maintain, for linguistics at large, or at least not for pragmatics. The selection of data type (cf. chapter 1) and data collection method depends entirely on the respective aims and purposes of a research project, its focus of analysis and its research questions.

This may perhaps seem an idealistic position, as it must be conceded that feasibility and the researcher's qualifications cannot be ignored altogether. Feasibility, in this case, pertains to the availability of time, money, equipment and personnel, and the relevant qualifications include training, competence and experience, not only in student projects.

A best method does not exist because each and every method has its specific strengths and weaknesses, and this applies to field methods as well as laboratory methods, and also the armchair method. So while a wide range of methods and data collection procedures is available to investigators involved in pragmatics research, each method and procedure may be suitable for addressing some research questions but not others. This means that investigators must be well aware of the nature of their project, the aims and purposes pursued, and the questions posed. Given this awareness, they can then consciously and carefully select the data collection method best suited to their respective needs.

As far as the ethical dimension is concerned, investigators engaged in empirical research by employing field methods or experimentational methods are responsible for the humans involved, i. e. their informants and participants. In particular, the investigators must ask their consent prior to any recording or experiment, and exemptions do not seem acceptable any more in general. Furthermore, investigators have to take care of their participants' well-being, respect their autonomy and protect their privacy. There may also be legal requirements that have to be observed, depending on where and when data are collected. Overall, it is important that researchers take informed decisions, that they are aware of the ethical implications and act responsibly.

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3. The art of transcription: Systems and methodological issues

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Abstract: A faithful reproduction of the words, paralanguage, and gestures employed in an interaction is essential for researchers in many disciplines. The reduction of a conversation to a transcription, however, is a process fraught with difficult choices and inevitable tradeoffs. A large number of different transcription systems have been developed, and this chapter provides an overview of the more widely employed frameworks. These systems vary considerably in terms of their scope, focus, completeness, and forms of notation. Just as no particular tool is the best choice for all building tasks, there is no universal transcription system that will be suitable for all researchers and all research questions. The goal of this review is to provide a survey of the terrain so that practitioners of transcription can make informed choices about the best system for their particular purpose.

1. Introduction

The transcription of face-to-face interaction presents formidable challenges for researchers who study pragmatics. Those venturing into this domain are confronted by a wide variety of transcription systems that have been devised by researchers from a diversity of disciplines over several decades. Although these systems are not mutually exclusive, they often possess large differences in scope, emphasis, and nomenclature, as well as in the symbols used to transcribe these dimensions.

It is beyond the scope of this chapter to reconcile these systems, and it is far from clear that such a reconciliation would be desirable. Instead, we will provide an overview of a number of these systems and make suggestions about their suitability for various transcription needs. In addition, we will briefly address transcription issues with regard to speech in diverse populations (e. g., children, aphasics, and cognitively impaired individuals). We will also consider the challenges of transcribing the non-acoustic (i. e., facial and gestural) signals that are of special interest to pragmatics researchers, as well as the transcribers of sign language. It is our hope that this overview and discussion will provide some guidance to those who wish to practice the art of transcription.

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2. Some preliminaries

2.1. Purpose of transcription

Researchers who study pragmatics create transcriptions in order to test their theories about discourse. In other words, no one creates transcriptions of face-to-face interactions as an end in themselves; rather, transcription is always performed as a means to an end. For example, President Richard Nixon's Oval Office recordings (*New York Times* 1974) were transcribed for the purpose of determining what the president knew about the Watergate cover-up. (The frequent use of the term "expletive deleted" by the transcriber provided the public with some unintended pragmatic insight into the speech of the head of the Executive Branch.) Other researchers have gone on to use the Nixon administration's transcripts for their own research purposes (e. g., Novick, Walton and Ward 1996), but the original transcriptions were not created with any other purpose in mind.

The fidelity of transcription is a matter of paramount importance in the fields of medical and legal transcription. However, in these applied settings, the focus is primarily on what was said or intended as opposed to how it was uttered. Although there may be important commonalities between transcription in applied and research domains, they will not be reviewed here. It should also be noted that different academic disciplines have differing standards for what constitutes a useful transcription. The relevant issues are discussed by Podesva and Sharma (2013) with regard to linguistics; Widodo (2014) for second language research; Gee (2011), Gee and Handford (2012) and Jones (2011) with regard to discourse analysis; and Mallinson, Childs and Van Herk (2013) for sociolinguistics.

2.2. Transcription versus coding

Many issues in pragmatics may be profitably explored without recourse to transcription. Because transcription is extremely time intensive (see section 2.5), it may in fact be overkill for many purposes (Hammersley 2010). For instance, if one simply wanted to compare the number of specific discourse markers (e. g., Schiffrin 1987) in two stretches of discourse, it might in fact be easier to tally them directly from an audio- or videotape of the interaction. This approach might also be more accurate, because it would avoid many of the complications that are inevitable when an interaction is reduced to a transcription. Such coding should be possible for many phenomena that are conceptually well-defined and macroscopic.

In other cases, a researcher may be interested in classifying utterances according to a particular taxonomy, such as illocutionary speech acts (e. g., Searle 1975). In such cases, it would probably be easiest to work from a relatively broad transcription of the interaction. The focus of this review will be the large range between

counts and coding schemes, which require the use of a particular transcription system to produce a faithful record of an interaction.

2.3. Issues of terminology

Phonetic transcriptions are frequently characterized as "broad" or "narrow," with narrow transcription documenting the allophonic variation in speech sounds. International standards exist for transcribing phonetic information at both the broad and narrow levels (Pullum and Ladusaw 1996), although not surprisingly, reliability is higher for broad transcriptions than for narrow ones (Shriberg and Lof 1991). In a similar way, the coding of non-phonetic dimensions, such as pauses or gestures, can be characterized as broad or narrow. A paradox of transcription is that, as a transcript becomes narrower (and in theory more faithful to the discourse it represents) it becomes more difficult for others to read and interpret. In other words, there may be a tradeoff between the fidelity of a transcript and its intelligibility.

Consider, for example, a few turns from the relatively narrow transcription provided by Kyratzis (2001) in her analysis of the interactions of preschool friends:

1. Speaker 1: … if someone comes, then we **hi::de, really//
2. Speaker 2: ==yeah/ …
3. we're *shy:: wizards// (Kyratzis 2001: 363)

The symbols provide important information about intonation, lengthened segments, and latching, although most readers will need to refer to the author's list of transcription conventions to fully decode these features.

It may also be helpful at this point to define the specific dimensions that are of interest to transcribers of discourse. O'Connell and Kowal (1995a, 1999, Kowal and O'Connell 2004) suggest that transcribed behaviors can be categorized as belonging to one of four classes of features. *Verbal* features refer to the words themselves (i. e., what was said), whereas *prosodic* features correspond to the ways in which the words were spoken (e. g., pitch, duration, and loudness). *Paralinguistic* features (such as laughter, breathing, sighing, or crying) may accompany the spoken words, or they may occur independently. Finally, *extralinguistic* features are behaviors defined as "nonvocal and nonverbal" (O'Connell and Kowal 1999: 109), but which are nevertheless germane to the discourse being described (e. g., facial expression, gaze, and gesture). The purpose of a transcription system is to subdivide these features into a number of dimensions, which can then be labeled with a particular code or set of codes. Transcription systems differ in their coverage of these four features, the number of dimensions employed within each feature, and in the specific codes that are used.

2.4. Transcription layout

Edwards (1993b) has reviewed how transcription systems differ in the spatial arrangement of information as well as the type and level of description. Vertical arrangement, in which speakers' turns are arranged sequentially (as in a script) may be the most common, although other formats may be more informative. Representing the interaction between interlocutors in columns may be helpful in some cases, and a partiture format, as in Ehlich's (1993) HIAT system (see section 4.6), is effective for capturing interactions with lots of simultaneous speech.

There are several different ways in which a transcriber can choose to arrange prosodic, paralinguistic, and extralinguistic features within a transcript. One choice, referred to by Edwards (1993b) as *running text*, places such information following the words (e. g., the code "laughter" immediately after an utterance containing laughter). This method preserves the temporal contiguity of the information in the transcript. However, many transcription systems use an *interspersed* format for recording prosodic information (Edwards 1993b). Changes in pitch, for example, can be directly mapped onto the syllables themselves, or indicated by specific codes. A third approach is to use a *segment-plus-specification* (SPS) format, in which one tier provides the verbal dimension, and other tiers or rows below the first tier provide syntactic, semantic, or pragmatic codes (Edwards 1993b). A fourth choice is referred to as *utterance-plus-clarification*. In this format, utterances are broken apart and nonverbal or contextual information (e. g., gesture, gaze, or behavior of the speaker) appears below each speaker's turn. As Edwards (1993b) notes, even something as mundane as the arrangement of speakers' turns can have important implications for how a transcript is analyzed and interpreted.

2.5. Procedural issues

One issue on which all researchers in pragmatics can agree is that transcription is very labor-intensive. MacWhinney (2001), for example, has estimated that it can take over ten hours to transcribe one hour of discourse. Consequently, it makes sense to transcribe as few dimensions as possible for the purposes at hand. For example, if one wanted to study the use of discourse markers such as "uh" and "um" (Clark and Fox Tree 2002), it might make little sense to transcribe head movements of the listener. However, such choices are crucial, for as many have argued, a transcription system is not theory-neutral: it already reflects the beliefs and biases of the researcher (see, for example, Ochs 1979, Skukauskaite 2012 and Gibson, Webb and vom Lehn 2014). By choosing not to transcribe a particular dimension, the researcher has implicitly decided that the dimension plays no role in the phenomenon in question. Considering the infinity of pragmatically salient dimensions that the researcher could transcribe, the choice of the dimensions themselves is already something of a compromise. To put it another way, tran-

scription is always subjective and interpretive to some degree, and transcription inevitably leads to data reduction. These issues are of fundamental importance, but it is beyond the scope of this chapter to do them justice: please refer to Bucholtz (2000 2007a 2007b); Green, Franquiz and Dixon (1997); Jaffe (2007); Mishler (1991); Preston (1982); Roberts (1997); and Tilley (2003) for further discussion and analysis.

2.6. The role of context

Unless it is occurring under unnatural laboratory conditions, face-to-face interaction is deeply embedded within a social context, involving dimensions that may not be readily apparent to the transcriber. The relationship that exists between the conversational participants may be crucial to the interpretation of the interaction and should be specified when possible. However, assessing the relevant parameters, such as the amount of shared common ground (Clark 1996), may be quite difficult. Most transcribers have not paid much attention to specifying context, although some of these issues have been explored by Cook (1995), Norris (2004), and Bucholtz (2007b). Sensitivity to these issues can make for a more informative transcript: acoustically, there is no difference in transcribing a brief absence of speech as a "pause" or as "shocked silence," but clearly the latter provides more information (perhaps at the expense of complete objectivity).

2.7. Technological considerations

Technological developments have greatly affected the way in which researchers record conversational interaction. Researchers now routinely employ digitally recorded video, which makes it possible to record acoustic, facial, and gestural information (a helpful review of these issues may be found in Bavelas, Kenwood and Phillips 2002).

An important technological issue with regard to transcription is the conversion of transcription systems into mark-up languages that can be interpreted by computer programs. Such conversion is necessary to allow efficient data storage and retrieval, but as with other aspects of transcription, a number of tradeoffs are involved (see Leech, Myers and Thomas 1995, for a variety of such examples).

A variety of software packages exist for use in the creation of transcripts, and the number of such programs has proliferated as more researchers have entered the field. These programs can greatly lessen some of the tedium involved in repeatedly playing a troublesome section of speech, or temporally aligning verbal and extralinguistic features. However, these programs vary considerably in their purposes, design philosophies, platform compatibility, cost, and ease of use (for a discussion, see Jenks 2013). In addition, the lines between transcription software, annotation packages, coding programs, and full-blown computer-assisted qualitative data

analysis software (CAQDAS) have become blurred. It is beyond the scope of this chapter to review the myriad of possibilities, and helpful reviews may be found elsewhere (e. g., Ide and Pustejovsky 2017; Silver and Lewins 2014). Popular programs include MAXQDA (http://www.maxqda.com) and QDA Miner (https://provalisresearch.com), which are designed for mixed methods researchers; NVivo (http://www.qsrinternational.com/nvivo-product); Atlas.ti (http://atlasti.com; see Paulus and Lester 2016), which has its origins in grounded theory; Dedoose (http://www.dedoose.com), which is web-based; VoiceWalker, described as "a discourse transcription utility" (Du Bois 2006:1); ANVIL, an annotation program (Kipp 2003); and Transana (Woods 2007), an analysis package available at http://www.transana.org.

Widely used and free software packages include CLAN (described in section 4.9); ELAN (https://tla.mpi.nl/tools/tla-tools/elan/), used for annotating audio and video; EXMARaLDA (http://exmaralda.org/de/; see Meißner and Slavcheva 2013); and Praat (http://www.praat.org), which is designed primarily for researchers in phonetics. RQDA is a CAQDAS package that operates within R, the open-source statistical programming language (http://rqda.r-forge.r-project.org). Programs that can assist in the coding of gestural components of language also exist (Neidle, Sclaroff and Athitsos 2001).

When using any software program, some thought should be given to whether its file format is proprietary and whether it supports data export to other programs. Today's software standard has a way of becoming tomorrow's historical footnote, with the unfortunate consequence that transcripts or entire coding projects may be rendered inaccessible over time.

3. Design principles

A number of theorists and researchers have made proposals concerning what an ideal transcription system should encompass. These ideas will be reviewed chronologically in order to show their development over time.

Du Bois (1991) proposed five maxims for designing transcription systems and 23 design principles that follow from these maxims. The maxims are category definition (e. g., use categories that are explicit, necessary, and sufficient); accessibility (e. g., use familiar and easily learned notations); robustness (e. g., avoid invisible or fragile contrasts); economy (e. g., avoid verbose notations, use space meaningfully); and adaptability (e. g., allow for seamless integration of user-defined codes and transcription categories).

Edwards (1993b) argued that the creators of transcripts should keep in mind issues of category design, readability, and computational tractability. By category design, she means that the dimensions must be systematically discriminable, exhaustive, and contrastive. Readability refers to placing related events in close

proximity, the visual separation of unlike elements, time-space iconicity, logical priority, mnemonic marking, and efficiency and compactness. Computational tractability refers to systematicity and predictability in encoding dimensions. Failure to consider computational tractability can lead to the underselection or overselection of instances from a transcription. For example, a search of a transcript for instances of "going to" would not necessarily identify instances of "gonna," while a search for the verb "bear" might also snare the ursine variety. Edwards (1995) later expanded on these concerns, and also discussed issues of validity and reliability when computerized language archives are used.

O'Connell and Kowal (1994, 1995a, 1999, 2008) point out that the ultimate purpose of a transcription (i. e., the purpose of the researchers and the readership of a transcript) must be kept in mind. In addition, these authors argue against inserting transcription symbols within words to indicate prosodic features, because doing so impairs the legibility of the transcript. A third point concerns the consistency of notation: each symbol should encode only one dimension, and conversely, each dimension should be encoded by only one symbol. O'Connell and Kowal also suggest that conventional typographic elements, such as ampersands and ellipses, should not be used as transcription symbols because their primary purpose is already deeply ingrained in the minds of readers. Finally, the authors argue that measures of continuous variables, such as amplitude and time, must be made with accurate equipment, and not subjectively.

Dressler and Kreuz (2000) encouraged the developers of transcription systems to keep in mind seven design principles: (1) specificity (the tradeoffs of broad versus narrow transcription); (2) universality (not linking the conventions to a particular language, such as "s" for "softly"); (3) consensus (using symbols as others have used them in the past); (4) transparency (using intuitive symbols, such as a rising line, "/", to indicate rising intonation); (5) parsimony (the use of a small number of codes); (6) conventionality (using codes that can be easily located on a keyboard); and (7) extensibility (the system should be open-ended to allow new dimensions to be transcribed).

Müller and Damico (2002), approaching these issues from the perspective of clinical linguistics and phonetics, proposed six guiding principles that share much in common with the points already raised. However, for dealing with the complexities of disordered speech, they stress the importance of flexibility "to ensure authenticity and individuality" (Müller and Damico 2002:312).

4. Review of transcription systems

Many researchers choose to reinvent the wheel and create their own notational systems when transcribing their data. Although this may be justifiable in some cases, it is rarely necessary. There are, in fact, many disadvantages to this approach. An *ad*

hoc system is likely to be less comprehensive and may be employed inconsistently. In addition, if examples are included in published research, the use of a new system requires some mastery on the part of editors, reviewers, and readers. Finally, a transcription key must be provided, which wastes the resource of journal space (Dressler and Kreuz 2000).

The list of transcription systems provided here is not intended to be comprehensive; as noted above, many systems have been developed and used only once. In addition, some well-known systems are not particularly comprehensive, whereas others have been employed in relatively small geographic regions or for only one language. Therefore, the goal in this review is to briefly describe the systems that are (a) widely employed, (b) in current use or historically important, and (c) reasonably comprehensive. Most of these systems have been developed to transcribe prosodic and paralinguistic features; the transcription of extralinguistic features, such as gesture and eye gaze, will be reviewed in section 5. Finally, each transcription system is listed by name (if it has one), or by reference to researchers and publication(s) that describe the system in detail.

4.1. Jeffersonian Transcription System, or Conversation Analysis

Gail Jefferson's transcription system (Sacks, Schegloff and Jefferson 1974; Schenkein 1978; Atkinson and Heritage 1984; Jefferson 2002, 2004) has been widely employed and refined over a forty-year period and has become a *de facto* standard in the field of conversation analysis (often referred to as simply "CA"). The journal *Research on Language and Social Interaction*, for example, uses the Jeffersonian notation as its default transcription system.

In its 1978 formulation (Schenkein 1978), the Jeffersonian system provided about 18 codes for tracking seven different categories of conversational phenomena: simultaneous utterances, overlapping utterances, contiguous utterances, intervals within and between utterances, characteristics of speech delivery, transcriptionist doubt, and other transcript symbols. In a later formulation (Atkinson and Heritage 1984), about eight codes, such as shifts in intonation and quieter talk, were added, as well as the extralinguistic dimensions of gaze direction and applause. More recent formulations (e. g., Jefferson 2002) have introduced a handful of other codes to mark slower speech or suppressed laughter. A helpful discussion of the issues involved in employing this system may be found in Psathas and Anderson (1990).

4.2. Ochs

Following the lead of the seminal paper of Sacks et al. (1974), Elinor Ochs (1979) proposed a transcription system for verbal and nonverbal features. For verbal features, she proposed the coding of eight dimensions: utterance boundary, latching, pause length, overlap, self-interruption, intonation or prosodic quality, audible

breathing, and metatranscription. Four additional dimensions were proposed for nonverbal features: changes in gross motor activity, eye gaze, gestures, and body orientation. In total, the system uses about 35 codes (for this and other systems, an exact number is difficult to report, since some codes can be used iteratively: in Ochs' system, for example, lengthened syllables are indicated with a colon, and additional colons can be used to indicate additional beats in time).

4.3. London-Lund Corpus transcription

The London-Lund Corpus of Spoken English (or LLC) (Svartvik and Quirk 1980; Svartvik 1990) is of considerable historical importance. The project began in London in 1959 and Lund, Sweden in 1975, and represents one of the first attempts to gather a comprehensive corpus of spoken English. It was derived from the Survey of English Usage (or SEU), a corpus which consists of a million words. Half of this total was drawn from spoken English.

The LLC uses a transcription system that principally denotes prosodic features. It stems from the "British School" of intonation analysis (see Kingdon 1958; O'Connor and Arnold 1961). The "nucleus," or main stressed syllable that has a clearly perceptible movement of pitch, is divided into seven dimensions (e. g., fall, level, fall-rise), and there are four codes for the "booster," or range of pitch (e. g., higher than preceding syllable, very high). Stress is denoted as normal or heavy. Pauses of varying durations, as well as simultaneous talk and laughter are coded as well. Although this system is not as comprehensive as some others, it has been widely employed, and may be sufficient for researchers whose primary interest is prosody.

4.4. Tannen

Deborah Tannen's (1984/2005) work is well known in sociolinguistics, and her system has frequently been employed by later researchers. Her system codes for pauses, stress, pitch, intonation, vowel lengthening, and overlapping speech. Amplitude is described using six codes drawn from musical notation (e. g., *piano*, *fortissimo*), and appears under the transcription line. Brackets are used to demarcate paralinguistic or extralinguistic information (e. g., [laughter]). The system uses about 30 codes altogether.

4.5. Discourse Transcription (Du Bois)

The Discourse Transcription system proposed by John Du Bois (1991; Du Bois et al. 1992, 1993), and often referred to simply as DT, has been adopted by many researchers and takes into account Du Bois' design principles outlined above. The system includes codes for pauses of various kinds, overlapping sequences, vocal

quality, and utterance boundaries. In addition, it includes several codes for prosody (primarily accent and pitch), transcriber's comments, and even "smile quality". The Discourse Transcription system uses about 40 codes.

4.6. HIAT (Ehlich)

HIAT, or Halbinterpretative Arbeitstranskriptionen (Heuristic Interpretative Auditory Transcription, Ehlich 1993) represents a movement away from standard orthography, which may lead to a loss of important information. A system of "literary transcription" is proposed instead. This system makes use of symbols from the International Phonetic Alphabet and uses vertical space on the page to represent simultaneous events, much like a musical score. The coding of intonation is represented in a similar way. The system excels at tracking multiparty conversations and overlapping speech, although such transcriptions require a great deal of space. Computer programs designed to facilitate transcription into the HIAT system are available.

4.7. Gumperz and Berenz

Gumperz and Berenz (1993) approach transcription from a sociolinguistic perspective, emphasizing the situated interpretations of the conversational participants. As they put it, "our main goal is to reveal the functioning of communicative signs in the turn-by-turn interpretation of talk, not to record everything that can be heard or to provide exact measures of duration and pitch" (Gumperz and Berenz 1993: 119). The system uses about 22 codes and may be attractive to researchers who desire a broader approach to transcription.

4.8. GAT (Selting et al.)

The Gesprächsanalytisches Transkriptionssystem (GAT) was created "to help reduce the hitherto often unmotivated variation in transcripts" (Selting, Auer, Barden, Bergmann, Couper-Kuhlen, Günthner, Meier, Quasthoff, Schlobinski and Uhmann 1998: 91), and includes 14 dimensions and about 50 codes. Like Tannen's, this system provides many gradations for amplitude, using nomenclature derived from musical notation (e. g., *piano*, *forte*, *crescendo*, and *diminuendo*).

4.9. CHILDES and CHAT (MacWhinney)

The Child Language Database Exchange System (CHILDES) was begun in 1981 in an attempt to gather together transcripts of child language (MacWhinney 2000). The project, established by Brian MacWhinney, has grown and evolved over time and now includes adult interactions in the TalkBank Project. Developments in

computer technology have greatly enhanced the utility of this resource for language researchers. The transcripts themselves are freely available on the Internet (http://talkbank.org/). In addition, tools for coding and analyzing these corpora have been devised. Codes for the Human Analysis of Transcripts, or CHAT, is the transcription system and coding format, and CLAN (for Computerized Language Analysis) is the software tool developed to create and analyze CHILDES transcripts. The current version of CHAT (MacWhinney 2000) provides researchers with extensive sets of codes for use in transcription, and even accommodates other notational schemes, such as the Jeffersonian Transcription System described in section 4.1. However, the sophistication of this system may also be its principal weakness because researchers may need to devote a considerable amount of time and effort to mastering its intricacies.

4.10. Dressler and Kreuz

Dressler and Kreuz (2000) reviewed 24 papers employing transcription that appeared in one journal (*Discourse Processes*) over a five-year period. They found that 21 codes could accommodate the majority of the researchers' dimensions, and grouped these dimensions into five classes: intonation, temporal features, intensity, breathing, and transcriber's comments. Although this system employs some higher-level categories, such as backchannel communication and paralinguistic behavior, no attempt was made to include finer distinctions.

4.11. Powers

Powers (2005), an anthropologist, produced a transcription handbook to be used by ethnographers. Not surprisingly, therefore, the focus is somewhat different than for the other systems described here. Specifically, Powers' system codes for a smaller number of dimensions (about 18) and does not include notations for intonation or breathing. On the other hand, this system explicitly accommodates a number of dimensions of paralinguistic and extralinguistic features, such as weeping, reported speech, and irony.

5. Transcription of extralinguistic features

Communication in face-to-face dialogue is not limited to spoken words. Visible actions such as facial expressions and gestures can serve to reinforce words and to decrease ambiguity in interpretation.

Bavelas and Chovil (2000) argue that visible actions are only important when they are part of a communication; for example, scratching one's knee to emphasize a conversation about a rash one had two days ago would be a communicative ges-

ture, but the same action during a conversation about the price of milk would not be. The authors call these communicative actions "visible acts of meaning" (Bavelas and Chovil 2000:165) and include among them facial displays such as eyebrow raises, hand gestures such as circular motions to depict a circle, and communicative body movements such as shrugging one's shoulders.

Bavelas and Chovil (2000) outline four characteristics that define a visible act of meaning: (1) the action must occur in face-to-face dialogue and be reduced when the receiver of the action cannot see the action, (2) the action must stand as a symbol for something that is not physically present at the moment, (3) the meaning of the action must be expressed either in words or by a demonstration that the receiver uses the information, and (4) the action must be integrated with the spoken dialogue. The research questions at hand dictate how these visible actions are transcribed. Facial expressions can be transcribed either as physical actions or as meaning-based actions (Bavelas, Kenwood and Phillips 2002).

Several researchers have used Ekman and Friesen's (1978) Facial Action Coding System (FACS), a transcription system based on physical actions that utilizes 44 "action units" such as "head turn right" and "lip stretcher," several of which are coded to varying degrees of intensity (for an evaluation of the system, see Sayette, Cohen, Wertz, Perrott and Parrot 2001). Chovil (1989) developed a meaning-based system to contrast with Ekman and Friesen's (1978) physical transcription system. Her system uses descriptions of the facial expression as a whole, such as "sadness" and "skepticism." Bavelas, Kenwood and Phillips (2002) argue that this meaning-based approach may not only be more useful for discourse research, but also less time-consuming to researchers, and indeed Chovil (1989) demonstrated a higher interrater reliability than FACS. Some might argue, however, that a more subjective system reduces validity.

These two extremes – musculature analysis and subjective ratings – may not be helpful for a variety of researchers. For those looking for a middle ground, Louwerse et al. (2007) devised an attractive alternative. Louwerse et al. (2007) used a subset of Ekman, Friesen and Hager's (2002) Facial Action Coding Scheme standard, coding just 20 facial movements that were of interest for their research questions. Other researchers may wish to employ this system or a different subset from Ekman et al. (2002), based on their own particular research interests.

5.1. Coding of gesture

The transcription of gestures presents additional challenges to the discourse researcher, because gestures occur simultaneously with talk and some means of mapping the two in time must be considered (see Goldin-Meadow 2003). The following is a review of a subset of gestural coding systems.

5.1.1. Ochs

Elinor Ochs' (1979) system, described in 4.2, includes five codes for gestures like pointing, holding up, and offering.

5.1.2. Schegloff

In Emanuel Schegloff's (1984) analysis of deictic gestures, he proposed indexing hand and limb movements on a line above the transcription of the words being uttered. The system utilizes eight codes, denoting, for example, the onset of movement, maximum extension, and pointing, as well as temporal elements.

5.1.3. Bull

Peter Bull (1987, 1989) proposed a Body Movement Scoring System, in which body contact and object contact are described in terms of (1) the body part making the motion, (2) the type of motion, and (3) the body part or object with which contact is made. One attractive aspect of this system is that its practitioners have been able to achieve high interrater reliability (Bull and Connelly 1985).

5.1.4. Ehlich

The HIAT system (Ehlich 1993), described in 4.6 above, includes 25 codes for referring to parts of the head, hands, arms, legs, and body.

5.1.5. CoGesT (Gut et al.)

CoGesT, or the Conversational Gesture Transcription system (Gut, Looks, Thies, Trippel and Gibbon 2002), is an attempt to create a notational system based on distinctions between categories of gestural form and function. The system makes distinctions on a variety of dimensions, such as form, phase, location, and directionality. Specific examples include hand shapes, repetitions, and speed.

5.1.6. McNeill

Susan Duncan has developed a coding manual that has been employed by David McNeill and his collaborators (McNeill 2005). She suggests making eight passes through the interaction to be analyzed, and in addition to acoustic and prosodic dimensions described earlier, adds the categories of handedness, hand orientation, hand position, and phases (i. e., points in the gesture process).

5.2. Eye gaze

The eye gaze of interlocutors during an interaction can be pragmatically salient. Speakers, for example, tend to establish eye contact with their partners at the end of a turn (Levelt 1993). A number of the systems described in section 4 contain at least some codes for eye gaze. An example would be the system proposed by Ochs (1979), which provides six codes for looking up, down, left, right, and towards and away from the camera. These codes can be paired with the person or object being looked to. Damico and Simmons-Mackie (2002) have proposed a system in which a layer of gaze and gesture information can be mapped onto a base layer of broader transcription. This proposal is attractive because it allows extralinguistic features to be represented separately from the prosodic and paralinguistic features of discourse.

5.3. Body posture and orientation

Speakers and listeners rarely remain static during an interaction, although deciding which body movements are pragmatically salient may be difficult to determine. Most of the systems described earlier could accommodate such meaningful movements as part of the transcriber's comments. Ochs (1979) suggests using a U-shape to indicate the direction of a speaker's pelvis.

6. Child language transcription

Interpreting the language of adults is difficult enough, yet child language researchers must deal with all these issues and more. A good overview is provided by Bloom (1993), who proposes a model system for the computer-aided transcription of the speech of children. She highlights two issues in particular: the biases and distortions that may be introduced by the observer, and the massive amount of data reduction, from the recording of the interaction to the transcription process itself.

The conversion of child language into forms that can be accessed electronically has also been an issue in the transcription literature. Edwards (1992) proposed four principles for the use of such "archived" data, which are similar to the design principles discussed in section 3. However, one of her suggestions, the consistent coding of the data, has been somewhat contentious. Edwards (1993a) noted that the use of novel variations such as "falld" and "falled," might cause one or the other to be overlooked in an electronic search for such instances. She argues that this is an important issue because many forms used by children are rather rare. Her concerns were expressed with regard to the early forms of CHAT, described above (a discussion of these issues may be found in MacWhinney and Snow 1992).

The limitations of transcription also affect the accuracy of the transcription of child speech, particularly as it relates to social rules. For example, children may not follow the implicit turn-taking rules of conversation that adults do (Davidson 2010). These issues may lead to concerns about the validity or generalizability of studies relying on such data. Davidson (2010) argues that a thorough understanding of context, particularly aspects of social order that might be taken for granted in adult discourse, is necessary for accurate transcription of child speech.

PhonBank, a shared corpus of child speech, and Phon, open-source software that enables analysis of phonological elements of child speech, exist as an extension of CHILDES and use the transcription conventions of CHILDES. Descriptions of PhonBank and Phon can be found in Rose and Stoel-Gammon (2015).

7. Signed language transcription

There are special concerns regarding transcription of sign language, since this form of communication does not map precisely to spoken or written language. These concerns make it difficult to construct a machine-readable corpus of transcribed sign language using traditional transcription codes. The complexity of sign language requires all the same contextual information as verbal language but also an accurate record of handshape, finger position, spatial location, position of the non-dominant hand, and facial movements, to name a few. All of this is time-consuming and very difficult if not impossible to transcribe using traditional codes meant for verbal language. HamNoSys (Prillwitz and Zienert 1990) is a popular transcription system that uses a font composed of various symbols to get around the problem of attempting to transcribe sign language using a standard alphabet.

The choice of a transcription system for sign language should be based on the theoretical question at hand. The Berkeley Transcription System (Hoiting and Slobin 2002), inspired in part by the CHILDES system (see section 4.10), codes for morphological and semantic properties and has been widely used. Johnson and Liddell (2010, 2011a, 2011b, 2012) introduced a transcription system that records not just handshapes but also fine-grained information such as finger position, and includes transitional movements between signs to promote the study of phonetics within sign language.

Sign languages are composed not just of hand but also facial movements, and the Facial Action Coding System (Ekman and Friesen 1969) has been employed to transcribe the facial movements of sign language users (e. g., Dachkyovsky and Sandler 2009). Tools such as ELAN (Wittenburg, Brugman, Russel, Klassmann and Sloetjes 2006), ANVIL (Bunt, Kipp and Petukhova 2012), which were mentioned in section 2.7, as well as SignStream (Needle 2002) are multimodal transcription systems used for sign language as well. Further advances in technology

may allow the construction of a transcription system that uses pixel coordinates to determine hand position.

8. Transcribing cognitively impaired individuals

The difficulties involved in transcribing the interactions of adults and children may pale in comparison to reproducing the productions of those with cognitive impairments. Ball and Rahilly (2002) make some suggestions for transcribing the prosodic features of disordered speech and propose a scheme that is similar to the HIAT system reviewed in section 4.6 (Ehlich 1993). TalkBank (see 4.9) also includes a section called Clinical Bank for the dissemination of transcriptions of aphasic, dysfluent, and other forms of disordered speech.

Haravon, Obler and Sarno (1994) present a system for analyzing the discourse of those with brain injury. They suggest that their approach has utility for studying the productions of aphasics and those suffering from Alzheimer's disease. Their approach is notable in that it explicitly takes into consideration pragmatic issues (in addition to morphology and syntax).

Müller and Guendouzi (2002) propose a multilayered approach in their system for transcribing the discourse of Alzheimer's patients. Specifically, they recommend employing a baseline or orthographic layer, a layer addressing prosody and voice issues, and a discourse layer. The codes they use are similar to those in other transcription systems described above, but the multiple layers provide more clarity and allow the reader a better chance of making sense of the disordered speech. This approach is taken even further by Müller and Damico (2002), who propose six layers: in addition to the levels already described, they add gaze and gesture, speech (phonetic transcription), and clinical analysis (analysis of specific behaviors).

9. Critiques of transcription systems

Clearly, the most important attribute of a transcription system is the *capability* to recreate an interaction with a high degree of fidelity. The degree to which this fidelity is achieved will depend on many factors that exist outside of the system being employed. The experience level and the care taken by the transcriber are crucial, since even small errors can completely change the perceived meaning of an utterance (Easton, McComish and Greenberg 2000). In addition, once an interaction has been transcribed according to one system, it may be difficult to transfer it into a different system (Allwood et al. 2005).

In a series of empirical papers, Daniel O'Connell and Sabine Kowal have explored a number of issues related to the validity, generalizability, and objectivity of transcription systems in current use. Their pessimistic conclusion is that "*tran-*

scription itself is a limited and defective device" (O'Connell and Kowal 2008:93, emphasis in the original). Although this gloomy assessment may seem overstated, it is a conclusion that they have come to as the result of their research, which is summarized below as a cautionary tale for the enterprising transcriber.

As a starting point, O'Connell and Kowal (1999) addressed the issue of standardization in transcription notation. In a review of three widely used transcription systems, they found that a majority of the dimensions were used to transcribe prosodic features, whereas codes for extralinguistic features made up between zero and 22 % of the total for each system. Their conclusion, however, is that standardization is not practical, or even warranted, given the diversity of behaviors that researchers are interested in.

If standardization of transcription systems is not a realistic goal, then surely at least the reproducibility of transcripts is achievable. However, O'Connell and Kowal (2000) found that reproductions of transcripts in textbooks had, on average, an error rate of one change per 6.6 syllables. They attribute this high error rate to the density and relative unfamiliarity of transcription systems, which overload the scholars and typesetters who reproduce the examples.

The idea of conceptual overload was further explored in a study by Romero, O'Connell, and Kowal (2002). They asked undergraduate participants to reproduce a 21-syllable question asked by a news reporter. Participants were assigned to a variety of conditions in which they were provided with only the audio recording, with an "ordinary" transcription (verbal features only), or with a transcript that had been generated using one of three widely employed transcription systems in which dimensions of prosodic features were explicitly coded. The participants' task was to reproduce the news reporter's prosody as closely as possible. When the participants' productions were compared to the original, it was found that only one of the three transcriptions yielded reproductions that were better than for participants who heard the original recording. In general, the participants found the prosodic codes difficult to interpret.

Finally, O'Connell and Kowal (1995b), in their review of five of the transcription systems mentioned above, conclude that all of these notational schemes violate, to some degree, the seven design principles proposed in O'Connell and Kowal, (1994; see section 3).

It is also worth noting that the type of discourse can present considerable problems for transcribers. Lindsay and O'Connell (1995) have shown that the fragmentary nature of spontaneous speech–filled with incomplete sentences, hesitations, and overlapping speech–can be particularly troublesome to transcribe because of its complexity (see also Bucholtz 2007b).

Given the tedium of transcribing long stretches of video or audiotape, it should come as no surprise that such tasks are frequently assigned to graduate or even undergraduate students with little background in theories of discourse or training in transcription. Some of the issues surrounding the use of such transcribers,

such as issues of training, have been described by Tilley (2003) and by Davidson (2009).

The fidelity of a given transcript to a particular notation system can be assessed by comparing the work of two (or more) transcribers who have independently applied the system to the same stretch of discourse. The measurements can range from simple measures of agreement to more sophisticated approaches, such as Cohen's kappa, which controls for chance performance (Cohen 1960). A tradeoff exists between the number of dimensions employed by a particular transcription system and a measure of interrater reliability (for a more extended discussion, see Roberts and Robinson 2004 and Stelma and Cameron 2007). It is worth noting that some researchers have been critical of the quest to achieve high reliability, because putative errors may in fact provide important information (Pye, Wilcox and Siren 1988).

10. Conclusions

The range of issues and choices that confront the would-be discourse transcriber may seem overwhelming. In reality, however, any research project involves a variety of choices and trade-offs, and viewed from this perspective, the selection of a transcription system is no different from the choice of a statistical test. In both cases, the ultimate goal is to illuminate the underlying systematicity that exists within the data, and there may be a variety of legitimate ways to achieve this end. Furthermore, even though transcription can be very labor intensive, it is possible to find the process enjoyable (Bird 2005). It is our hope that the information we have presented can provide guidance for those who wish to explore these issues in greater depth.

Author note

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II. Introspectional pragmatics

4. Introduction to part 2: Introspectional pragmatics

Wolfram Bublitz

It is the general objective of this handbook to provide a comprehensive and systematic overview of the different ways of doing pragmatics, i. e. of the range of methodological approaches to the description of data which is based on verbal and non-verbal (prosodic, kinesic and, *mutatis mutandis*, signed) communicative occurrences. Data, of course, is not phenomenologically given but conceptually construed, i. e. entirely method- and theory-dependent. This truism aligns with the basic premise of this handbook series (as spelt out in the *Preface* heading this volume) that pragmatics is a research perspective (on how language is used to intentionally mean and purposefully act in social contexts) which manifests itself in different theories and methods that determine their descriptive objects in different ways. Pragmaticists, accordingly, must choose between various methods of defining, procuring and analysing their data. The most prevalent methods, covered in this handbook, rest on (deductive) introspection and intuition (part 2), experimentation and elicitation (including laboratory and ethnographic field work) (part 3), (inductive) observation (part 4) and corpus exploration (part 5). Unlike its competitive methods, whose data is empirically gathered and verified, introspectional pragmatics deals with data that arises from the individual pragmaticist's intuitive knowledge of language and how to put it to use. Thus, the viability of introspectional data rests essentially on deductive reasoning, which may on occasion be supplemented with abductive findings as the result of accidental, non-systematic observation.[1]

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[1] We need to stress that the term "introspection" (respectively "introspective method") is potentially misleading in that it is used in different senses in different fields of study. Klaus P. Schneider (pers. com.) points out that while it is widely employed in Relevance Theory and related approaches to refer to the fabrication of examples and their intuition based analysis (cf. below), in cognitive psychology and (applied) psycholinguistics, the term "introspection" (as opposed to "retrospection") carries quite a different sense. In these disciplines, "introspection" refers to experimental methods involving thinking-aloud and protocol analysis with groups of ordinary, i. e. non-expert, language users. For work in this field, cf. studies by psychologists K. Anders Ericsson and Herbert A. Simon from the 1980s and 1990s (particularly two pivotal articles published in 1980 and 1993) or by applied linguists Claus Færch and Gabriele Kasper (e. g. their volume *Introspection in Second Language Research*). The difference between these two concepts of "introspection" is relevant, not least because researchers in Experimental Pragmatics adopt experimental methods from psychology and psycholinguistics and consider them markedly different from, and in fact superior, to "introspection" in

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Arguably, introspection is the earliest method used in pragmalinguistic research favoured in particular by scholars (mostly with a background in ordinary language philosophy) working on speech acts, presupposition and inference. The study of usage-bound phenomena such as indexicals required right from the beginning close observation of actually produced language in authentic speech situations.[2] Thus, pragmatic research is *ab initio* characterised by a critical methodological divide between introspection and observation. At about the same time (i. e. approximately in the 1950s and 1960s) that John L. Austin, John R. Searle and other speech act theoreticians based their findings on the introspective interpretation of fabricated examples in likewise fabricated potential contexts, other pragmatically oriented linguists relied for their description of categories such as tense, mood, modality and deictic reference on empirical evidence from the actual contexts in which they occurred. Eventually, the increasing awareness of the need to supplement or rather align introspectional with observational methodology

> led to the pragmatic turn and the institutional establishment of linguistic pragmatics in the '70s, linguistics and philosophy moving from the analytically oriented study of de-contextualizable regularities of language toward the empirical study of the contextualized use of language […] [and allowing] the convergence of pragmatics with the empirical social sciences, which are traditionally concerned with actions and interpretations in context. (Koyama 2011: 139–140)

A methodological shift (as well as conceptual widening of the field) took place in the 1980s, when pragmatics linked up with the emerging interactional paradigms in sociology (in general) and ethnomethodology (in particular). This methodological repositioning had a considerable bearing on the redetermination of such pragmatically sensitive concepts as *context* (from a static and autonomous to a dynamic and collaborative concept which is cognitively as well as situationally and socio-culturally much more refined) and *speech act* (from a unilateral act, as advocated by pioneers like John L. Austin, to a bi- or, in some types of interactive computer-mediated genres, multi-lateral "inter-act"). In hindsight, it is clearly perceivable that with the advent of modern computer technology (which fostered fast and easy compilation of large text corpora together with the development of sophisticated software for their analysis), introspection as the dominant method of

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Relevance Theory. Cf. Part III of this handbook for the use of "introspection" in the psychological sense in other traditions in pragmatics.

[2] The significance of indexicality for semiotics in general had been acknowledged by Charles Sanders Peirce and for pragmatics in particular by Yehoshua Bar-Hillel (1954 and 1971); cf. Koyama (2011: 141) and for an authoritative overview of deixis and indexicality Hanks (2011), who justifies the central role of the study of deixis in pragmatics by pointing out that "deictic systems define points of intersection between linguistic structure and the social settings in which speech takes place" (2011: 315).

pragmatics lost its significance and was replaced by empirical, usage-based modes of gathering and analysing data.

In the opening chapter of the second part of this handbook on methods of introspectional pragmatics, which covers philosophical and cognitive approaches, Marina Sbisà in chapter 5 ("Philosophical pragmatics") sets the scene by critically discussing in which way previous research into (varieties of) speech act theory, models of interpretive inference and the multifaceted concept of context has contributed to the methodology of pragmatics. As her guideline, she chooses a definition of pragmatics put forward by Charles Travis not long ago:

> Pragmatics […] is the study of properties of words which depend on their having been spoken, or reacted to, in a certain way, or in certain conditions, or in the way, or conditions, they were. (Travis 2000: 87)

Sbisà paraphrases Travis's view of pragmatics as the study of "the ways in which language is used by speakers in contexts" and claims that this "matches the oldest definition of pragmatics, that of the pragmatist philosopher Charles Morris (1938)" (this volume). Such equation, however, needs to be taken *cum grano salis*. Morris's understanding of pragmatics has to be considered against the backdrop of a general theory of signs. In his renowned triangular model of semiotics (which is still widely adopted, though mostly in slightly restricted form, cf. Nöth's 2011: 167 caveat), pragmatics features as one of three domains:

> Sign behavior, according to Morris, involves three main factors: "that which acts as a sign [the sign vehicle], that which the sign refers to [the designatum], and that effect on some interpreter in virtue of which the thing in question is a sign to that interpreter" [the interpretant] (1938: 3). Based on this triad, Morris (1938: 6–7) defines semiotics as a field of study of the following three domains corresponding to three well-known branches of modern linguistics: syntax (or syntactics), the study of the relation between sign vehicles, semantics, the study of the relations between sign vehicles and their designata, and pragmatics, the study of the relation between sign vehicles and their interpreters […]. (Nöth 2011: 167)

Morris drew upon a similar proposal by the sign theoretician Charles Sanders Peirce, whose concept of the linguistic sign is characterized by an irreducibly triadic relation between the sign itself and the object (which can be another sign) it represents by way of a mediation between the two, i. e. by way of interpretatively relating them.[3]

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[3] In Peirce's own words, the semiotic triangle can be described in this way: "A sign, or representamen, is something which stands to somebody for something in some respect or capacity. It addresses somebody, that is, it creates in the mind of that person an equivalent sign, or perhaps a more developed sign. That sign which it creates I call the interpretant of the first sign. The sign stands for something, its object. It stands for that object, not in all respects, but in reference to a sort of idea, which I have sometimes called the ground of the representamen." (Peirce 1955: 99)

While for Morris (as well as for Peirce) pragmatics is thus essentially concerned with the relation between the linguistic sign and its interpreting user, Travis designs a much broader scope of pragmatics by relating the linguistic sign to the ways and conditions of its actual use. His central claim is that in pragmatics, linguistic expressions (their forms, meanings and functions) are studied and explained solely in relation to the particular contexts and situations in which a speaker or writer, hearer or reader actually uses them, the focal issue thus being their "occasion-sensitivity", to use a key notion featuring largely in his work (cf. e. g. 2000: passim).

Against the backdrop of Travis's broad definition of pragmatics, Sbisà works out the methodological implications of research by Austin and other speech act theorists, by Grice and those who modified his inference theory, as well as by Stalnaker and others who investigated indexicals, presuppositions and the role of context and common ground. Claiming that a theory which describes speaking as acting has inevitably methodological implications, Sbisà in section 2 outlines and critically evaluates Austin's speech act theory. She argues that these implications concern conditions of language use such as the essential distinction between the four "kinds of uses" (Sbisà, this volume) locution, illocution, perlocution and aetiolation (with illocution as the central concept in Austin's theory) and the "actual execution of an illocutionary procedure and, if there are any, of its flaws generating inappropriateness or infelicity" (Sbisà, this volume). Rounding off her account of the implications of Austin's theory for the methodology of pragmatics, she draws the reader's attention to the significance Austin assigned to ordinary language as a means to gain "access to philosophical knowledge" (Sbisà, this volume). Section 3 is devoted to Paul Grice and the central role he plays in research on inferential meaning (which in its impact she judges to be comparable to Austin's role in speech act theory). Sbisà gives unreserved credit to Grice's contribution to "reach pacific coexistence" (this volume) of "logic and conversation" (thus the title of his most influential study) as the two opposing mainstream approaches to meaning, i. e. of truth-conditions based analysis of meaning in semantics (in Gricean terms "what is said"), on the one hand, and analysis "of whatever else is meant or done in speaking" ("what is meant / what is implicated") in pragmatics, on the other hand. Sbisà argues that Grice by relating meaning emerging in cooperative interaction to the interactants' intentions manages to set pragmatics clearly apart from semantics. Ultimately, this achievement helped to promote pragmatics as a field of study in its own right, as did two other significant traits of his theory: rationality and argumentation. Rationality, the defining feature of the Cooperative Principle, must be taken as a "means-end relationship" in that "it is rational to make as much sense as possible of one's interlocutor's conversational contributions, since this can make the conversation more profitable" (Sbisà, this volume). And it is due to rationality that observing the Cooperative Principle and its maxims is an ordinary, but nonetheless optional and entirely context-dependent act:

> the level at which the criteria of adequateness for quantity, quality, relation and manner of information are set in individual cases, as aspects of speaker's cooperativity, depends on the context of the conversation and particularly on its „accepted purpose or direction" (1989: 26). [This, she argues, is] different from the way in which the Principle of Relevance is dealt with in Relevance Theory. (Sbisà, this volume; cf. also Clark, chapter 7, this volume)

According to Grice, there is a tight connex between interactants behaving in a rational way and argumentatively accounting for such behavior, which also applies to the analyst, who is likewise expected to argumentatively track the creation of meaning in context. Sbisà makes the methodological implication quite clear:

> if what you are doing is […] the analysis of some discourse or conversation, or of some recurrent fact in the use of language (such as e. g. the generation of a certain implicit meaning), then the meaning you assign to the discourse or conversation, or to the kind of utterance analyzed, should not be assigned without a reason, but be backed by argumentation. This stance may guide the analyst in her setting limits to her interpretive activity, against the temptations of so-called infinite semiosis […] and of deconstruction. (Sbisà, this volume)

In section 4, Sbisà turns back to speech act theory or rather to the broad spectrum of speech act theories developed in the wake of Austin's original model. Of these she singles out two exemplary ones with different philosophical and methodological implications, viz. John R. Searle's philosophical and Kent Bach and R.M. Harnish's inferentialist and internalist approach. While the latter owes much to Grice's inference theory in that it regards the speech act as the expression of a communicative intention which the hearer needs to infer, the former is well-known for its conformities with Austin's original, but even more so for its differences. While they agree on the structure of the speech act, their theories differ fundamentally as to their ontological quality. Searle introduces rule-relatedness as an essential precondition for the metamorphosis of any kind of verbal behaviour into the performance of purposeful speech acts. Such rules that turn behaving into acting he calls constitutive rules; they define the conditions under which an utterance X ("Have you got a watch?") counts as the speech act Y (REQUEST to tell me the time). Sbisà draws our attention to the cutback that while his "rule-governed approach is elegant in theory", it nonetheless "does not yield a plausible picture of actual verbal interaction" (this volume). Section 5 is devoted to Robert Stalnaker's pragmatic research into the context-dependency of meaning culminating in two main concepts of description, viz. common ground (i. e. the participants' mutual and continuously developing and changing contextual beliefs) and pragmatic presupposition (i. e. presupposition of a speaker, not a verbal item, which transmits known information but may, on occasion, also convey new information). Sbisà discusses the implications for pragmatic research of both concepts, focusing in particular on the dynamics they help to create in context. In the final section 6 (preceding her concluding remarks) she turns to more philosophical pragmatic studies of context-dependency,

which range from mainstream pragmatism by, for instance, Travis (2000), to what she calls "radical contextualism" by Recanati (2004, 2010).

In the following chapter 6 ("Research methodology in classical and neo-Gricean pragmatics"), Yan Huang surveys major research methodologies used in classical and neo-Gricean pragmatics to deal with different ways of collecting, classifying and analysing data. A characteristic feature of his overview is that it is both a careful linguistic stocktaking of some of the respective models (including Grice's original theory and Huang's own neo-Gricean pragmatic theory of anaphora) and a philosophical discussion of the methodological principles of falsifiability and reduction versus expansion of a theory.

Section 2 sets in with an assiduous reconsideration of Grice's classical principle of cooperation (together with its concomitant maxims of conversation), which Huang relates to the Gricean theories of non-natural or (intention reflecting) speaker meaning and conversational implicature, before turning to neo-Gricean pragmatics, singling out Horn's bipartite and Levinson's tripartite theories. The former, in which Grice's maxims of conversation are reduced to just two basic principles of Quantity and Relation, is challenged by Levinson on the grounds that it fails to distinguish between "semantic minimization" and "expression minimization", thus failing to set pragmatic principles that determine the linguistic form of an utterance clearly apart from those that govern its content. Referring back to Horn's proposal and employing a plethora of enlightening examples, Huang examines Levinson's alternative theory. Sections 3 and 4 are devoted to two crucial concepts of pragmatic methodology, viz. introspection as the dominant methodological principle in classical as well as neo-Gricean pragmatics and falsifiability as an indispensable criterion of empirically-based science. Again basing his argumentation on a great number of supporting examples, Huang discusses the advantages of introspection in this field of pragmatics over other research methodologies and also its disadvantages, which, however, are quite negligible in his view. Falsifiability (in Karl Popper's sense) is an obvious feature of classical and neo-Gricean pragmatics whose findings can be tested for their truth or falsity, as Huang takes pains to demonstrate, drawing on evidence from lexical narrowing and, in the process, refuting counterexamples put forward in post-Gricean pragmatics.

Using the example of Grice's Cooperative Principle with its accompanying maxims, Huang considers (in section 5) two other methodological principles, viz. reduction versus expansion, which can both be observed in the numerous attempts at "improving" Grice's theory. As mentioned above, Horn and Levinson, *inter alia*, preferred the reductionist option, while Leech (1983), for instance, advanced an alternative theory with an expanded number of principles and maxims. Both options are critically evaluated from a methodological point of view, before Huang turns to his final topic in section 6. At considerable length, he presents his version of a neo-Gricean pragmatic theory of anaphora and binding (in which linguistic characteristics are compared and contrasted in a great number of typologically

different languages) to demonstrate the advantages of such alternative methodological procedure.

The second part of this handbook on philosophical and cognitive methods of introspectional pragmatics closes with Billy Clark's chapter 7 on "Cognitive pragmatics: Relevance-theoretic methodology". It provides a systematic overview of the early introspection based (following Grice) as well as the more recent observation based cognitive methods of analysis in relevance theory, including techniques developed in what became to be known as "experimental pragmatics" (cf. below and, *inter alia*, Gibbs, this volume).

The structure of Clark's chapter follows his claim that "the story of relevance theory" is best accounted for by dividing it into three phases. In the first phase (which he titles "Introspection"), the early protagonists of relevance theory, notably Sperber and Wilson, "were engaged in demonstrating that pragmatic theories were possible at all. There was an assumption that the domain of pragmatic inference was so wide that it was not amenable to systematic study" (Clark, this volume). In doing so, they naturally followed Grice in using (their own) intuitions as their principal method of collecting data and providing possible and thus, in accordance with Grice's theory, logical interpretations. In great detail (and aided by a wide range of instructive examples), Clark discusses the early relevance theorists' examination and critique of Grice's theory, which they based on a useful "combination of intuitions, logical argumentation and appeals to theoretical simplicity" (this volume). The second phase of relevance theory is characterised by the rise of experimental relevance-theoretic work (not in lieu of but alongside introspectional analysis), due to a growing concern among relevance theorists (and pragmaticists in general) about the "perceived limitations of reliance on introspective data" (this volume). In the respective section titled "Experiments", Clark outlines and critically evaluates the assemblage of diverse experimental methods developed in the 1990s (with a notable increase since the 2000s), which use, *inter alia*, evidence from questionnaires, reading and response times, electroencephalography (EEG), functional magnetic resonance imaging (fMRI) and eye-tracking technology. This is followed by an elaborate and insightful report of the various ways in which such experimental work has been applied in "clinical work, developmental pragmatics, language acquisition, first and second language learning and teaching, and stylistics", and has thus developed into a "standard way of investigating theoretical claims" (this volume) in pragmatics.

Even though "introspection and experiment are still the most commonly used methods in relevance-theoretic work", there are other methods whose application "might soon be seen as a third phase" (Clark, this volume) in the methodology characterising current studies in relevance theory, which has become increasingly eclectic. In the section on "Other methods", Clark, adopting a very critical stance, explores such eclecticism. In particular, he rejects the tendency to value experimental methods higher than others on several grounds. He then proceeds. to dis-

cuss several key studies using alternative methods which are neither introspective nor experimental but observational and corpus-based. The chapter is rounded off with concluding comments on the usefulness of the different kinds of methods presented and an outlook on possible future developments.

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5. Philosophical pragmatics

Marina Sbisà

Abstract: This paper deals with the contributions that have been made by philosophers to the methodological aspects of pragmatics (considered as the study of the use of language by speakers in contexts). Among those contributions, there are the implications of Austin's conception of the speech act for the analysis of "uses of language" and of conversational interaction, as well as the implications of Grice's conceptions of meaning and conversational cooperativity for the delimitation of "communication" and for the role of argumentation in meaning attribution. The paper deals also with various possible implications of speech act theory as reformulated by Searle and by Bach and Harnish and discusses the philosophical notions of pragmatic presupposition, common ground, and context-dependency, indicating some ways in which they can be made relevant to the analysis of discourse.

1. Introduction

Methodological issues play a role in philosophy insofar as a philosophical approach characterizes itself metaphilosophically, that is, authors working in its framework devote some part of their reflections to questions about the nature of philosophy and the task of the philosopher. Although at least one of the main authors in philosophical pragmatics, namely John L. Austin, had precise and controversial metaphilosophical views, I will not focus on metaphilosophical issues in this paper. I will focus, instead, on the contributions that have been made by authors working in philosophical pragmatics to the methodological aspects, not of philosophy, but of pragmatics itself. To the aim of this paper I characterize pragmatics, following Charles Travis (himself a philosopher), as follows:

> Pragmatics […] is the study of properties of words which depend on their having been spoken, or reacted to, in a certain way, or in certain conditions, or in the way, or conditions, they were. (Travis 1997: 87)

Tackling these issues, indeed, involves taking into consideration the ways in which language is used by speakers in contexts: Travis's characterization, therefore, matches the oldest definition of pragmatics, that of the pragmatist philosopher Charles Morris, as "the science of the relation of signs to their interpreters" (1938: 30). Austin, Grice, Searle and other speech act theorists, Stalnaker, and the philosophical tradition studying indexicals or debating contextualism, all gave important theoretical contributions to these issues, with direct or indirect implications

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for empirical research. In the next sections of this paper I will consider some of these contributions and attempt to squeeze out of them their (actual or potential) methodological implications for pragmatic research.

2. John L. Austin

Austin's most relevant contribution to philosophical pragmatics is his outline of speech act theory, to be found in his posthumously published *How to Do Things with Words* ([1962] 1975). Albeit sketchy and here and there incomplete, it has a lot of implications for pragmatic issues, beyond the obvious fact that it launched (or contributed to launch) some of the key notions used in pragmatics since then, such as speech act, force, presupposition (let aside more specifically Austinian terminology). By his outline of speech act theory, Austin proposes to study speech as action and to do so under three main respects, which he identified as the locutionary, the illocutionary, and the perlocutionary act. The proposal to study speech as action has philosophical implications, but, from the point of view of pragmatic research, is little more than programmatic: just one more reason to develop the discipline besides, and beyond, syntax and semantics. But the concepts put forward to back the claim that speech should be studied as action have also methodological implications, since they can direct the attention of scholars toward certain facts of language use and verbal interaction and suggest a number of distinctions to be made in their description.

2.1. Austin's distinctions

What are the "uses of language"? Scholars interested in how language is "used" should not gather all ways and senses of "use of language" in one and the same heterogenous list (as suggested by Wittgenstein 1953: § 23). And perhaps they should not rely on the assumption that the uses to be distinguished have a simple one-to-one correspondence with a list of different features to be observed in the speech situation, as in Jakobson ([1960] 1981: 21–27).

According to Austin, to study uses of language we have first to distinguish kinds of uses of language, that is, locution, illocution, perlocution, and aetiolation. The definitions of these terms are well known: I summarize them as follows (but see, on this topic, Sbisà 2013: 25–37 , and for the notion of illocutionary procedure, Sbisà forthcoming): locution is the production of words in conformity to a language and with a meaning which may consist of sense and reference; illocution is the execution of a procedure comprising the utterance of words, which brings about a conventional effect; perlocution is the production, by means of the utterance, of non- conventional effects or consequences; aetiolation or "non serious" speech is the framing of speech so as to suspend some of its goals, effects, or implications. The distinction is grounded in an analysis of kinds of doings and of the ways we report them.

Is then meaning a "use of language", an effect of using language in context? Austin insists that even if there may be a sense in which locutionary meaning is precisely this, it must be kept distinct from the illocutionary and perlocutionary senses of "use of language". He therefore rejects philosophical approaches reducing meaning to illocutionary force – as some ordinary language philosophers such as Hart (1949) and Strawson (1949) were apparently keen to do, and now is done, in a highly sophisticated way, in the inferentialist semantics of Brandom (1994) – or even to perlocutionary efficacy (as in the tradition of pragmatism).

Austin focuses upon illocution in particular. Illocutionary acts are, for him, the kind of acts that can be performed by means of performative utterances, that is, in issuing sentences with the verb in the first person present indicative active that do not describe the speaker as doing something, but make explicit what the speaker is doing in uttering them and, therefore, contribute to the performance of the act they mention. But illocutionary acts can also be performed in uttering sentences of various other forms. Perlocutionary acts are distinct from illocutionary acts because their effects are a matter of causally affecting the psychological states or actual behaviour of some of the participants in the interactional situation, while the effects of illocutionary acts, according to Austin at least, are conventional. Since Austin, while exemplifying this conventionality mainly by citing cases of ritual or institutional illocutionary acts, raises the claim of the conventionality of illocution in general terms, those willing to stick to his intuition are left the task of showing what kind of states of affairs the "conventional effects" of illocution consist in. This can be done, for example, by finding a suitable way in which to describe them. So I have described these effects as bearing upon the deontic statuses associated with each participant (rights, obligations, licenses, commitments, and so on) (Sbisà 1984, 2001, 2002). Austin's main contribution to the description of the kinds of procedures comprising the utterance of words and bringing about conventional effects, the execution of which amounts to the performance of illocutionary acts, is to be found in his outline of a classification of illocutionary acts (1975: 151–163).

2.2. How to attribute illocutionary force to an utterance

Austin has also suggestions about the ways in which we attribute illocutionary force to utterances. He studied explicit performatives, of the form "I promise you to …" or "I warn you that …". Here the verb of the main clause designates an illocutionary act and makes it explicit that the whole utterance has the corresponding illocutionary force. But, more interestingly, there are words or expressions, or syntactic forms, whose main function is to indicate illocutionary force: they include sentence type, mood, modal verbs and adverbs, evaluative words, discourse connectives (Austin 1975: 73–76). So, on the one side, an analyst who wants to make sense of what the participants in an interaction were doing should, first of all, observe illocutionary force-indicating devices such as mood or sen-

tence type, modal verbs, evaluative words, and certain adverbs or connectives. On the other side, a linguist trying to determine what these words or expressions, or syntactic forms, mean, has to consider that they are not used merely, or are not used at all, as descriptive or referential devices, but at least in part as force-indicators.

A further task (supposing that descriptions of illocutionary procedures and their expected effects are already available, see above, section 2.1) is the description of the actual execution of an illocutionary procedure and, if there are any, of its flaws generating inappropriateness or infelicity. The achievement of the expected effect depends not only on the correctness of the performance and the appropriateness of circumstances, but also, on whether the speaker has made what she was doing clear enough to enable the audience to recognize the act performed. So the analysis of illocutionary acts in an interactional episode must include consideration of the ways in which the speaker secures the audience's uptake, or in which the achieved securing of uptake is made manifest by the audience.

2.3. The role of ordinary language

When analyzing discourse, illocutionary force attribution can in the first place avail itself of the illocutionary lexicon of the natural language in which the discourse is formulated. This is the positive recommendation we can gather from Austin's insistence on performative verbs as designating illocutionary acts (1975: 150): it is indeed their gamut (their semantic field) that offers the most nuanced potentialities to the description of what is done in speaking. Of course, this is only to begin with. Then we have to ask ourselves what exactly the verb we have intuitively chosen to describe the function of a certain conversational contribution, or discourse move, means. Why did we choose it? What intentions and other attitudes are we attributing to the speaker, what conditions are we presupposing that speaker and speech situation satisfy, how is the speech situation consequently reshaped? Here, theory comes in: we may go on in different directions, with different results, depending on the speech act-theoretical model we are following (see section 2.1, and below, sections 4.1 and 4.2). But the first step should exploit ordinary language and not hurriedly apply simplified theoretical concepts, if we do not want to miss the subtler aspects of what is happening.

For Austin, of course, quite beyond the remark I have just made (which is commonsense enough and should be uncontroversial), the appeal to ordinary language has a metaphilosophical significance. Austin is convinced that our access to philosophical knowledge, if there is such a thing, is through accurate use and reflection upon the accurate use of ordinary language. So philosophers clean up their linguistic tools and, hopefully, gather insights and suggestions from the subtle distinctions that the wisdom of centuries has embodied in the lexicon of the natural language they speak (see Austin 1979: 181–189).

3. Paul Grice

If Austin set the basis for speech act theory, Paul Grice, known among scholars in pragmatics above all for his theory of implicature, tackled a broad range of issues relevant to pragmatic research and can be credited with a decisive move that greatly stimulated its development. By the way, it should be noted that he did not conceive of his work as being concerned with "pragmatics": he was concerned with meaning (the subject matter of semantics) and the attempt to trace even word meaning or sentence meaning down to their roots in the speaker's intentions and hearer-directed activity. However, the opposition he discusses and attempts to resolve between "logic" and "conversation" became the basis of what has been for decades the mainstream way of distinguishing semantics from pragmatics: truth-conditions based analysis of language on the one side, study of whatever else is meant or done in speaking on the other side. In the title of his famous lectures, *Logic and Conversation* (Grice 1989: 3–143), "logic" stands for truth-conditional meaning, while "conversation" introduces meaning as it emerges in ordinary situations, that is, within a basically cooperative verbal interaction. From ordinary language philosophy a pragmatic view of language was emerging that appeared to be squarely opposed to the truth-conditions based analysis, claiming for example, with Austin (1975), that the felicity or infelicity assessment takes priority with respect to truth and falsity or, with Strawson (1950), that there can be truth-value gaps. Grice showed how to reach pacific coexistence and relative autonomy, and this undoubtedly created an environment in which it was easier for the new field of pragmatics to develop. If now philosophers question the precise way in which he drew the line between semantics and pragmatics (or, in Gricean terms, between "what is said" and "what is implicated"), there is still a wide consensus that some such line has to be drawn. Even philosophers who intend to shift that line remarkably (as for example Recanati, who claims that the truth-conditional meaning of utterances itself belongs to pragmatics because it is determined contextually, see below, section 6) agree that there need not be any clash between pragmatic research and truth-conditions based research.

I will turn now to sketching some Gricean themes of methodological import.

3.1. What is communication?

Grice's view of meaning as a complex, open intention of the speaker (1989: 213–223) contrasts with views of communication such as that of the so-called "pragmatics of communication" (Watzlawick et al. 1967). Watzlawick has famously claimed that one cannot not communicate: we communicate something all the time (with words, but also e. g. with the way we utter our words, our gaze, our bodily position, and the like) even if we do not intend to. In a Gricean perspective, we need not deny that a lot of interior states and attitudes transpire from speech and

its accompanying behaviour. But Grice distinguishes "natural meaning" which is the case when some fact works as an index or symptom of some other fact, from "non-natural meaning" which is restricted to those cases in which it is possible, or reasonable, to ascribe a complex meaning-intention to the speaker. The structure of the relevant meaning-intention comprises the core intention of eliciting a certain response in the audience, plus the intention that the core intention be recognized by the audience and the intention that the audience be lead to respond in the designed way at least in part in virtue of their recognition of the speaker's core intention. If anything makes the ascription of such a complex intention impossible, as when contextual knowledge makes it clear that the speaker cannot have that intention or that the recognition of the speaker's core intention does not contribute to its fulfilment, we should not say the speaker expresses the corresponding meaning. So Grice's view of meaning urges us to keep distinct, on the one hand, recognition of meaning (communication proper, in which the informative content grasped by the hearer is meant by the speaker) and, on the other hand, inference from symptoms (by which a hearer or observer may grasp informative content that the speaker did not mean). For example, we have communication proper if I confess that I am anxious or use words that presuppose or implicate that I am anxious, but not if anxiety merely transpires from my words, apparently against my will.

3.2. How do we understand discourse?

Grice suggests that the fullest comprehension of an utterance or discourse comes when we take it to be a cooperative contribution to some conversation. In this way we understand not merely its truth-conditional meaning, but also a larger halo of assumptions that, although belonging to what the speaker means, are not explicitly specified in the sentences she utters. This is why the Cooperative Principle is held to be "rational": under an instrumental conception of rationality, the rationality of the means-end relationship, it is rational to make as much sense as possible of one's interlocutor's conversational contributions, since this can make the conversation more profitable (Grice 1989: 29–30). Disbelief or objections may come later, once the full meaning is grasped. Scholars in pragmatics who are fascinated by the Gricean Cooperative Principle should bear in mind that it has neither the normative force of a law nor of a politeness rule: it is not something that someone, or perhaps the social group itself to which we belong, has decided and imposes on us. Nor can it be assimilated to a constitutive rule for conversation. It is true that if we do not assume that our interlocutor follows the Cooperative Principle, we are likely to have little conversation with him, but this is a natural consequence of not taking the attitude that would make listening fruitful. While in cognitive pragmatics, since Sperber and Wilson ([1986] 1995), the rules or principles that reformulate the Cooperative Principle are not optional (they are meant to be natural features of our minds), it is a peculiarity of the Gricean, philosophical way of conceiving

of the Cooperative Principle that, although it remains the best reference point for all our understandings and interpretations, we are not forced to adopt it in any circumstance and with any interlocutor. This makes the adoption of the Cooperative Principle in one's relationship to a certain speaker a significant, albeit quite ordinary, move.

Another peculiarity of the Gricean, philosophical conception of conversation is that the content of the maxims specifying the Cooperative Principle is not fixed, but context-relative. That is, the audience expects from the cooperative speaker information adequate in quantity, quality, relation and manner to their current needs or interests. There is no requirement to say "all", to choose the most informative sentence available, to be crystal-clear and explicit on everything. In Grice's view, the level at which the criteria of adequateness for quantity, quality, relation and manner of information are set in individual cases, as aspects of speaker's cooperativity, depends on the context of the conversation and particularly on its "accepted purpose or direction" (1989: 26). This too appears to mark a difference from the way in which the Principle of Relevance is dealt with in Relevance Theory (Sperber and Wilson 1995; see Clark, this volume, chapter 7).

3.3. The role of argumentation

Grice illustrates some ways in which we can back our attributions of implicit meaning: conventional implicature and the various kinds of conversational implicature, which differ as to the structure of the inferential route, of which the recognition of the implicature is the conclusion. But he does not claim that our processes of comprehension actually function in the ways he describes. Grice's theory may suggest, and did in fact suggest, hypotheses about language processing, and this task has been resumed, in the interdisciplinary field of cognitive pragmatics, by neo-Gricean and post-Gricean theories (see Clark on Cognitive Pragmatics, chapter 7, and Schneider on Experimentational Pragmatics, chapter 8, this volume). But if Grice is not necessarily concerned with actual processes of comprehension, what is, in his philosophy, the point of distinguishing saying from implicating, conventional from conversational implicature, generalized from particularized implicature? Grice thinks that it is typical of humans to be able to give reasons for what they do: this may be even turned into a defining property of the human "person" (Grice 1991: 84–90, 118). If this holds also in the field of speech production and comprehension (and why should it not?), then Grice has a reason, internal to his philosophy, for explaining meaning attribution, whenever possible, by making it rely upon some argumentative activity. It is interesting to notice that Grice, when it is under scrutiny whether the nature of a certain implicature is conversational or conventional, favors the former solution (in which the implicature is backed by an inferential route) and admits of the latter solution only if special justification is provided (1989: 39). The methodological implication is clear: if what you are

doing is not research on language processing (which has other methods and criteria), but the analysis of some discourse or conversation, or of some recurrent fact in the use of language (such as e. g. the generation of a certain implicit meaning), then the meaning you assign to the discourse or conversation, or to the kind of utterance analyzed, should not be assigned without a reason, but be backed by argumentation. This stance may guide the analyst in her setting limits to her interpretive activity, against the temptations of so-called infinite semiosis (the infinite chain of interpretations that arises from each sign, inspired by Peirce [1932] 1960: 156, 169–170), and of deconstruction.

4. Speech act theory

Several varieties of speech-act theoretical views, explicitly stated as theory or elaborated in connection with research on some concrete pragmatic phenomenon, have come to existence as a response, a continuation or a redressing of Austin's initial outline. Here I cannot examine them all. But since two main models can be recognized, which have different philosophical implications and may convey different methodological messages to scholars in pragmatics, I will devote some considerations to their main representatives, the philosophy of language of John R. Searle and the inferentialism of Kent Bach and R.M. Harnish.

4.1. John Searle

As is well known, the fortunes of speech act theory largely depended on the publication of Searle's volume *Speech Acts* in 1969. It is thanks to Searle's work, clear, systematic, captivating, that speech acts actually became a focus of attention for many linguists, sociolinguists, literary theorists, besides (obviously) philosophers. Later on, Searle kept giving contributions to speech act theory, but discussed also other philosophical topics, especially in the philosophy of mind. I will limit my considerations to some aspects of his philosophy of language.

Searle's approach to speech acts emphasizes the need to make principled distinctions, criticizing Austin for the ordinary-language driven flexibility he sometimes displays. Searle invites extreme explicitness in the analysis of illocutionary acts, as well as in that of institutional facts. His main instruments are explicitly stated, purportedly exhaustive sets of constitutive rules, that is, rules that must be followed in order for one's utterance to count as the performance of a certain act (1969: 33–42). Constitutive rules, in turn, make counts-as rules possible, since when something has the properties required by certain constitutive rules, it counts as the act (or event or entity) that is so constituted. Searle uses counts-as rules in his account of institutional facts in particular (1969: 51–52, 1995). This rule-governed approach is elegant in theory, but does not yield a plausible picture of actual verbal

interaction (do speakers dwell to check whether each constitutive rule, pertinent to what they intend to do, is satisfied?). The abstract character of this kind of speech act theory is underscored when it comes to "illocutionary logic", where forces are septuples of properties defining the illocutionary act, and the notion of illocutionary entailment (Searle and Vanderveken 1985: 129–137) presupposes that there are cases in which the speaker who performs a certain illocutionary act must also, in the same utterance, be performing another (which will be the act illocutionarily entailed by the illocutionary act she overtly performs). Searle's account of social reality, however, has the merit of showing how much linguistic-pragmatic work lies beneath the so many institutional facts that usually impose on us as ready-made.

Searle's classification of illocutionary acts is based upon differences in illocutionary point, combined with differences in direction of fit between language and world, and expressed psychological state (Searle 1979: 12). Illocutionary points are presented as universal and natural, being rooted in varieties of human intentionality (Searle 1979: 29; 1983). This classification, its theoretical virtues notwithstanding, does not yield particularly insightful results when applied to discourse analysis. Illocutionary force attribution is based on the recognition of illocutionary force indicators, especially mood or sentence type (Searle assumes a sharp distinction between propositional indicators and illocutionary force indicators). But classing, for example, almost all utterances of declarative sentences as assertives and all utterances of imperative sentences as directives does not by itself say much about the properties of the discourse or discourse genre under scrutiny. Results become richer if resort is made to Gricean inferences, which enable hearers to assign "indirect" illocutionary forces (Searle 1979: 30–57). The notion of indirect illocutionary act balances the rigidity of the definitions of illocutionary classes and in general of (types of) illocutionary acts in Searle's theory. The pragmatic facts it highlights, moreover, are worth consideration also beyond Searle's theoretical framework, as is shown by the fact that it has inspired much work in politeness theory (since Brown and Levinson 1987; see in the field of the empirical analysis of speech acts, Blum-Kulka et al. 1989) and in psycholinguistics (e. g. Gibbs 1979, 1986).

Searle is also to be credited with introducing "degrees of strength" of illocutionary force (1979: 5; Searle and Vanderveken 1985: 15, 19). He illustrates differences in degree of strength by giving examples such as the contrast between "I solemnly swear that Bill stole the money" and "I guess Bill stole the money". Similar contrasts, no longer between explicit performatives (utterances of the form "I V that p", where "V" is a performative verb), but between utterances whose forces are indicated by other lexical or syntactic indicators or by textual strategies, constitute an important and widespread phenomenon that has been addressed by a wide pragmatic literature under names such as "mitigation" and "reinforcement" (see among others Caffi 2007, Fraser 1980, Holmes 1984, Sbisà 2001).

4.2. Kent Bach and R.M. Harnish

The speech act theory of Kent Bach and R.M. Harnish (1979), which owes much to Grice's philosophy of language, is inferentialist and internalist. For Bach and Harnish, the speech act is basically the expression of a communicative intention, and hearers grasp the expressed communicative intention by means of inferences. They focus on the task of reconstructing the processes by which a hearer comes to grasp the speaker's communicative intention, and elaborate a "Speech Act Schema" illustrating these processes step by step. So goes the story (slightly simplified): from hearing S utter e, H infers "S is uttering e"; from the fact that S is uttering e (plus the assumption that there is a common understanding of the same language, plus other salient contextual information), H infers "S means … by e" and then "S is saying that (… p …)", and then "S, if speaking literally, is F-ing that p" (where "F" stands for a verb designating the literal illocutionary force of the uttered sentence). From this last step H can proceed by resort to the Communicative Presumption (the mutual belief of the members of the linguistic community that whenever one of them S says something in L to another member H, she is doing so with some recognizable illocutionary intent) and further mutual contextual beliefs, to the assignment to S's utterance either of a direct literal force, or of a literally based indirect force (if S could not be merely performing the direct illocutionary act), or of a direct non-literal force (if S could not, under the circumstances, be performing the direct illocutionary act), or of a nonliterally based indirect force (if S could not be performing an act with the direct non-literal force) (see Bach and Harnish 1979: 3–37, 84–93). This reconstruction of the grasping of the speaker's communicative intention is, of course, theoretical and should be considered either a merely conjectural account, or an idealized rationalization. With respect to the cognitive-psychological study of language processing, the theoretical claims of philosophers may appear at most as hypotheses in need of further elaboration and testing. However, it is conceivable for a scholar engaged in discourse analysis to be inspired by Bach and Harnish's inferentialist proposal, in the attempt to make explicit all the steps leading to understanding or misunderstanding a speaker or even, all the steps ideally involved in discourse interpretation.

The speech act-theoretical inferentialism of Bach and Harnish connects to other kinds of inferentialism such as those of neo-Griceans and of Relevance theory. However, the latter two trends in pragmatic research do not belong primarily to philosophical pragmatics, but to cognitive pragmatics. It is, moreover, to be noted that Bach and Harnish do not treat all speech acts according to one and the same model, but following Strawson (1964), reserve separate treatment to "conventional" illocutionary acts. With respect to research in pragmatics, this amounts to a suggestion to separate the analysis of ritual, ceremonial, or institutional events involving the use of language from the analysis of discourse and conversation. This in turn amounts to giving up the project (implicit in Austin and endorsed by

Searle in his own way) of illocution as a flexible and truly transversal conceptual tool across all kinds of speech situations.

The inferentialism of Bach and Harnish fits well with what may be called their internalism (Harnish 2009). Both communicative intentions and beliefs about the speaker's communicative intention that are the effect of successful communicative illocutionary acts are internal states of the participants' minds. So what is highlighted is the relationship of speech acts to the expression and dynamics of mental states.

5. Robert Stalnaker

Among the philosophers working within a formal-semantic paradigm that have reflected upon issues belonging to pragmatics, a salient place is to be given to Robert Stalnaker, in consideration of his fidelity to pragmatic themes throughout his decades-long philosophical and logical research. He was among the first philosophers who realized that what an utterance actually means cannot avoid being context-dependent and gave rigorous theoretical form to this intuition in a paper entitled "Pragmatics" in 1970 (Stalnaker 1999: 31–46). He got increasingly concerned with the description of discourse dynamics and with the role that context plays in it (1999: 96–113; 2014). He also lauched the notion of pragmatic presupposition (1999: 47–62), to become the standard conception of presupposition referred to in pragmatic research.

5.1. Context as common ground

Stalnaker maintains that any conversational exchange takes place on the background of a body of information that is not merely believed by the participants to be true, but also believed by each participant to be believed to be true by the others. This shared and believed to be shared body of information is the context of that conversation or its "common ground" (Stalnaker 1999: 99; 2002): any discourse-dynamic phenomenon occurs within it and thanks to it. Indeed, the common ground is not a static entity, but changes as the conversation goes on. Every speech act adds something to the common ground: the speech act of assertion, for example, adds to the common ground the proposition that is the content of the assertion (Stalnaker 1999: 78–95).

Conceiving of the context in the way Stalnaker does yields at least two implications for research in pragmatics. First, it suggests that the significance of what participants in a conversation say to each other cannot be grasped completely, unless we are also able to reconstruct their shared cognitive world (this implication is congruent with one of the implications of Bach and Harnish's analysis of the understanding of speech acts, that is, the indispensable role of mutual contex-

tual beliefs). Secondly, Stalnaker's conception of the context as common ground emphasizes the dynamic side of speech acts, often neglected by speech act theorists, suggesting to describe their effects in terms of changes in the context. This aspect of Stalnaker's philosophical pragmatics links with the tradition of dynamic semantics that also uses the notion of context change or context update. It should be noted, however, that since the context is made out of attitudes, its changes too must concern attitudes, not material or social realities according to Stalnaker (1999: 86; see, however, the discussion of commands and permissions in 2014: 128–147). So, the effects of speech acts upon the context are not, or not directly, effects upon any level or aspect of the world.

A possible objection to the conception of context as common ground is that it requires of the participants to entertain complex beliefs that are not always psychologically plausible. Each participant has to believe that all participants believe that p if p is to be a member of the common ground. But in the course of a verbal exchange, we do not usually reflect upon what exactly other participants believe. Moreover, isn't the belief that all participants believe that p also a member of the common ground? If it is, each participant should also believe that all participants believe that p. This scenario is common to the notion of "mutual contextual belief" adopted, on a Gricean inspiration, by Bach and Harnish. So we should conclude that, whatever the value of Stalnaker's conception of context, its aim (as often happens in logical research) is not that of achieving psychological plausibility. Notice, however, that the problem could shift from the definition of common ground to what it means for a subject to "believe" something.

Finally, it should be noted that the conception of context as common ground is not the only conception of context that may be relevant to pragmatics. If one wants to focus attention on the hearer's inferences, it is enough to consider the cognitive context of the individual hearer's mind: whether shared or not, that is what actually makes them possible. In contrast, to the aim of understanding indexicals, what counts is who is (actually) speaking, when and where (as opposed to who is believed to be speaking, when and where) (Kaplan 1989a; Kaplan 1989b: 591–593). Also the felicity or infelicity of illocutionary acts, at least in Austin's perspective, depends on whether the context of utterance satisfies certain conditions, where the role of context is played by the relevant features of the actual speech situation (see Sbisà 2002: 421–22). The speech situation as the objective (vs cognitive) context of an utterance is also what Travis refers to in his characterization of pragmatics, cited above, by mentioning the "conditions" in which the words to be studied have actually been spoken or reacted to (on the contrast between objective and cognitive context, see Gauker 1998). The methodological suggestion implicit in Stalnaker's philosophical view of context as common ground, that is, that words should be understood as contextualized in the participants' common ground and contributing to it, should be weighed up against this more heterogeneous scenario.

5.2. Pragmatic presupposition

Stalnaker represents common ground as comprising propositions (which, in his theory, are sets of possible worlds: each proposition is identified with the set of possible worlds in which it is true) that, being believed by each participant to be both true and believed by the others, are "presupposed" by them. In his view, pragmatic presuppositions (1999: 47–62) are not presuppositions of the words used (as presuppositions are often taken to be, and as all presuppositions should be according to semantic conceptions), but of the speakers. They are those assumptions on the basis of which participants in a conversation choose how to speak to each other and which, therefore, an observer or analyst should grasp in order to understand what is going on, it does not matter whether or not they are linguistically indicated in the sentences that the participants utter. The focus of this conception is, therefore, on the preconditions for the successfulness of communication as opposed to the preconditions for the truth-evaluability of utterances or their successfulness as performances of illocutionary acts. While according to previous conceptions of presupposition, often dubbed "semantic" (but see the classic discussion of existential presupposition as a fact of language use in Strawson 1950) the falsity of a presupposition could make the illocutionary act the utterance was designed to execute "null and void" and therefore, in the case of assertion, would open up a truth-value gap, Stalnaker follows Grice in holding that the falsity of a pragmatic presupposition has none of these consequences (although it may well create some trouble to the participants in their conversational as well as extra-linguistic activities). Historically speaking, Stalnaker's notion of pragmatic presupposition contributed to the success of the Gricean program for separating semantics from pragmatics, that is, matters of truth-conditions and truth values from matters of speaker's beliefs, intentions and actions.

5.3. Presupposition accommodation

Presupposition markers or triggers are not essential to Stalnaker's pragmatic presupposition. However, sentences may contain words or constructions that set presupposition requirements. But then, those sentences are appropriately uttered only if speakers and hearers are actually making the required presupposition, that is, already entertain the relevant beliefs. It is an apparent flaw of Stalnaker's conception of presupposition that it is simply not true that all presuppositions of appropriately uttered sentences are already believed by all participants, let alone believed to be shared, at the time in which the sentence requiring them is uttered. When I don't know that p, but you do, you may utter a sentence to which the presupposition that p is associated, and I not only understand it but also grasp (and usually come to share) your presupposition. We cannot limit the notion of presuppositions to beliefs already held by the participants in a conversation. However, Stalnaker admits that

presuppositions may convey new (as opposed to old) content (1999: 51–52; see also 102–104). The phenomenon has been dubbed by David Lewis "accommodation" and has been described by him as depending on a peculiar rule that imposes to hearers to adapt their cognitive context in order to make what has been said true (Lewis 1979: 339–340). Stalnaker does not endorse Lewis's account of accommodation as governed by a specific rule and prefers to look for an explanation of the phenomenon within the dynamics of discourse. It is controversial whether his explanation is fully plausible (for its various accounts, see Stalnaker 1999: 51–52, 102–104; 2014: 47–50). However, the issue of presupposition accommodation remains very instructive for scholars in pragmatics: it shows that the study of the ways in which presuppositions are linguistically indicated must not be neglected and alerts those who are involved in discourse analysis to pay attention to the informative and persuasive uses of presupposition (see Sbisà 1999; for a recent, broader philosophical discussion of the uses of presupposition accommodation see Langton forthcoming).

6. Contextualism

The basic idea that what is meant by an utterance or discourse is always at least to some extent context-dependent is commonplace in pragmatic research. Context-dependency and its multiple, pervasive manifestations are no doubt increasingly explored in all the disciplines that are concerned with pragmatic phenomena (linguistics, interactional sociology, linguistic anthropology, cognitive psychology). With respect to all this, the philosophical discussion of context-dependency has at least a scenario-setting and terminology-fixing role. It might, however, bear some methodological relevance, since it proposes distinctions, not always accurate and univocal but at any rate subtle and interesting, between different forms and modes of context-dependency, which could provide useful guidelines to the recognition and explanation of context-dependent meaning.

Context-dependency was noticed in the logical study of indexicals and demonstratives long ago (Bar-Hillel 1954; Kaplan 1989a). It has been also recognized as not eliminable: a sentence containing indexicals cannot be reduced to another free from them, since some indexical element will always be present if the paraphrase has to be correct and complete (Bar-Hillel 1954; see also Perry 1979). The connection of indexicals to context was already implicit in Charles S. Peirce's definition of indexical signs (Peirce 1960: 143, 160–164): in Peirce, however, such a connection did not extend to symbolic signs such as most linguistic expressions. Austin recognized the context-dependency of illocutionary force attribution, a concept that was resumed (albeit in different terms) in the theory of indirect illocutionary acts. Implicit meaning from its very beginnings was recognized to draw on context. Later on, also the context-dependency of the meaning of non-indexical and non-demonstrative words, as well as of whole sentences, has been taken into account.

Contributions to contextualism include Bach (1994), Travis (2000), Carston (2002) and Recanati (2004, 2010) (for an overview, see Bianchi 2011). Since Recanati is perhaps the author who reaches the highest degree of systematicity in his way of describing and classifying the kinds and levels of context-dependency, I will illustrate what contextualism can do by summarizing his distinctions (as proposed in Recanati 2004). It should be considered, however, that other contextualist philosophers or theoretical linguists endorse slightly different distinctions. Obviously, philosophers that do not share Recanati's radical contextualism would accept some of these kinds of context-dependency but not others.

So, to see how the meaning of an utterance is contextually determined, let us start from sentence meaning, which is determined by the rules of language and consists of a very sketchy structure that philosophers also call "logical form". This is the realm of semantics, which is, by the way, not enough to assign to the utterance its truth-conditions. Once sentence meaning is acquired, various pragmatic processes come in:

1) Saturation, which is the contextual assignment of values to indexicals and other context-sensitive expressions. Consider "I read John's book": no definite truth-conditions are expressed unless we assign a value to "John's book" either as, for example, "the book left here by John" or "the book owned by John" or "the book published by John". This is a bottom-up process, driven by the logico-linguistic structure underlying the utterance, and is mandatory. It yields a truth-evaluable content (Recanati 2004: 7–8, 52, 61–62).

2) Free enrichment, which consists of optional processes that specify the linguistic meaning of the utterance, in consideration of contextual beliefs and needs (Recanati 2004: 23–37). It too contributes to determining the truth-evaluable content of the utterance. There are various sorts: specification, as when we say "rabbit" but may mean either 'rabbit fur' or 'rabbit meat'; strengthening, which consists of restricting the application of a predicate by contextually providing further conditions that are not linguistically encoded (as in the case of "All the books are on the table", where we understand "books" as "the books we need for the seminar" and "table" as "the table in the seminar room"); loosening, which happens when a condition of application belonging to the concept literally expressed by a predicate is dropped to widen the application of the predicate (examples are cases of loose use, up to metaphor); semantic transfer, which happens when the output of the processing of a linguistic expression is a concept other than the concept literally expressed by it, as in "The ham sandwich left without paying", when by this it is meant that the boy who ordered the ham sandwich did so. Free enrichment enables us to process the same sentence in different ways depending on its context of utterance. Sometimes the theory may even permit equivalent interpretive possibilities: for example, the processing of "I finished the book" can be represented as involving the strengthening of "finish" as 'finished reading', or the transfer of "the book" from referring to the concrete object to meaning 'reading the book'.

3) Implicatures: they belong to "secondary" inferential processes that apply to a contextually saturated and (when suitable) enriched proposition, and that again involve context (Recanati 2004: 52, 70–71). They differ from the primary processes such as those described in (1) and (2) in that interpreters must have the reflective capacity to rationally justify their own interpretations. Implicatures, indeed, can be understood intuitively, but it is also held to be part of their definition that speakers must have the competence to work out arguments justifying them.

This variety of ways and steps of the contextual processing of utterances may well contribute to explaining and justifying the intuitions of discourse analysts in assigning meaning to utterances in discourse. It can also bear, together with research on presupposition (if the latter is meant to be linguistically indicated), on the study of the pragmatic functions and assumptions associated with the use of lexical items.

7. Concluding remarks

As a whole, philosophical pragmatics insists on principled ways of dealing with varieties of pragmatic facts. One may choose among different models, but certainly the distinction between illocution and perlocution, where it applies, is a decisive contribution. Its main implication is that we should not, not even in empirical research on corpora belonging to specific discourse genres, take the effectiveness of discourse in producing beliefs or emotions or behavior as a direct result of the words used and their content. There is something half-way between the two: it is the power of discourse of shaping and reshaping the relationship between the interlocutors, what they legitimately expect from one another, what they owe to one another, what they are in a position to do to one another or to third parties. And the exercise of this power is located at the level of illocution, which then appears as intermediate between the uttering of words and the effectiveness of discourse. Illocution belongs to language because it lives "in" acts of saying something, so that it can be studied through its linguistic indicators, as well as examining the ways in which its interactional dynamics is made manifest in conversational exchanges: it helps therefore see how discourse can get its extra-linguistic effectiveness and why it gets the extra-linguistic effectiveness it in fact has.

As to the details of their methodological implications, however, the three main varieties of speech act theory I have presented in sections 2, 4.1 and 4.2 are not equivalent. They suggest non-equivalent approaches to the analysis of illocution in actual conversation or discourse. It is one thing to check the satisfaction of constitutive rules, including those involving speaker's intentions, another thing to relate the words uttered and the participants' behavior to the pattern of some procedure (designed to have conventional effects that should be intersubjectively accepted). In the former case, performance may be in any moment undermined by lack of some

of the required participant's intentions. This creates a circle between ascription of intentions and understanding of speech acts, which makes the perspective methodologically doubtful. In the latter case, performance, effects of action, and intentions of the participants are all retrieved from the participants' words and behavior. The pattern executed may be recognizable even when not completely realized (as it happens with patterns of any kind) and this can license interpretations of what participants do as well as of their associated intentions in a quite natural way.

Another emerging theme is the variety of kinds of interpretive inference that have been identified by philosophers. Two aspects of this theme are worth special consideration. The former underscores a positive, constructive relationship between philosophy and pragmatic research. Whether the models of inference are psychologically real or mere "rational reconstructions", they can be useful to the analyst anyway, helping her to find reasons for attributing a certain implicit meaning to the utterances or discourses she analyzes. The latter aspect is more problematic. In discussing varieties of interpretive inference, philosophers have focused on whether and how to divide them into inferences contributing to the contextually expressed proposition ("what is said") and inferences which, on the basis of the proposition expressed, make us retrieve what is implicated or more generally communicated. The debate has been defatigating and without a clearly winning opinion. One may suspect that this aspect of philosophical pragmatics cannot be really useful to pragmatic research. But something methodologically very interesting has been proposed by Jennifer Saul (2012). In her research on lying and misleading, she too discusses the distinction between what is said and what is implicated, but relativizes her criteria to the aims she has in that context: her distinction has to yield plausible results when it comes to the identification of lies and their distinction from cases of misleading speech. This is a case of theoretical dispute which can be given a stable solution only when contextualized with respect to certain aims, and a nice example of how theory and practical concerns can throw light upon each other.

Finally, as to the notion of context, I would like to underscore that its uses in pragmatic research have a double direction. On the one hand, if we have information available about mutual contextual beliefs or the participants' common ground, this facilitates reaching a sound understanding of what they say and do. Also factual knowledge about the participants' goals, their ongoing activity, and various circumstances of the utterance contribute to such an understanding. On the other hand, albeit convinced of the importance of grasping the common ground of the participants in a conversation, or of the indispensability of certain information about the speech situation for understanding indexicals or illocutionary force, we might not have access to them. We need therefore to develop strategies for getting such access. Here so-called presupposition accommodation, together with the retrieval of those implicatures that do not need particularized assumptions, appear to play an essential role in enabling understanding, not merely of the utterance

or discourse itself, but also of its context. Context, whether defined as common ground or as speech situation, is not only something that explains what happens in a verbal exchange and provides utterances with their actual meanings and forces, but also something that hearers or bystanders or analysts must very often reconstruct, at least in part, on the basis of the words and actions of the participants.

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6. Research methodology in classical and neo-Gricean pragmatics

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This chapter is dedicated to Professor Stephen Levinson, my PhD supervisor and mentor at Cambridge.

Abstract: Research methodology in linguistics can roughly be divided into three types: (i) introspection, as in generative syntax (armchair), (ii) experimentation, as in psycholinguistics (laboratory), and (iii) observation, as in sociolinguistics (field). Needless to say, some of these research methods are also found in pragmatics including classical and neo-Gricean pragmatics. In this article, I assess some of the main research methodologies employed in classical and neo-Gricean pragmatics, covering different types of data, different ways of collecting data, and different ways in which data is analysed. The assessment is conducted from both a linguistic, and a philosophical, methodological point of view. Topics that are addressed in this chapter include introspection, falsifiability, reduction versus expansion of theories, and the use of cross-linguistic data to compare linguistic characteristics across typologically different languages in the formulation and development of theories.

1. Introduction

Research or analytical methodology in linguistics can roughly be divided into three types: (i) introspection, as in generative syntax, (ii) experimentation, as in experimental psycholinguistics, and (iii) observation, as in sociolinguistics. Given the typical places where the three types of research methods are employed in linguistics, the first may be called "the armchair method", the second, "the laboratory method", and the third, "the field method" (e. g. Clark and Bangerter 2004, Jucker 2009). As mentioned in Talmy (2007a, b), these research methods in linguistics include (i) introspection into the meanings and structures of linguistic expressions and forms, (ii) comparison of linguistic characteristics across typologically different languages, (iii) investigation of how speech events interact with context, (iv) analysis of audio and/or video recordings of naturally occurring, spontaneous conversations, (v) (computer-aided) compilation and examination of (frequently annotated) corpora, (vi) analysis of cumulatively recorded observations of linguistic behaviour, (vii) experimental techniques, as used in psycholinguistics, (viii) instrumental probes of the brain's linguistic functioning, as deployed in neuroscience including neuro-linguistics, and (ix) simulation of human linguistic behaviour

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in artificial intelligence. Needless to say, some of these research methodologies can also be found in pragmatics including classical and neo-Gricean pragmatics.

This chapter aims to assess some of the main research methods employed in classical and neo-Gricean pragmatics, covering different types of data, different ways of collecting data, and different ways in which data is analysed. The assessment is conducted from both a linguistic, and a philosophical, methodological point of view. The organization of the chapter is as follows. Section 2 outlines classical and neo-Gricean pragmatics, focusing on the classical Gricean co-operative principle and its component maxims of conversation (e. g. Grice 1975, 1978, 1989) (section 2.1) and the bipartite neo-Gricean model set forth by Horn (1984, 2012) (section 2.2.1) and the tripartite neo-Gricean model proposed by Levinson (1987, 2000) (section 2.2.2). In section 3, I examine introspection – the primary linguistic methodology found in classical and neo-Gricean pragmatics. This is followed by a philosophical methodological discussion of falsifiability in section 4 and reduction versus expansion of a theory in section 5. Finally, in section 6, I show how another main linguistic method, namely, comparison of linguistic characteristics across typologically different languages by means of cross-linguistic data contributes to the formulation and development of (my version of) the neo-Gricean pragmatic theory of anaphora (Huang 1991, [1994] 2007, 2000a, b, 2004, 2006, 2007, 2014a, 2016b, 2017b, e).

2. Classical and neo-Gricean pragmatics

2.1. Classical Gricean pragmatics

On a general Gricean account of meaning and communication (e. g. Grice 1975, 1978, 1989), there are two theories: a theory of meaning$_{n[on]n[atural]}$ and a theory of conversational implicature. In his theory of meaning$_{nn}$, Grice emphasized the conceptual relation between natural meaning in the external world and non-natural, linguistic meaning of utterances. He developed a reductive analysis of meaning$_{nn}$ in terms of the speaker's reflexive intention, the essence of which is that meaning$_{nn}$ or speaker meaning is a matter of expressing and recognizing intention.

In his theory of conversational implicature, Grice suggested that there is an underlying principle that determines the way in which language is used maximally efficiently and effectively to achieve rational interaction in communication. He called this overarching dictum the co-operative principle and subdivided it into nine maxims of conversation classified into four categories: Quality, Quantity, Relation, and Manner. These four categories are taken from the German philosopher Immanuel Kant (Grice 1989: 26). The co-operative principle and its constituent maxims ensure that in an exchange of conversation, truthfulness, informativeness, relevance, and clarity are aimed at.

(1) Grice's co-operative principle and its constituent maxims of conversation (simplified) (e. g. Huang 2014a: 30)
   a. The co-operative principle
      Be co-operative.
   b. The maxims of conversation
   ` Quality: Be truthful.
      (i) Belief: Don't say what you believe to be false.
      (ii) Evidence: Don't say what you lack evidence for.
      Quantity:
      (i) Don't say less than is required.
      (ii) Don't say more than is required.
      Relation: Be relevant.
      Manner: Be clear.
      (i) Avoid obscurity.
      (ii) Avoid ambiguity.
      (iii) Be brief.
      (iv) Be orderly.

Assuming that the co-operative principle and its associated conversational maxims are normally adhered to by both the speaker and addressee in a conversational interaction, Grice suggested that a conversational implicature – roughly, any meaning or proposition expressed implicitly by a speaker in his or her utterance of a sentence which is meant without being part of what is said in the strict sense – can arise from either strictly observing or ostentatiously flouting the maxims. In Huang (e. g. 2007: 27–31, 2014: 33–37, 2017c: 158), I called conversational implicatures that are engendered by way of directly observing the maxims conversational implicatures$_{O}$, as in (2); and conversational implicatures that are generated by way of the speaker's deliberately flouting the maxims conversational implicatures$_{F}$,as in (3). (I use +> to stand for (*ceteris paribus*) conversationally implicates.)

(2) Conversational implicatures$_{O}$
   The coffee is warm.
   +> The coffee is not hot.

(3) Conversational implicatures$_{F}$
   Tony Blair is no longer the Prime Minister of Britain, he is the Foreign Minister of the United States. (Nelson Mandela, quoted in Susie Dent, *Language Report* 2003: 62)
   +> e. g. Tony Blair has followed the American foreign policies too closely.

In (2), the conversational implicature results from the observation of Grice's first sub-maxim of Quantity. By contrast, in (3), the conversational implicature was engendered by Nelson Mandela's deliberately flouting or exploiting Grice's first sub-maxim of Quality. (Incidentally, the head of the US government department that deals with foreign affairs is styled "the Secretary of State" rather than "the Foreign Minister".)

A second Gricean dichotomy, independent of the conversational implicature$_O$/ conversational implicature$_F$ one, is between those conversational implicatures which arise without requiring any particular contextual conditions and those which do require such conditions. Grice (1989: 31–38) called the first kind generalized conversational implicatures (GCIs), as in (4a); and the second kind particularized conversational implicatures (PCIs), as in (4b).

(4) John: How did yesterday's research seminar go?
Mary: Some of the faculty left before it ended.
+> (a) Not all of the faculty left before it ended. (GCI)
+> (b) The seminar didn't go well. (PCI)

Finally, Grice designed a battery of tests to facilitate the identification of conversational implicature. First, defeasibility or cancellability – conversational implicatures can disappear in certain linguistic or non-linguistic contexts, as in (6). (I use "~ +>" to signify "does not conversationally implicate".) Secondly, non-detachability – any linguistic expression with the same semantic content tends to carry the same conversational implicature, as in (7). (A principled exception is those conversational implicatures that arise via the maxim of Manner.) Thirdly, calculability – conversational implicatures can transparently be derived via the co-operative principle and its attendant maxims. Fourthly, non-conventionality – conversational implicatures, though dependent on the saying of what is said or coded, are non-coded in nature, that is, they are not part of what is said. Fifthly, reinforceability – conversational implicatures can be made explicit without producing too much sense of redundancy, as in (8). Sixthly, some conversational implicatures may be indeterminate. They can be taken as conveying an open-ended range of implicitly-expressed meanings relating to matters in hand. This is illustrated in (9). Finally, we have universality – conversational implicatures tend to be universal, being rationally motivated rather than arbitrary. In Huang (2014: 41–42), I cited the parallel examples from Arabic, Catalan, Chinese, Modern Greek, Kashmiri, and Malagasy to show that if a language has, for instance, "all" and "some", the use of the semantically weaker "some" will universally carry the conversational implicature "not all".

(5) Helen is often late.
+> Helen is not always late.

(6) Helen is often, if not always, late.
~ +> Helen is not always late.

(7) Hillary almost/nearly won/came close to winning the American presidency.
+> Hillary didn't quite win the American presidency.

(8) Helen is attractive.
+> Helen is not beautiful.
Helen is attractive, but not beautiful.

(9) Their new boss is a machine.
+> Their new boss is cold. Or
+> Their new boss is efficient. Or
+> Their new boss is a workaholic. Or
+> …

2.2. Neo-Gricean pragmatics

2.2.1. The Horn model

Horn (1984, 2012) put forward a bipartite model. In Horn's view, all of Grice's maxims (except the maxim of Quality) can be replaced with two fundamental and antithetical pragmatic principles: the Q[uantity]- and R[elation]-principles.

(10) Horn's Q- and R-principles
The Q-principle (Addressee/hearer-based)
Make your contribution sufficient;
Say as much as you can (modulo the R-principle).
The R-principle (Speaker-based)
Make your contribution necessary;
Say no more than you must (modulo the Q-principle).

In terms of information structure, Horn's Q-principle, which collects Grice's first sub-maxim of Quantity and his first two sub-maxims of Manner, is a lower-bounding pragmatic principle which may be (and characteristically is) exploited to engender upper-bounding conversational implicatures: a speaker, in saying "… *p* …", conversationally Q-implicates that (for all he or she knows) "… at most *p* …". In other words, as pointed out by Horn (2012), what is Q-implicated relies on what is not (but could have been) said. The *locus classicus* here is those conversational implicatures that arise from a semantic or lexical scale called a Q or Horn scale.

Given a Horn scale, if a speaker asserts a lower-ranked or semantically weaker alternate (i. e. a rightwards linguistic expression in the ordered set), then he or she conversationally Q-implicates that he or she is not in a position to assert any of the higher-ranked or semantically stronger ones (i. e. leftwards expressions in the ordered set) in the same set. Thus, the use of *some* in (11b) gives rise to the Q-implicature in (11c).

(11) a. Horn scale <all, most, many, some>
b. Some of the research institutes are carrying out a study of potential vaccines against the Zika virus.
c. +> Not many/most/all of the research institutes are carrying out a study of potential vaccines against the Zika virus.

Having discussed Horn's Q-principle, let me turn to his countervailing R-principle. The R-principle, which subsumes Grice's second sub-maxim of Quantity, his maxim of Relation, and his last two sub-maxims of Manner, and which is based on Atlas and Levinson's (1981) principle of informativeness, is an upper-bounding pragmatic law which may be (and systematically is) exploited to invite low-bounding conversational implicatures: a speaker, in saying "… *p* …", conversationally R-implicates that (for all he or she knows) "… more than *p* …". An example is given in (12), adapted from Grice (1989: 38).

(12) John broke a finger yesterday.
+> The finger was one of John's own

However, more recently, Horn (2012) has been of the view that the R-principle is not in itself subsumable under Grice's co-operative principle, but under rationality.

Furthermore, Horn argued that the whole Gricean mechanism for pragmatically contributed meaning can be derived from the dialectic interaction (in the classical Hegelian sense) between the two mutually constraining mirror-image forces (Q and R) in the following way.

(13) Horn's division of pragmatic labour
The use of a marked (relatively complex and/or prolix) expression when a corresponding unmarked (simpler, less "effortful") alternate expression is available tends to be interpreted as conveying a marked message (one which the unmarked alternative would not or could not have conveyed).

In effect, what the communicative equilibrium in (13) basically says is this: the R-principle generally takes precedence until the use of a contrastive linguistic form induces a Q-implicature to the non-applicability of the pertinent R-implicature.

2.2.2. The Levinson model

Horn's proposal to reduce Grice's maxims to the Q- and R-principles was challenged by Levinson (1987, 2000). In Levinson's opinion, Horn failed to draw a distinction between what Levinson called semantic minimization (Semantically general expressions are preferred to semantically specific ones.) and expression minimization ("shorter" expressions are preferred to "longer" ones.). Consequently, inconsistency arises with Horn's use of the Q- and R-principles. For example, in Horn's division of pragmatic labour, the Q-principle operates primarily in terms of units of speech production whereas elsewhere, in Horn scales, for instance, it operates primarily in terms of semantic informativeness.

Considerations along these lines led Levinson to argue for a clear separation between pragmatic principles governing an utterance's surface linguistic form and pragmatic principles governing its informational content. He proposed that the original Gricean program (the maxim of Quality apart) be reduced to three neo-Gri-

cean pragmatic principles: what he dubbed the Q[uantity]-, I[nformativeness]- and M[anner]-principles. Each of the three principles has two sides: a speaker's maxim, which specifies what the principle enjoins the speaker to say and implicate and a recipient's corollary, which dictates what it allows the addressee to infer. Let me take them one by one.

(14) Levinson's Q-principle (simplified) (e. g. Huang 2014a: 50–51)
Speaker: Don't say less than is required (bearing the I-principle in mind).
Addressee: What isn't said isn't the case.

The basic idea of the metalinguistic Q-principle is that the use of a linguistic expression (especially a semantically weaker one) in a set of contrastive semantic alternates (such as a Horn scale) Q-implicates the negation of the interpretation associated with the use of another linguistic expression (especially a semantically stronger one) in the same set. Seen the other way round, from the absence of a semantically stronger linguistic expression, we infer that the interpretation associated with the use of that expression does not hold. Hence, the Q-principle is essentially negative in nature. By way of illustration, see (2) and (11) above.

Next, there is Levinson's I-principle.

(15) Levinson's I-principle (simplified) (e. g. Huang 2014a: 57–58)
Speaker: Don't say more than is required (bearing the Q-principle in mind).
Addressee: What is generally said is stereotypically and specifically exemplified.

Mirroring the effects of his Q-principle, Levinson's I-principle is a pragmatic law of semantic economy, the central tenet of which is that the use of a semantically general linguistic expression I-implicates a semantically specific interpretation. More accurately, in some cases, the implicature engendered by the I-principle is one that accords best with the most stereotypical and explanatory expectation given our background assumptions or real-world knowledge.

(16) John pressed the spring and the drawer opened.
+> John pressed the spring and then the drawer opened
+> John pressed the spring and thereby caused the drawer to open
+> John pressed the spring in order to make the drawer open

Finally, we come to Levinson's M-principle.

(17) Levinson's M-principle (simplified) (e. g. Huang 2014a: 62–63)
Speaker's maxim: Don't use a marked expression without reason.
Addressee: What is said in a marked way conveys a marked message.

Unlike the Q- and I-principles, which operate primarily in terms of semantic informativeness, the metalinguistic M-principle is operative primarily in terms of a set of alternates that contrast in form. The crux of this pragmatic principle is that the use of a marked linguistic expression M-implicates the negation of the interpreta-

tion associated with the use of an alternative, unmarked linguistic expression in the same set. This is exemplified in (19).

(18) John stopped the alarm clock.
+>$_{I}$ John stopped the alarm clock in a usual manner.

(19) John got the alarm clock to stop.
+>$_{M}$ John stopped the alarm clock in an unusual manner, e. g. by deliberately throwing it to the floor.

Given the above tripartite classification of the neo-Gricean pragmatic principles, the question that arises next is how inconsistencies arising from these potentially conflicting conversational implicatures can be resolved. According to Levinson (2000), they can be resolved by an ordered set of precedence, which encapsulates in part the Hornian division of pragmatic labour.

(20) Levinson's resolution schema for the interaction of the Q-, I-, and M-principles
a. Level of genus: Q > M > I
b. Level of species: e. g. $Q_{\text{-clausal}} > Q_{\text{-scalar}}$
(By level of genus is meant the level where different types of conversational implicature are placed; level of species refers to the level where different sub-types of the same type of conversational implicature are place.)

This is tantamount to saying that genuine Q-implicatures (where $Q_{\text{-clausal}}$ cancels rival $Q_{\text{-scalar}}$) supersede inconsistent I-implicatures, but otherwise I-implicatures take precedence until the use of a marked linguistic expression triggers a complementary M-implicature to the negation of the applicability of the pertinent I-implicature. Consider, for example, (21).

(21) Q > I
If Donald Trump gives you a gun for Christmas, it may be a real one.
a. Q <(since *p*, *q*), (if *p*, *q*)>
+>The gun may or may not be a real one.
b. I [*a gun for Christmas*]
+> The gun is a toy gun.
c. Q > I
Possibly the gun is a real gun.

In (21), there is a $Q_{\text{-clausal}}$ implicature due to the use of (if *p*, *q*). But there is also a potential I-implicature to stereotype arising from the employment of *a gun for Christmas*. The two conversational implicatures are inconsistent with each other. Now, given (20a), the I-implicature is outdone by the Q-implicature, hence the winning Q-implicature becomes the implicature of the whole sentence, as in (21c). For an example illustrating Q > M, see (24) below, and for examples displaying M > I and $Q_{\text{-clausal}} > Q_{\text{-scalar}}$, see Huang (e. g. 2014a: 65–66, 2015b, 2016a; see also Huang 2017b, c, f).

In addition to Horn's and Levinson's work, surveyed above, other important research conducted in the neo-Gricean pragmatic framework include that carried out by Yan Huang and Elizabeth Traugott in linguistics, and Jay Atlas, Kent Bach (see e. g. Bach 2012), Bart Geurts, and François Recanati (see e. g. Recanati 2010) in the philosophy of language.

3. Introspection

As mentioned in section 1, a variety of research methods are used in classical and neo-Gricean pragmatics, but of all these methodologies, introspection has been central in the formulation and development of, and has remained the dominant methodological means in, this school of thought in pragmatics. What, then, is introspection? By introspection is meant roughly the process where a linguist or philosopher of language utilizes his or her intuitions to invent linguistic expressions or forms in his or her native language as linguistic examples and make judgements about certain linguistic aspects such as meanings, uses, and structures of these linguistic expressions or forms, either in isolation or in context. Introspection also involves the comparison of the linguist's or philosopher of language's own intuitions/introspections with those reported by other native speakers of the language. The data produced by introspection is often used for the linguist or the philosopher of language to formulate, develop, and advance, and/or assess, test, confirm, or disconfirm a particular theoretical argument or position (see e. g. Talmy 2007a, b, Meyer and Nelson 2006). Returning to classical and neo-Gricean pragmatics, introspection functions as the main method of data collection, introspective data is the main type of data, and data analysis is mainly through introspection. In Grice (1975, 1989), for example, he used the introspectively constructed sentence in isolation (22) to develop his notion of GCI and the introspectively formulated sentence in context (23) to illustrate his concept of conversational implicature.

(22) (Grice 1989: 37)
   a. X is meeting a woman this evening.
   b. +> The woman in question isn't X's wife, mother, sister, or perhaps even close platonic friend

(23) (Grice 1989: 32)
   a. (A is standing by an obviously immobilized car and is approached by B.)
   A: I am out of petrol.
   B: There is a garage round the corner.
   +> The garage is, or at least may be, open, and A can buy petrol there

Why has introspection been the main research method in classical and neo-Gricean pragmatics? In the first place, classical and neo-Gricean pragmatics is a philosophically inspired pragmatic theory of language use, the main aim of which is to pro-

vide a systematic account of meaning as it is intended by a speaker and understood by the addressee in an attempt to work out what is meant (meaning$_{nn}$) from the conjunction of what is said and what is conversationally implicated. In formulating such a theory, Grice's point of departure is logical particles (such as *not*, *and*, and *some*) of natural language, that is, the natural language analogues or counterparts of what he called "formal devices" (Grice 1989: 22) like ~, &, and ∧ in logic and the philosophy of language. It is natural, therefore, that not only did his research agenda focus on some of the topics emerging from the principal concerns of, but his main research methodology also followed the traditional methods adopted in, twentieth-century Anglo-American analytic philosophy. Secondly, classical and neo-Gricean pragmatics is a pragmatic theory that reflects not only a native speaker's linguistic performance but his or her linguistic competence as well. Stated thus, together with, for example, semantics, syntax, and phonology, it constitutes an essential component of an overall theory of a native speaker's linguistic ability. Thirdly, and more importantly, sometimes introspection constitutes the only direct means for obtaining and assessing certain aspects of meaning and use in language. These linguistic semantic and pragmatic aspects are unlikely to be found in an actual corpus of linguistic data, because they are unlikely to occur in real language usage. While a linguistic corpus contains a record of linguistic expressions that a speaker or writer actually utilizes to express meanings, it does not contain all the linguistic expressions that he or she might potentially use to do so. In other words, whatever we find in a linguistic corpus is restricted to what exists in that corpus, and may not be representative of the entire potential of meaning and use of a given language. One such example is given in (24), which Levinson (2000) introspected to illustrate his mechanism for the interaction of his Q-, I- and M-principles in (20).

(24) (Levinson 2000: 160, slightly simplified)
   a. It's not unlikely that Giant Stride will win the Derby, and indeed I think it likely.
   b. $+>_M$ It's less than fully likely that Giant Stride will win the Derby.
   c. $+>_Q$ It is possible it is likely
   d. +> Q defeats M
      It is possible it is likely

On the other hand, as a research methodology, introspection suffers a number of weaknesses, two of which are particularly consequential. For the first limitation, as pointed out by Meyer and Nelson (2006), the data collected in an introspective way is usually decontextualized or comes with a default context. It exists in the linguist's or philosopher's brain/mind rather than in any real communicative context. To remedy this weakness, in classical and neo-Gricean pragmatics, introspection is sometimes complemented by other methodological means such as using observed or attested data. This is the case of (25).

(25) She [Ally] looked me right in the eye and said, 'I need to know how you feel about me.' I didn't say anything for a good time … 'I care deeply about you,' I said. 'But you don't love me?' 'I don't know.' She nodded. Tears streamed down her face. (Peter David Marks: *A Bad Case of Puppy Love*, The New York Times)
I care deeply about you.
+> The speaker does not love the addressee.
(Huang 2014: 33)

Secondly, one linguist or philosopher's intuitions or introspections may be different from those of another linguist or philosopher of language, which may lead to the formulation of different analyses or theories. In extreme cases, an analyst's introspections may yield a theory of a linguistic phenomenon that is reflexive of his or her own idiolect (see also Meyer and Nelson 2006). For example, according to Chierchia and his associates, while a standard upper-bounding $Q_{\text{-scalar}}$ implicatue arises from a positive Horn scale, as, for example, in (2) above, in a negative Horn scale and other downward entailing environments, it is quite weak and even blocked, as in (26b).

(26) a. Negative Horn scale <not some, not many, not most, not all>
b. The earthquake did**n't** kill **many** of the villagers.
c. +> The earthquake killed **some** of the villagers.

On the basis of this introspective judgment of the data, Chierchia (2004, 2013) and Chierchia et al. (2012) argued that $Q_{\text{-scalar}}$ implicatures be computed compositionally. Furthermore, he devised an interpretation procedure, according to which, $Q_{\text{-scalar}}$ implicatures are calculated locally in the tree diagram of a sentence and are integrated in the semantics where they occur. This has the consequence that the computation of $Q_{\text{-scalar}}$ implicatures falls under compositional semantics, hence part of grammar. But this introspective judgment of the data is challenged by Horn (2006). In Horn's view, $Q_{\text{-scalar}}$ implicatures stemming from a negative Horn scale are not less robust than those which are derived from its positive counterpart – contra Chierchia. In fact, as pointed out by both Levinson (2000: 82, 254–255) and Horn (2006), the alleged blockage of $Q_{\text{-scalar}}$ implicatures is due to the fact that a positive Horn scale is reversed under negation and other downward entailing operators and consequently a different $Q_{\text{-scalar}}$ implicature is derived from the inverse scale (see also Huang 2007, 2011, 2014a: 67).

Another case in point is concerned with so-called embedded (conversational) implicatures in (27).

(27) John believes that some of the research institutes are carrying out a study of potential vaccines against the Zika virus.
+> John believes that not many/most/all of the research institutes are carrying out a study of potential vaccines against the Zika virus. (strong)
+> John does not believe that many/most/all of the research institutes are carrying out a study of potential vaccines against the Zika virus. (weak)

Here, the introspections of Chierchia and other conventionists – scholars who are attempting to reduce embedded implicatures to the conventional, lexico-grammatical content of a sentence – are different from those of Geurts (2010). According to Geurts, contrary to the conventionalist continuity hypothesis or stance that the upper-bounded reading of a $Q_{\text{-scalar}}$ implicature occurs across the board, be it at the sentential level (unembedded) or at the sub-sentential level (embedded) and that it "occurs systematically and freely in arbitrarily embedded positions" (Chierchia et al. 2012), an embedded $Q_{\text{-scalar}}$ implicature requires special linguistic marking such as a contrastive stress. It is marginal and rare and sometimes the upper-bounded reading has to be forced. In other words, an embedded $Q_{\text{-scalar}}$ implicature constitutes an exceptional and marked case. Furthermore, the use of embedded and unembedded scalar expressions is computed differently. While the use of unembedded scalar expressions invites $Q_{\text{-scalar}}$ implicatures, the use of embedded ones does not. Moreover, embedded scalar expressions are frequently dealt with on a case-by-case basis (see also Huang 2017c: 170–171). As an attempt to strengthen and confirm each side's introspection and analysis of embedded implicature, another weapon in the pragmaticist's arsenal, namely, pragmatic experiments are resorted to. But the results of these experimental testings are not conclusive: while conventionalism set forth by Chierchia and his associates has received support from, for instance, Clifton Jr. and Dube (2010) and Chemla and Spector (2011), the Gricean global analysis produced by Geurts has been experimentally backed by, for example, Geurts and Pouscoulous (2009) and Geurts and Tiel (2013).[1]

In summary, as pointed out by Talmy (2007a, b), each research method used in linguistic investigation has a different profile for what it is better or worse at. This is true of introspection when applied to pragmatics as well. Interesting enough, meaning is one of those aspects of language which the introspective methodology is best at. Furthermore, introspection has the advantage over other research methodologies in that it appears to be the only one that has unique access to meaning directly. That is, perhaps, why introspection has remained the dominant research and analytical methodology in the study of meaning and use in philosophically motivated or inspired pragmatic theories including classical and neo-Gricean pragmatics. Moreover, as I have briefly mentioned above, introspection can be, and

[1] Notice the so-called "experimental paradox" – a well-known dilemma in experimental psycholinguistics including experimental pragmatics. The dilemma is that the more perfect an experiment, the less like the real speech situation it is, and the more likely that subjects of the experiment will produce unnatural responses. On the other hand, the more like the real speech situation the experiment, the less easy for the experimenters to control the external factors that may interfere with the experiment. The consequence of this paradox is that it is almost impossible to design a perfect experiment (see e. g. Huang 2017a).

indeed is, complemented by other research methods such as the use of attested data and experimentation.[2]

Linguistic introspection, according to Talmy's (2007a, b), is both a natural and an indispensable component of language cognition, carrying out certain necessary functions. When linguists/philosophers including semanticists/pragmaticists and philosophers of language utilize introspection to examine meaning and language use, they are merely employing, perhaps slightly more systematically, a cognitive faculty that is already in place for everyday (linguistic) functioning.

4. Falsifiability

Simply put, falsifiability refers to the Popperian thesis in the philosophy of science that an empirically-based scientific theory (under which linguistics falls) can only be refuted, but not be confirmed. This is because no matter how many confirming observations (i. e. observations that are compatible with the empirical predictions of the theory) can be achieved, potential disconfirming observations can never be ruled out. This criterion of falsifiability is considered by Popper as the most fundamental methodology for an empirically-based science, according to which, while physics, for example, is an empirically-based scientific theory, astrology, philosophical metaphysics, and psychoanalysis, for instance, are not (e. g. Popper 1973).

As an empirically-based scientific theory of linguistic meaning and language use, classical and neo-Gricean pragmatics is formulated in such a way that its empirical predications can be falsified. In other words, the claims of classical and neo-Gricean pragmatics can be empirically assessed and tested for its truth or falsity, that is, to be confirmed or disconfirmed. One such claim is that Grice's co-operative principle and its component maxims of conversation are universal. More specifically, in regard to Grice's first sub-maxim of Quantity or Horn's or Levinson's Q-principle, the prediction is that the use of a semantically weaker expression in a Horn scale in any language will create a $Q_{\text{-scalar}}$ implicature that the alternate, semantically stronger expressions in the same set are not the case in that language.[3]

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[2] Needless to say, there are cases in pragmatic research where introspection cannot be used. This is largely the case, for example, of historical pragmatics. In historical pragmatics including neo-Gricean oriented one, attested textual data (collected in corpora) is usually used. See, for instance, Traugott (2004).

[3] In Sperber and Wilson's (1986, 1995) relevance-theoretic framework, pragmatics is reduced to a single notion of relevance, which is realized in two principles of relevance. But unlike Grice's co-operative principle and its attendant maxims of conversation, the principles of relevance are not a maxim addressed to a speaker, known by the addressee, and obeyed or exploited in communication. Rather, grounded in a general view of human cognition, they are an automatic reflex of the human mental capacity

This claim of universality for Grice's co-operative principle and its associated set of conversational maxims was called into question by Keenan (1976). On the basis of the anthropological fieldwork she conducted in a small village in Madagascar, Keenan argued that the Malagasy-speaking culture of the country is a speech community in which Grice's co-operative principle and in particular, his first sub-maxim of Quantity is not conformed to. For example, she noticed that in talking to her son, a Malagasy mother once used (28) to refer to her husband.

(28) Mbola mator y ve ny olona?
'Is the person still asleep?'

Given Grice's first sub-maxim of Quantity or Horn's or Levinson's Q-principle, since the mother employed a semantically weaker expression *olona* (person), she would conversationally imply that the person referred to is not her husband or her son's father.

On the basis of examples like (28), Keenan concluded that Grice's pragmatic theory is culture-specific rather than universal. However, if we examine the Malagasy fact more closely, we find that the use of a "general animate noun referring to some social category of which the referent is a member" (Keenan 1976: 72) is not just in conformity with Grice's first sub-maxim of Quantity, it actually requires the existence of this pragmatic sub-maxim/principle for the usage to be interpreted (see also Brown and Levinson 1978: 288–289, Levinson 2000: 423). As Keenan herself was aware, "[i]t would be misleading to conclude that the maxim 'Be informative' does not operate at all in a Malagasy community. We would not be justified in proposing the contrary maxim 'Be uninformative' as a local axiom" (Keenan 1976: 75–76). In fact, Grice's first sub-maxim of Quantity or Horn's or Levinson's Q-principle does generally hold for the Malagasy-speaking culture, as is attested by (29).[4]

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that works without the communicators having any overt knowledge of it. How do a speaker and the addressee follow the principles of relevance? They do not. According to Sperber and Wilson (1995: 162), "[c]ommunicators and audience need no more know the principle of relevance to communicate than they need to know the principles of genetics to reproduce. Communicators do not "follow" the principle of relevance; and they could not violate it even if they wanted to. The principle of relevance applies without exception: every act of ostensive communication communicates a presumption of relevance". Relevance is thus a form of unconscious inference. In other words, the principles of relevance are governing cognitive principles that are not themselves an object of processing. This raises the larger issue of whether relevance theory, as formulated thus, can be falsified or not. Given that relevance is an exceptionless generalization, it is likely to be immune from any possible counterexamples (see e. g. Huang 2007, 2014a: 290–291, but see e. g. Wilson 2017 for spirited counterarguments).

[4] This was confirmed to me by Larry Horn (personal communication), who checked the Malagasy fact with Keenan after her paper was published.

(29) Misy tanora tia ny hira malaza.
exist young like the song famous
'Some young people like famous songs.'
+> "Not many/most/all young people like famous songs."

What Keenan has showed, however, is that in the Malagasy society, Grice's first sub-maxim of Quantity or Horn's or Levinson's Q-principle can be overridden by some sociolinguistic principle such as the one of avoiding bringing *tsiny* 'guilt' to the speaker or *henatra* 'shame' to the speaker's family. As pointed out by Keenan (1976):

> A second and perhaps more significant motivation for revealing less information than would satisfy the addressee is *the fear of committing oneself explicitly to some particular claim*. Individuals regularly *avoid* making explicit statements about briefs and activities. They do not want to be responsible for the information communicated. For example, if someone asks, 'Who broke the cup?', most speakers would not like to be the one to specify the culprit. Such a statement may have unforeseen unpleasant consequences for him and his family, and he alone would have to shoulder the *tsiny* (the guilt) for uttering such a claim (original emphasis). (Keenan 1976: 70)

Other factors that outweigh the operation of Grice's first sub-maxim of Quantity or Horn's or Levinson's Q-principle in the Malagasy-speaking community, mentioned by Keenan, include satisfying the principle "would be indiscrete, impolite, unethical, loss of face, etc." (Keenan 1976: 69). In the case of personal reference, it is because of a particular Malagasy social taboo on avoiding identifying an individual in utterances that the mother did not deploy a more informative term such as "your father" to refer to her husband. Instead, she used a general noun. By this way of referring, she succeeded in identifying him without bringing harm to him or shame to herself. If Grice's first sub-maxim of Quantity or Horn's or Levinson's Q-principle did not work at some deeper level, her son would fail to recognize the intended referent. Notice that Grice's cooperative principle and its constituent maxims of conversation including his first sub-maxim of Quantity define an "unmarked" presumptive framework for communication, the essential assumption being "no deviation from rational efficiency without a reason". The deviation here is the culture-specific Malagasy taboo on exact identification, but the norm is the universal, first sub-maxim of Quantity proposed by Grice. In other words, social or cultural factors such as taboos are implicated in the classical way, with maximum theoretical parsimony, from Grice's co-operative principle and its component maxims of conversation including the first submaxim of Quantity.[5]

[5] More recently, Senft (2008) claimed that Grice's maxim of Quality and his first and second sub-maxims of Manner are not adhered to by the Kilivila-speaking Trobriand

If the counterexamples presented by Keenan above are "apparent" rather than "real" ones, the question that arises next is whether or not there are "genuine" counterexamples to Grice's co-operative principle and its attendant maxims of conversation.[6] The answer is yes. In my work on neo-Gricean lexical pragmatics, I discussed lexical narrowing (e. g. Huang 2009, 2017b, d, see also Huang 2015a). By lexical narrowing is meant the phenomenon whereby the use of a lexical expression implicitly conveys a meaning that is more specific than the lexical item's lexically encoded meaning. Within the framework of neo-Gricean lexical pragmatics, lexical narrowing can be grouped into two types. In the first, the use of the superordinate term of a hyponymic taxonomy where there is a specific hyponym denotes more narrowly the complement of the extension of the hyponym. This is the case for (30).

(30) John broke a **finger**.
+> John did**n't** break a **thumb**.

Lexical narrowing of this type follows directly from Horn's or Levinson's Q-principle. Notice that *thumb* and *finger* form a Horn scale. Given the Q-principle, from the use of the semantically weaker *finger*, we obtain the pragmatically narrowed meaning 'not thumb'. This Q-based strengthening of meaning typically gives rise to what Horn (1984) and Levinson (2000) called autohyponymy – the phenomenon whereby a lexical item has two senses, one of which is included in the other. Other examples include *rectangle* +> 'not square', *gay* +> 'not lesbian', and *actor* +> 'not actress'.

Islanders of Papuan New Guinea. This is the case with both their ritualized communication and everyday conversation, especially with the use of the non-diatopical register/variety called *biga sopa* (the joking or lying speech, the indirect speech, and the speech which is not vouched for). While the details of Senft's work need to be more carefully studied, his claim seems to be another apparent counterexample. Heated debates about the issue of universality in terms of the distinction between the etic versus emic approach/grid have been going on also with regard to, for example, speech act theory, politeness/impoliteness theory, and conversational structure.

6 In rejecting Keenan's counterexamples as real ones, I am fully aware of what a recent Editorial in *Nature* (2015) calls the human "cognitive bias", namely, "[t]he human brain's habit of finding what it wants to find," which "is a key problem for research". As pointed out by the Editorial, "One enemy of robust science is our humanity – our appetite for being right, and our tendency to find patterns in noise, to see supporting evidence for what we already believe is true, and to ignore the facts that do not fit". See also the other three relevant papers published in the same issue of *Nature* (vol. 526, no. 7572). Somewhat related is that as pointed out by Kuhn (1962/2012), the research methodology of observation, for example, is "strongly theory-laden". This is because when a researcher makes observations, he or she has already been significantly influenced by his or her previously held theoretical and methodological assumptions. The same can also be said of experimentation.

Secondly, there is the R/I-based lexical narrowing. The basic idea here is that the use of a semantically general lexical item is R/I-implicated to a semantically more specific interpretation. This is the case for (31), where the semantically general term *milk* is R/I-narrowed to denote its culturally salient subset 'cow's milk' (cf. *goat's milk*, *soy milk*, *almond milk*, *coconut milk, rice milk* etc.).

(31) John had a glass of **milk** for breakfast this morning.
+> John had a glass of **cow's milk** for breakfast this morning.

Other examples include *nurse* +> "female nurse", *relationship* +> "sexual/romantic relationship", and *drink* +> "alcoholic drink". Of these, Horn (1984) and Levinson (2000) were of the view that while *drink* is an autohyponym, *nurse* is not (see especially Huang 2017d for a wide variety of examples and detailed analyses).

While the analysis works quite well for English, it becomes problematic when we turn to Chinese. For example, given the R/I-principle, and the same social division of labour in China, it is predicted that *hushi* (nurse) rather than *nü hushi* (female nurse) should be normally used in Chinese, but this prediction is falsified: the latter is commonly employed in the language.

5. Methodological reductionism or expansionism?

As we saw in section 2.1, in his theory of conversational implicature, Grice put forward an overarching co-operative principle and a set of nine attendant maxims of conversation classified into four categories. Since its inception, the Gricean mechanism has been subject to numerous attempts at revision. The revisions have been of two types: reduction and expansion.

Harnish (1976) and Kasher (1976) were the two early neo-Gricean reductionist attempts. The former argued that Grice's maxims of Quality and Quantity be collapsed into a single maxim, namely, make the strongest relevant claim justifiable by your evidence. In the latter, the entire Gricean machinery is reduced to resulting from a "most effective, least effort" rationality principle of some sort. However, as already discussed in section 2.2, of all the neo-Gricean reductionist models, the most influential are the two-principled one proposed by Horn and the three-principled one posited by Levinson.[7]

[7] It goes without saying that another influential, more radical, post-Gricean reductionist model is relevance theory. Notice that in Sperber and Wilson (1986), there was only one principle of relevance, namely, the communicative principle of relevance. In Sperber and Wilson (1995), however, there were two principles of relevance: the cognitive and the communicative principles of relevance. According to Sperber and Wilson (1995: 261), "[t]he change is, of course, expository and not substantive". On Horn's (2007) view, one-principled relevance theory is implicitly dualistic in nature, given that rel-

By contrast, in a quite contrary spirit to the reductionist approach, Leech (1983) proposed that the Gricean maxims be revised upward, that is, be proliferated. In particular, encouraged by Grice's (1989: 28) remarks on "other maxims (aesthetic, social, or moral in character), such as 'Be polite'", he argued that a politeness principle be added to the Gricean programme, and that it should be taken as co-ordinate in nature to Grice's co-operative principle. The politeness principle is realised by a set of maxims: tact/generosity, approbation/modesty, agreement, and sympathy (Leech 1983: 131–132). In Leech (2007), his politeness principle was restyled as a Grand Strategy of Politeness (GSP) and his set of attendant maxims was reformulated as a set of paired pragmatic constraints.

(32) Leech's (2007: 182) GSP and pragmatic constraints
   a. GSP
      In order to be polite, S expresses or implies meanings which associates a high value with what pertains to O or associates a low value with what pertains to S. (S = self, speaker; O = other, mainly addressee)
   b. Pragmatic constraints
      (i) Generosity: Place a high value on O's wants.
          Tact: Place a low value on S's wants.
      (ii) Approbation: Place a high value on O's qualities.
          Modesty: Place a low value on S's qualities.
      (iii) Obligation (of S to O): Place a high value on S's obligations to O.
          Obligation (of O to S): Place a low value on O's obligations to S.
      (iv) Opinion-agreement: Place a high value on O's opinions.
          Opinion-reticence: Place a low value on S's opinions.
      (v) Feeling-sympathy: Place a high value on O's feelings.
          Feeling-reticence: Place a low value on S's feelings.

As pointed out in Huang (2007, 2014: 44), a number of arguments, however, can be mounted against Leech's expansionist analysis. In the first place, if we are allowed to invent a pragmatic maxim/constraint for every regularity that is actually observed in the use of language, not only will we have an indefinite number of maxims/constraints, but pragmatic theory will be too unconstrained to be falsified. Secondly, if there are too many maxims/constraints in a theory, then it will become very difficult, if not impossible, to tackle the projection problem, namely, the problem of which maxim/constraint will override which under what circumstances. As the third argument against Leech's expansionist approach, the distribution of politeness/impoliteness (who can/has to be polite/impolite to whom) is socially controlled. By contrast, language usage principles of the Gricean sort are

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evance is measured in a minimax of give-take effort and effect. Note further that this Cartesian principle of methodological reductionism has to some extent become the orthodox methodological approach, and has been applied rather successfully to natural sciences (cf. Popper 1945).

of a quite different status. As already mentioned, Grice's cooperative principle and its constituent maxims of conversation define an "unmarked" or socially neutral (and indeed asocial) presumptive framework for communication, the essential assumption being "no deviation from rational efficiency without a reason". Politeness/impoliteness considerations are, however, just such principled reasons for deviation. Therefore, linguistic politeness/impoliteness is also implicated in the classical way, with maximum theoretical parsimony, from Grice's co-operative principle and its component maxims of conversation. Fourthly, the assumption of co-cooperative behaviour is hard to undermine: tokens of apparent non-co-operative behaviour tend to get interpreted as in fact co-operative at a "deeper" level. Now, if Leech's politeness principle/GSP had maxim-like status, we would expect the same robustness: it should be hard to be impolite. But this is clearly counterintuitive (Brown and Levinson 1987: 4–5). Finally, from a methodological point of view, unlike the reductionist approach, Leech's expansionist approach runs directly against the spirit of a meta-theoretical/meta-methodological desideratum known as "modified Occam's razor" (Grice 1989: 47), which dictates that theoretical entities are not to be multiplied beyond necessity.[8]

6. Comparison of linguistic characteristics across typologically different languages by means of cross-linguistic data

Finally, let me show how the use of cross-linguistic data to compare linguistic characteristics across typologically different languages contributes to the formulation and development of (my version of) the neo-Gricean pragmatic theory of anaphora (Huang 1991, 1994/2007, 2000a, b, 2004, 2007, 2013a, 2014, 2016b, 2017b, e; see also Levinson 1987, 1991, 2000).

Anaphora is definable as a relation between two or more linguistic elements, in which the interpretation of one (called an anaphoric expression) is in some way determined by the interpretation of the other (called an antecedent). Linguistic expressions that can be employed as an anaphoric expression include gaps (or empty categories), pronouns, reflexives, proper names, and definite descriptions.

Within the principles-and-parameters theory and its minimalist descendent, Chomsky (e. g. 1995) postulated three binding principles in (33), providing an account of the allegedly universal, syntactic distribution of three types of overt anaphoric expressions, namely, lexical anaphors (such as reflexives and reciprocals like *himself* and *each other* in English), pronominals (such as pronouns like *he* in

[8] It should be noted that modified Occam's razor does not necessarily require that entities be maximally reduced. Put the other way round, it is not necessarily the case that "the less entities, the better". Rather, entities should be reduced in an "optimal" way.

English), and r[eferential]-expressions (such as proper names and definite descriptions like *John* and *the President of the United States of America* in English), in language.

(33) Chomsky's binding conditions
A. An anaphor is bound in a local syntactic domain.
B. A pronominal is free in a local syntactic domain.
C. An r-expression is free.

The paradigmatic patterns of binding are illustrated by (34) from English.

(34) a. Newton$_1$ admired himself$_1$.
b. Newton$_1$ admired him$_2$.
c. Newton$_1$ admired Newton$_2$.

In (34a), *himself,* being a reflexive, is an anaphor in the Chomskyan sense. As such, it falls under binding condition A, according to which, it is bound to its local antecedent *Newton*. Next in (34b), *him*, being a pronominal, is subject to binding condition B. Given binding condition B, it cannot be bound in its local domain, and there is thus disjoint reference between it and *Newton*. Finally, in (34c), the second *Newton,* being a proper name, is an r-expression. By binding condition C, it cannot be co-indexed with the first *Newton*. From English examples like these, Chomsky concluded that the syntactic distribution of anaphors, pronominals, and r-expressions is universally dictated by binding conditions A, B, and C, respectively. However, when confronted with a wider range of languages other than English, these binding conditions run into serious difficulties.

Let me take binding condition A first. The cross-linguistic, syntactic distribution of anaphors including reflexives violates this primitive rule of grammar in both directions. On the one hand, many (and perhaps the majority of) languages in the world "systematically" allow long-distance reflexives – reflexives that are bound outside their local syntactic domain, and even across sentence boundaries into discourse. These include most East, South, and Southeast Asian languages (e. g. Chinese, Kannada, and Malay), some mainland and insular Scandinavian languages (e. g. Norwegian, Swedish, and Icelandic), some Germanic (other than Scandinavian) and Romance languages (e. g. Dutch, Italian, and Old Provençal), some Slavonic languages (e. g. Czech, Polish, and Russian), and languages like Finnish, Modern Greek, Inuit, KiNande, Marathi, Northern Pomo, Tuki, and Turkish (see e. g. Huang 2000a: 19–20, 90–130 for examples from, and sources of, these languages). An example from Chinese is given in (35).

(35) Xiaoming$_1$ shuo Xiaohua$_2$ kanbuqi ziji$_{1/2}$.
Xiaoming say Xiaohua look down upon self
'Xiaoming$_1$ says that Xiaohua$_2$ looks down upon him$_1$/himself$_2$'.

On the other hand, a reflexive may not be bound in its local syntactic domain, as in Dutch, Norwegian, and Swedish (Huang 2000a: 20). This is shown by (36) from Dutch.

(36) (Dutch, cited in Huang 2000a: 20)
*Rint veracht zich.
Rint despises self
'Rint despises himself'.

Next, evidence from various languages in the world casts serious doubts on Chomsky's binding condition B. First, many languages in the world have no reflexives, and consequently utilize pronouns as one of the means to encode coreference. These include some Low West Germanic languages (e. g. Old and Middle Dutch, Old English, Old Frisian, and perhaps West Flemish and Modern Frisian), Bamako Bambara, Biblical Hebrew, Isthmus Zapotec, the majority of Australian aboriginal languages (e. g. Gumbaynggir, Jiwarli, and Nyawaygi), some Austronesian aboriginal languages (e. g. Chamorro, Kilivila, and Tahitian), some Papuan languages (e. g. Harway), all Oceanic languages, and many pidgin and creole languages (e. g. the Spanish-based Palenquero, and perhaps Bislama, Chinook Jargon, the French-based Guadeloupe, the Arabic-based KiNubi, Kriyol, Martinique Creole, and Negerhollands). Secondly, there are languages that lack first- and/or second-person reflexives. In these languages, first- and second-person pronouns are instead used as bound anaphors. Some Germanic (e. g. Danish, Dutch, and Icelandic) and Romance (e. g. French and Italian) languages, for instance, belong to this type. Thirdly, the use of a locally-bound third-person pronoun in syntactic structures where its corresponding, third-person reflexive is not available is attested in a range of languages. This is the case of, for example, Catalan, French, Galician, Piedmontese, Portuguese, Rumanian, Russian, Sardinian, Spanish, and Tsaxur (see e. g. Huang 2000a: 21–22 for examples from, and sources of, these languages).

Given the standard formulation of Chomsky's binding conditions A and B, it is predicted that anaphors (e. g. reflexives and reciprocals) and pronominals (e. g. pronouns) be in strict complementary syntactic distribution, that is, anaphors can occur only where pronominals cannot, and vice versa. This is because the two binding conditions are precise mirror-images of each other. Cross-linguistically, this predicted syntactic, distributional complementarity between anaphors and pronominals, however, breaks down. Take bound possessive anaphora as an example.

(37) (Gimira, cited in Huang 2000a: 24)
Ba/yi dor gotue.
self's/his sheep sold-3M-FIN
'He$_1$ sold self's$_1$/his$_2$ sheep'.

Here, languages in the world can be grouped into three types: (i) those allowing anaphors but not pronominals (e. g. Basque, Chechen, Danish, Gimira, Hindi/Urdu,

Ingush, Kashmiri, Norwegian, Latin, Russian, and Telugu), as in (37) above; (ii) those permitting pronominals but not anaphors (e. g. Akan, Arabic, English, German, Guugu Yimidhirr, and Spanish), and (iii) those permitting both anaphors and pronominals (e. g. Bangala, Bengali, Chinese, Japanese, Kannada, Korean, Malay, Malayalam, Marathi, Oriya, Sinhala, Tamil, and Tuki) (see. e. g. Huang 2000a: 24–25 for examples from, and sources of, these languages). Whereas Chomsky's binding conditions A and B may jointly make correct predications for the distribution of bound possessive anaphora in type (i), "anaphors only" and perhaps also in type (ii), "pronominals only" languages, depending on how the local syntactic binding domain is technically defined, they certainly make wrong predictions for type (iii), "both anaphors and pronominals" languages.

Finally, even a cursory examination of some East, South, and Southeast Asian languages such as Bangala, Chinese, Hindi/Urdu, Japanese, Malayalam, Sinhala, Vietnamese, and Thai indicates that Chomsky's binding condition C cannot be taken as a primitive rule of grammar, either.

(38) (Thai, cited in Huang 2000a: 27)
Cɔɔn$_1$ chɔɔp Cɔɔn$_1$.
John likes John
'John$_1$ likes John$_1$.'[9]

As an alternative to various syntactic and semantic approaches, a neo-Gricean pragmatic theory of anaphora has been developed by Huang (1991, 1994/2007, 2000a, b, 2004, 2006, 2007, 2014a, 2016b, 2017b, see also Levinson 1987, 1991, 2000), using and based on a rich collection of data drawn from a wide range of more than 550 of the world's languages, which represent a variety of areal, genetic, and typological characteristics (see especially Huang 2000a). The central idea underlying the theory is that the production and comprehension of certain patterns of anaphora can be made utilizing pragmatically enriched meaning such as conversational implicatures, dependent on a language user's knowledge of the range of options available in the grammar, and of the systematic use or avoidance of particular anaphoric expressions or structures on particular occasions.

[9] One of the current developments in the Chomskyan syntactic analysis of binding is to eliminate all the conditions that are postulated specifically for binding such as binding conditions A, B and C, discussed above, and to reduce these specific conditions to elementary, general, and independent principles of the computational system of language within Chomsky's minimalist programme. Whereas this new development constitutes a step forward in our understanding of anaphora and binding, it creates a number of new conceptual and empirical problems of its own (see e. g. Huang 2014a: 350–351 for further discussion).

(39) Huang's revised neo-Gricean pragmatic apparatus for anaphora (simplified)
  (i) The use of an anaphoric expression *x* I-implicates a local co-referential interpretation, unless (ii) or (iii).
  (ii) There is an anaphoric Q-scale <*x*, *y*>, in which case the use of *y* Q-implicates the complement of the I-implicature associated with the use of *x* in terms of reference.
  (iii) There is an anaphoric M-scale {*x*, *y*}, in which case the use of *y* M-implicates the complement of the I-implicature associated with the use of *x*, in terms of either reference or expectedness.

Needless to say, any interpretation generated by (39) is subject to the general consistency constraints applicable to conversational implicatures. These constraints include real-world knowledge, contextual information, and semantic entailments.

There is substantial cross-linguistic evidence to show that empirically, the revised neo-Gricean pragmatic theory of anaphora is more adequate than both a syntactic and semantic approach. Consider, for instance, Chomsky's binding conditions, as in (33), and its paradigmatic illustrations, as in (34) above. On the neo-Gricean pragmatic account, Chomsky's binding conditions B and C need not to be laid at the doorstep of generative syntax and can be reduced to pragmatics. In somewhat simplified terms, this can be achieved in the following way. If binding condition A is taken to be either grammatically constructed (as in the English-type languages) or pragmatically specified via the I-principle (as in the Chinese-type languages), then binding condition B can be pegged directly to the application of the Q-principle. Given a speaker's knowledge of grammar and/or the I-principle, an anaphor/reflexive will be chosen if coreference is intended. This has the consequence that if the anaphor/reflexive is not employed but a pronominal/pronoun is used instead, a Q-implicature will arise, namely, no coreference is intended. In other words, we have a Horn scale <anaphor/reflexive, pronominal/pronoun> here such that the use of a semantically weaker pronominal/pronoun Q-implicates that the more informative, coreferential interpretation associated with the use of the anaphor/reflexive cannot be truthfully entertained, as in (34b). By the same reasoning, binding condition C can also be eliminated. Wherever an anaphor/reflexive could occur, the use of a semantically weaker r-expression/proper name Q-implicates the non-applicability of the more informative, coreferential interpretation associated with the use of the anaphor/reflexive. This is exactly what has happened in (34c). Furthermore, the revised neo-Gricean pragmatic theory can provide an elegant account of many of the anaphoric patterns that have embarrassed a generative analysis such as the case where contra binding condition B, a pronominal/pronoun is bound in its local syntactic domain. In the case of long-distance anaphora/reflexivization where there is a referential overlap between a long-distance anaphor/reflexive and a pronominal/pronoun, the concept of unexpectedness is invoked to explain why such a marked anaphoric expression (that is, a long-distance anaphor/reflexive) is used. Examined in a more careful way, cross-linguistically,

unexpectedness turns out to be mainly of three types: (i) contrastiveness/emphaticness, (ii) logophoricity, and (iii) *de se* attitude/belief ascription. First, long-distance anaphors/reflexives are commonly used for marking contrast and/or emphasis. A second dimension of unexpectedness arising from the employment of long-distance anaphors/reflexives involves logophoricity – the phenomenon whereby the 'point of view' of an internal protagonist of a sentence or discourse, as opposed to that of the current, external speaker, is being reported using some morphological and/or syntactic means (see e. g. Huang 1994/2007, 2000a: 172–204, 2002, 2004, 2007, 2010, and 2014b, 2017b, e for detailed discussion of logophoricity). Thirdly and finally, long-distance anaphors/reflexives can be utilized to encode a *de se* attitude/belief – self-locating attitude/belief – ascription (see e. g. Huang 2013b for further discussion). The use of long-distance anaphors/reflexives to mark unexpectedness is accountable in terms of the M-principle. Since the grammar allows the unmarked pronominal/pronoun to be employed to encode coreference, a speaker will use it if such a reading is intended. On the other hand, if the unmarked pronominal/pronoun is not used, but the marked long-distance anaphor/reflexive is employed instead, then an M-implicature will be licensed. The conversational implicature is that not only coreference but contrastiveness/emphaticness, logophoricity, and/or *de se* attitude/belief ascription as well is intended by the speaker.

7. Conclusion

In this chapter, I have evaluated some of the major research methodologies used in classical and neo-Gricean pragmatics, covering different types of data, different ways of data collection, and different ways in which data is adopted and analysed. I have explained why introspection has been the principal research method in classical and neo-Gricean pragmatics, pointed out its strengths and weaknesses, and showed that it should and can be complemented by other research methodologies such as the use of attested data and experimentation. I have then moved to a discussion of falsifiability and methodological reductionism versus expansionism with regard to linguistic theory-building from a philosophical perspective. Finally, I have shown how the employment of cross-linguistic data to contrast and compare linguistic characteristics across a wide range of typologically different languages can contribute to the formulation and development of a better theory of anaphora and binding.[10]

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7. Cognitive pragmatics: Relevance-theoretic methodology

Billy Clark

Abstract: Early work in relevance theory followed Grice's approach in being based mainly on evidence from introspection. Ideas were developed and tested mainly by reference to the intuitions of researchers about examples, often invented for the purposes of the investigation through thought experiments, logical argument and conceptual analysis. Sometimes, choices between competing ideas were made based on theoretical simplicity. In the 1990s, there was a significant increase in work based on data from experiments, leading to the development of what is now referred to as the field of "experimental pragmatics". Experimental work since then has included questionnaire-based work (which often focuses on the intuitions of participants), data from reading and response times, and, more recently, evidence from electroencephalography (EEG), functional magnetic resonance imaging (fMRI) and the use of eye-tracking technology. Other ways of testing and developing ideas have included the use of data from corpora and other observational work, and applications of the theory in clinical work, developmental pragmatics, language acquisition, first and second language learning and teaching, and stylistics. Applications vary in the extent to which they restrict their focus to understanding phenomena in the light of the ideas being applied or aim also to test theoretical ideas. While current research uses a wider range of techniques, introspection and experimentation are still the most used methods.

1. Introduction

Introspective and experimental methods are by far the ones most commonly used by researchers aiming to test, develop or apply ideas from the perspective of relevance theory (this is also true of work on neo-Gricean and post-Gricean pragmatics in general). Introspective methods were the main ones used in early stages of the development of the theory. During the 1990s, there was increased interest in using other methods and there has been a sharp increase in experimental work since the 2000s. Other methods have been used, and recent work is beginning to reflect a more general trend in linguistics to adopt a range of methods rather than to assume a close connection between particular theoretical approaches or phenomena and particular methods. Despite this, introspection and experiment are still the most commonly used methods in relevance-theoretic work.

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One way of telling the story of relevance theory would be to divide it into three phases. In the first phase, Sperber and Wilson and other researchers were engaged in demonstrating that pragmatic theories were possible at all. There was an assumption that the domain of pragmatic inference was so wide that it was not amenable to systematic study. Perhaps most significantly, this view was held by Jerry Fodor, whose ideas about the modularity of mind (Fodor 1983) were adopted in early relevance-theoretic work. In this phase, intuitions (often the researchers' own intuitions) were the main source of data. In the second phase, which began in the 1990s, reservations about the reliance on this kind of introspection led to the development of experimental work and to the now large and growing field of experimental pragmatics. In what might soon be seen as a third phase, relevance-theoretic work is beginning to involve a wider range of methods but the majority of research is still based on introspection and experiment.[1]

This chapter adopts the structure suggested by this way of telling the story of relevance theory, even though it simplifies things to some extent. The next section discusses some of the earlier developments based on introspection. This is followed by a section discussing the rise of experimental work, and then by a section considering other methods, including corpus-based work, observation, and applications in a range of areas, including clinical work, developmental pragmatics, language acquisition, first and second language learning and teaching, and stylistics.[2] Discussion of different methods is briefer here, reflecting the fact that these methods have been used less often in relevance-theoretic work so far. While the main focus of applications of the theory is often mainly on developing accounts of particular phenomena, they can also provide evidence to support or disconfirm theoretical ideas. The concluding section comments on the usefulness of different kinds of methods and speculates on possible future directions. One conclusion is that adopting a wider range of methods has helped to develop the theory and to develop understanding of particular phenomena. There is still much to explore and we now have a good range of methods to use in doing so.

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1 The term "introspection" can be used in more than one way. Here, I use it to refer to the use of researchers' own intuitions, perhaps alongside those of other researchers, rather than to the use of experimental methods such as thinking-aloud and protocol analysis with groups of non-expert language users. These approaches were significantly influenced by the work of Ericsson and Simon (1980, 1984). For discussion of their use in second language research, see Færch and Kasper (1987).

2 In considering work in each of the areas discussed here, there is space only to mention a few illustrative studies. A comprehensive listing, organised under thematic headings, is available online at the Relevance Theory Online Bibliographic Service (Yus 2017).

2. Introspection

Early work in relevance theory, like other work in pragmatics which built on Grice's ideas, also followed Grice in using largely introspective methods. Grice (1975, 1989) focused explicitly on intuitions in developing his ideas, including the two aspects of his thinking which have arguably been seen as most significant and influential: the distinction between saying and implicating, and the suggestion that utterance interpretation is guided by ultimately rational pragmatic principles which play a key role in explaining pragmatic phenomena.

In developing relevance theory, Wilson and Sperber critically discussed the details of Grice's work, refining assumptions about the distinction between saying and implicating and about the nature of pragmatic principles. The key insight they retained was that pragmatic principles lie at the heart of communication:

> The value of Grice's work derives not so much from the detail of his analyses as from the general claim that underlies them. Grice has shown that given an adequate set of pragmatic principles – to which his conversational maxims are a first approximation – a wide range of what at first sight seem to be arbitrary semantic facts can be seen as consequences of quite general pragmatic constraints. (Wilson and Sperber 1981: 155)

Arguably, the use of introspective methods based on researcher intuitions is natural given what Grice was aiming to do and given the nature of Wilson and Sperber's critical discussion. A key motivation for Grice was to show that we do not need to assume that natural language expressions such as *and, or, if ... then ...* are ambiguous in order to account for the range of ways in which they can be understood in context. This is essentially a logical argument which can then be further developed and supported by investigations of how communicators use these expressions and how they understand utterances containing them.

In *Logic and Conversation*, Grice (1975) showed that different interpretations of such expressions could be explained by assuming a univocal semantics with pragmatic principles accounting for different interpretations. Different ways of understanding the utterances with *and* in (1) can be seen as following from different pragmatic processes rather than from different encoded senses of *and:*

(1) a. Edinburgh is in Scotland and Newcastle is in England.
    b. He got on his bike and cycled home.
    c. He pressed the light switch and the bulb shattered.

Grice showed that we can explain the temporal interpretation of (1b) and the causal interpretation of (1c) (which also includes a temporal interpretation) without assuming that *and* is ambiguous. Instead, if we assume pragmatic principles ("maxims" for Grice), we can assume that hearers infer temporality and causality from an underlying "logical" sense in which *and* has the same meaning as the logical symbol *&*. A key thing to notice here is that Grice's point can be under-

stood without the need for support other than what can be inferred from logical introspection.

In Grice's work, evidence for the maxims themselves and for the different interpretations comes from intuitions. It is intuitively plausible, for example, that the response in example (2a) seems odd because it is overinformative and that the response in (2b) seems odd because it is irrelevant:

(2) a. A: How do you get to the town hall from here?
B: First, lift one foot and place it in front of you. Next, lift the other foot
b. A: How you getting on with your conference paper?
B: I hear there's going to be a heat wave next month.

A Gricean account would assume that recognition of the surface overinformativeness of B's utterance in (2a) and the underinformativeness (or irrelevance) of the response in (2b) leads to the inference of implicatures which are informative and relevant (rudely implicating that A is not very bright in the former case and implicating unwillingness to discuss the conference paper in the latter).

Evidence for contrasting interpretations of the conjunctions in (1) can be found by swapping the conjuncts as in (3):

(3) a. Newcastle is in England and Edinburgh is in Scotland.
b. He cycled home and got on his bike.
c. The bulb shattered and he pressed the light switch.

Changing the order of conjuncts in (3a) does not seem to make much difference but the ordering in (3b) and (3c) suggests markedly different interpretations.

The plausibility of the account in terms of Grice's maxims is both logical and based on intuitions. If we accept the existence of pragmatic principles such as the maxims, we can construct a logical explanation for the interpretations. For Grice, the principles and the explanation are rational and the specific interpretations arise because of implicatures generated by the utterances. Given general assumptions about the world (about people getting on their bikes and heading home, about bulbs shattering, etc.), it is rational to assume that getting on the bike will have preceded cycling home and that the bulb shattered as a result of electric current passing through it after the switch was pressed. It would therefore be irrationally underinformative to utter (2b) and (2c) if the speaker did not intend the temporal and causal interpretations.

Grice appealed to one more key idea here, which can be understood as a guiding methodological principle, and which he termed "Modified Occam's Razor":[3] "Senses are not to be multiplied beyond necessity" (Grice 1978: 118–119; 1989:

[3] For discussion of this idea, see Bontly 2005; Phillips 2012.

47). Grice is hesitant in proposing this and hedges when discussing what it might do. He says:

> Like many regulative principles, it would be a near platitude, and all would depend on what was counted as "necessity". Still, like other regulative principles, it may guide (Grice 1978: 118–119; 1989: 47).

The role it plays here is that it suggests that we should not propose ambiguity for expressions such as *and* when an alternative, pragmatic, explanation, is available.

Early work in relevance theory, like other work which built on Grice's ideas, was similarly based on intuitions about possible interpretations, logical reasoning about how they might come about, and assumptions about theoretical simplicity. In their early critique of Grice's approach, Wilson and Sperber (1981) endorse the notion of pragmatic principles and of a distinction between "saying" and "implicating" while arguing for different kinds of principles and for a different way of understanding "what is said" (soon to be replaced with the technical term "explicature"). A combination of intuitions, logical argumentation and appeals to theoretical simplicity were used to develop these and other key ideas of the theory.

Amongst other things, these introspective methods support the technical definition of relevance in terms of cognitive effects and effort, the distinction between explicature and implicature, the notion that implicatures can be stronger or weaker, accounts of figurative language, semantic analyses of particular expressions, the development of a distinction between conceptual and procedural meanings, and accounts of the interpretations of particular utterances, some of which demonstrate how the relevance-theoretic account of interpretation works.[4] Here are some examples of each.

Intuitions are used in accounts of particular interpretations, including ones which are taken to demonstrate how considerations of relevance guide interpretations.

(4) a. It's raining.
    b. It's raining now.

(5) There's a cat outside.

Intuitions are used as evidence that (4b) communicates more than (4a). The presence of the word *now* helps the hearer to assign a time reference but this is unlikely to be different to that which would follow from (4a). The small amount of extra effort involved in processing *now* gives rise to further effects than would have fol-

[4] The classic source for the theory is Sperber and Wilson (1986). Brief overviews include Carston and Powell (2006), Clark (2011), Sperber and Wilson (2005), Wilson and Sperber (2004), Yus (2006, 2010). Clark (2013) offers a comprehensive introduction.

lowed from (4a), suggesting a contrast between the rain which is happening at the time of utterance and either an earlier weather state or some other effects depending on the context. This is taken to support the view that extra effort creates an expectation of extra effects (more than just inferring when the raining is assumed to be happening, which could have been inferred without the presence of *now*). This kind of reasoning has been applied to a wide range of utterances.

Example (5) is used by Sperber and Wilson to demonstrate that the communicative principle of relevance limits what hearers will take an utterance to communicate. Intuitions provide evidence that a hearer in an environment such as a city in England around the time when I am writing this chapter is most likely to assume that the cat outside is a domestic cat (rather than a wild cat such as a tiger or leopard). Logical argumentation is used alongside the intuition to argue that the more surprising interpretation is ruled out by the communicative principle of relevance. It would require unnecessary effort to expect a hearer to construct and entertain a plausible interpretation and then go further to think of something new. The existence of an easily reached plausible interpretation means that this must be the one the speaker intended. The explanation in more recent work (e. g. Wilson and Sperber 2004; Sperber and Wilson 2005) involves reference to a "relevance-guided comprehension heuristic":

(6) Relevance-Guided Comprehension Heuristic:
   a. Follow a path of least effort in deriving cognitive effects: test interpretations (e. g. disambiguations, reference resolutions, implicatures, etc.) in order of accessibility.
   b. Stop when your expectations of relevance are satisfied.

This removes the suggestion of interpreters taking time to rationally work out interpretations which earlier versions of the theory had inherited from Grice. The key thing to notice at this stage is that these theoretical claims are based on a combination of intuitions and logical argument. Many of the developments in relevance theory have also been based on these.

Much work in relevance theory has also followed Grice in adopting assumptions similar to his "Modified Occam's Razor". In fact, this guiding principle can be seen as a specific case of a more general one which is not only about assuming senses. The more general aim is for theories to be as simple as possible. While it is, of course, possible that phenomena, including human minds, are not as simple as they could be, it is often assumed to be a good idea in developing theories to keep things as simple as possible. The clearest cases where this occurs are in relevance-theoretic work on aspects of linguistic semantics. Two examples are Wilson and Sperber's (1988) work on the semantics of declarative and non-declarative sentences and Groefsema's (1995) work on modal verbs. In both cases, very general semantic analyses are assumed and relevance-theoretic pragmatic principles interact with contextual assumptions to lead to a much wider range of interpretations in particular contexts.

A large amount of relevance-theoretic work is still based on introspection. However, there is now a tendency for this to work alongside experimental, and sometimes other kinds of empirical, work. One example of this is work on metaphor which has been developed and tested using introspection (see, for example, Carston 2002, 2010a, 2010b) and also through experimental investigations (see, for example, Rubio-Fernández, Wearing and Carston 2015; Rubio-Fernández, Cummins and Tian 2016) and corpus-based work (Kolaiti and Wilson 2014).

3. Experiments

Wilson and Sperber (1993) characterise their work in the early stages of relevance theory as having been focused on addressing what they term "Fodor's challenge":

> […] we had to address Fodor's challenge that while decoding processes are quite well understood, inferential processes are not only not understood, but perhaps not even understandable (Wilson and Sperber 1993: 1).

Since pragmatics involves inferential processes, developing an account of pragmatics would seem to require doing what Fodor assumed was not possible, i. e. to explain something neither understood nor understandable. So the challenge referred to here could be reframed as being about trying to show that it is possible to develop pragmatic theories, given the wide range of things involved in pragmatic processes.[5]

Arguably, relevance theorists have done a good job of showing that a pragmatic theory is at least possible. While these developments were taking place, relevance theorists (and other pragmaticists) were also concerned about the perceived limitations of reliance on introspective data. This discussion tended to focus on general questions about the reliability of intuitions. Noveck and Sperber (2007: 185–186)

[5] Pragmatic processes are not, of course, the only kinds of inferential processes, so the development of relevance theory was not seen as addressing Fodor's problem comprehensively. In fact, one way of thinking about the claimed early success of relevance theory was to say that the nature of the inferential processes involved in pragmatic interpretation, and in particular the ways in which they are constrained, make them amenable to explanation in ways in which other processes might not be. In early work, it was assumed that pragmatic processes were a special sub-variety of central processes with their own constraints. More recently, Sperber and Wilson (2002) have modified their assumptions so that pragmatic processes are now seen as modular. This is consistent with the assumptions of "massive modularity" which Sperber and others have argued for (e. g. Carruthers 2006; Cosmides and Tooby 1992; Sperber 1994, 2001). Work on massive modularity has been partly explored in experimental work but some of the work, including early discussion, was speculative.

point out that there are particular issues with pragmatic intuitions and that it is important to notice how they are different from semantic intuitions. Semantic intuitions are intuitions about the meanings of linguistic expressions. To take one example (discussed by Noveck and Sperber) an intuition about an entailment relation (e. g. that *John knows it is raining* entails *it is raining*) is, they say, a "semantic fact". Pragmatic intuitions are different since they are about "hypothetical cases involving imaginary or generic interlocutors". They say:

> Pragmatic intuitions on hypothetical utterances have proved useful in a variety of ways, but it is important to keep in mind that these are not about how an utterance is interpreted, but about how an utterance *would be* interpreted if it were produced in a specific situation by a speaker addressing a listener, with referring expressions having actual referents, and so on. These intuitions are educated guesses – and, no doubt, generally good ones – about hypothetical pragmatic facts, but are not themselves pragmatic facts and they may well be in error. That is, we may be wrong about how, in fact, we would interpret a given utterance in a given context (Noveck and Sperber 2007: 186).

Since the 1990s, there has been a very significant increase in the use of experimental methods to explore predictions of pragmatics, including ideas developed within relevance theory. This range of work is often referred to as "experimental pragmatics". A history of its development might start during the 1990s when there was informal discussion on email lists and at conferences of how to test ideas from pragmatics with a wider range of empirical methods. Other significant steps include publications of experimental results including by Happé (1993, 1995), Sperber, Cara and Girotto (1995), Gibbs and Moise (1997), Nicolle and Clark (1999) and Noveck (2001), each of which are mentioned below, a workshop at the Linguistics Association of Great Britain in 1998, a European Science Foundation workshop at Lyon in 2001, an influential collection (Noveck and Sperber 2004) which resulted from the Lyon workshop, the European Science Foundation EUROXPRAG research funding programme which ran from 2009 to 2014, and the German Research Foundation priority programme XPRAG.de which was established in 2014 and is still awarding funding.[6]

The field of experimental pragmatics clearly has roots in a wider range of experimental work which focused on questions relevant to pragmatics. Since the 1960s, psycholinguists have carried out a large number of experimental studies on language and communication. As Sperber and Noveck (2004) point out, there was little interaction between researchers in psycholinguistics and researchers in pragmatics and little work which focused directly and explicitly on predictions of specific pragmatic theories. Pioneers in experimental pragmatics who were active

[6] For discussion of developments in experimental pragmatics, see Breheny 2011; Katsos and Cummins 2010; Noveck and Reboul 2008.

before the new field developed include Herb Clark and Ray Gibbs who have carried out a large number of experiments on aspects of pragmatics (as just a very small sample, see Clark and Lucy 1975; Clark 1979; Gibbs 1979, 1981, 1983, 1986; see also Gibbs, this volume). A key consequence of the development of the new field is that pragmaticists now regularly consider experimental evidence alongside evidence from introspection.

An early experimental study focusing directly on an idea developed within relevance theory was Jorgensen, Miller and Sperber (1984). This study tested predictions of the mention theory of irony developed by Sperber and Wilson, alongside those of the traditional account which sees irony as involving the expression of the opposite of what is intended. Their results were consistent with the mention theory.[7]

Another early set of experimental studies was carried out by Francesca Happé (1993, 1995) who set out to test predictions of relevance theory with regard to the relationship between "theory of mind" abilities[8] and autism spectrum disorder (ASD). Her results were consistent with the assumption that individuals with ASD are atypical with regard to "theory of mind" abilities. Her studies investigated correlations between ability to pass different levels of false belief tasks (no ability, ability to pass first-order tasks only, and ability to pass second-order tasks) and the ability to understand simile, metaphor and irony (which, on relevance-theoretic accounts, differ with regard to how much theory of mind ability is required). First-order false belief tasks require the ability to represent another individual's thoughts (e. g. thinking that somebody else believes that a box contains sweets). Second-order false belief tasks require the ability to represent another individual's thoughts about somebody else's thoughts (e. g. thinking that somebody else believes that another person believes that a box contains sweets).

Another important experimental study was Sperber, Cara and Girotto's (1995) work which investigated performance on versions of Peter Wason's selection task (Wason 1966). This work directly tested central claims of the theory, suggesting that performance on versions of the task could be explained by reanalysing what the task involves and with reference to predictions of relevance theory. A standard version of Wason's selection task is presented in Figure 1.

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7 The mention theory, in later versions usually termed an "echoic" account, is an account which was developed within relevance theory but which does not depend on central notions of the theory. It shares this with other work developed within this approach, including Wilson and Sperber's account of metaphor (for discussion of both, see Wilson and Sperber 2012).

8 "Theory of mind", often abbreviated to ToM, is a slightly problematic term used to refer to abilities to attribute mental states to ourselves and others, to recognise that others might have different mental states from our own, and to explain and predict other people's actions based on these.

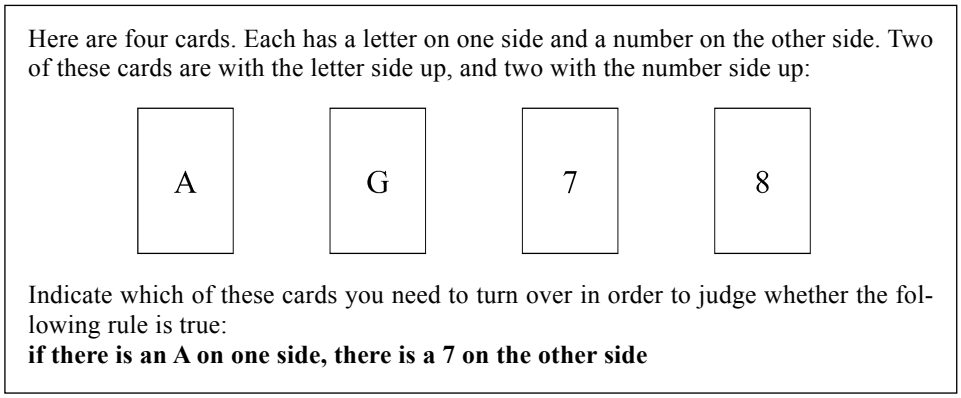

Figure 1. A standard version of the Wason selection task

In repeated experiments involving this version of the task, most participants (around 90 %) choose the A and 7 cards. The "correct" response is "A and 8" since a card with an A on one side and something other than 7 (e. g. an 8) on the other would show that the rule is false. A card with G on one side can have any figure on the other side and still be consistent with the rule. A card with 8 on one side can have any letter on the other side. Explanations of the logic of the task usually point out that the rule is in the form "if P then Q". The correct response is to look for cases of "P and not Q". In choosing A and 7, participants are choosing to turn over a card with P on one side and a card with Q on one side (rather than the "correct" choice of a "not Q" card).[9]

A vast number of experiments have investigated the selection task. While most participants "fail" on standard versions of the task, performance is much better on some versions, e. g. where the second conjunct is in a negative form (Evans 1972) or in some deontic versions of the task (Johnson-Laird, Legrenzi and Legrenzi 1972). Sperber, Cara and Girotto (1995) suggested that performance on the task could be explained by assuming that participants in the task infer testable consequences of the rule and then look for ways of testing these by turning over cards, and that they infer these consequences in line with predictions of relevance theory, i. e. they infer them in order of accessibility and stop when their interpretation of the rule meets their expectations of relevance. Based on these assumptions, they came up with a "recipe" for creating easy versions of the task:

[9] In fact, Sperber, Cara and Girotto (1995) point out that the rule stated in the task is a general and not a particular conditional statement. This does not affect the discussion here.

(7) Recipe for creating an easy selection task:
   a. make it easier to represent "P-and-not-Q" than "P-and-Q"
   b. create a context where more follows from knowing that there are "P-and-not-Q" cases than from knowing that there are "P-and-Q" cases
   c. present the "if-P-then-Q" rule in a pragmatically felicitous way
   (adapted from Sperber, Cara and Girotto 1995: 60)

The first line in the recipe, (7a), is about effort. Following this will make "P-and-not-Q" (which leads to correct selections) relatively easy to represent, which is in line with the relevance-theoretic assumption that the more effort involved in something the less relevant it is. The second line, (7b), is about effects. Following this will make "P-and-not-Q" have more effects than "P-and-Q", which is in line with the relevance-theoretic assumption that the more effects something has the more relevant it is. (7c) is about the framing of the rule. It is there to discourage artificial formulations of the rule which are likely to focus attention on the task's experimental status and so encourage lines of reasoning about what the experimenter might be hoping for participants to do.

Sperber, Cara and Girotto (1995) then created four selection tasks. One of them followed all three lines of the recipe. One of the others departed from (7a), one departed from (7b), and one departed from both (7a) and (7b). All of them followed (7c). This meant that there was one version of the task where relevance-theoretic considerations predicted good performance, two where performance should be less good (one where "correct" reasoning involves extra effort and one where it leads to fewer effects), and one where performance is predicted to be poor (the one where "correct" reasoning involves more effort and fewer effects).

The results confirmed the relevance-theoretic predictions. Participants performed best where all three lines of the recipe were followed, worse in the conditions which departed from one of (7a) or (7b), and worst of all in the condition which departed from both (7a) and (7b). This was a very influential paper, leading to considerable discussion on reasoning and inference and also showing that experimental work could test central claims of relevance theory.[10]

Gibbs and Moise (1997) carried out questionnaire-based work which, they claimed, showed that speaker intuitions about "what is said" by an utterance are consistent with the relevance-theoretic view that explicit content consists of enriched explicatures rather than the more minimal propositions which seem to be assumed by Grice. Nicolle and Clark (1999) reviewed this work and carried out new experiments. They argued that, while Gibbs and Moise had shown that individuals have intuitions which can be manipulated experimentally, their experi-

[10] This was not the last word on the selection task, of course. A number of subsequent papers have built on and debated Sperber et al's findings. See, for example, Fiddick, Cosmides and Tooby 2000, Sperber and Girotto 2002.

ments did not provide direct evidence about intuitions about explicit content. They argued that participants in the experiment were not accessing intuitions about what is said but instead aiming to choose paraphrases which were likely to give rise to a similar range of effects to those conveyed by the original utterance. This work was built on by Ariel (2002, 2016) who developed a notion of "privileged interactional interpretations" which she suggests constitute "what the speaker is taken to be truthfully or sincerely committed to" and also as what is taken to be "the speaker's relevant contribution to the discourse". She suggests that privileged interactional interpretations are often but not always explicatures in relevance-theoretic terms (i. e. developments of a linguistically encoded logical form).

Another early study by Noveck (2001) investigated the phenomenon of "scalar implicature" (Horn 1984, 1988, 1989) and compared the responses of children with those of adults. In Horn's view, scalar implicatures are conclusions associated with particular linguistic forms which tend to be made in the absence of linguistic or contextual indications which rule them out. Examples (my own) include those in (8) and (9):

(8) *Utterance:*
   a. Some of the loaves are stale.
   Scalar implicature:
   b. Not all of the loaves are stale.

(9) *Utterance:*
   a. It's possible that Andy will come to the party.
   Scalar implicature:
   b. It's not certain that Andy will come to the party.

Hearers are likely to infer (8b) and (9b) in most cases when they hear utterances of (8a) or (9a) respectively. The conclusions are not guaranteed and will not follow if there are contextual reasons not to draw them or if they are ruled out by accompanying linguistic material, e. g. by adding "in fact they all are" to (8a) or 'in fact, it's certain that he will' after (9a). Horn suggested that these conclusions arise because of logical scales where stronger items entail weaker ones (*all* entails *some*, *must* entails *might* and so on). While an utterance containing a stronger item on a scale entails propositions which would follow from utterances containing a weaker term (*all of the loaves are stale* entails that some of them are), an utterance containing a weaker term usually implicates the negation of a stronger proposition which would have followed from a corresponding utterance containing the stronger term (as in the examples above).

Following Horn, many theorists (including Levinson 1987, 2000) assume that scalar implicatures arise as "default" inferences, i. e. that they are automatically computed and only rejected as a second step if there are reasons for them not to follow. This approach is often taken to be an elaboration of Grice's notion of "generalised conversational implicature". Relevance theorists, by contrast, (see,

for example, discussion by Carston 1998, 2002; Noveck and Sperber 2007) do not assume the existence of generalised conversational implicatures or of default inferences like these. Rather, they assume that all implicatures depend on the interaction of particular contextual assumptions with linguistic meanings and pragmatic processes.

Noveck's paper (Noveck 2001) reports three experiments. Two of the experiments focused on constructions with *might* and *must.* Participants were children, aged 5, 7 and 9, and adults. These showed that younger children were more likely than older children and adults to evaluate positively utterances containing the form *might be x* where *must be x* was clearly true, and that adults could be "trained" to accept these more often. The third experiment focused on the French expressions *certains* (similar to English *some*) and *tous* (similar to English *all*). Here "linguistically sophisticated" children (aged 8 and 10) were found typically to treat utterances containing *certains* to be compatible with situations where *tous* would have been appropriate while adults were equivocal.

This work shed light on the development of particular kinds of pragmatic processing and inspired further experimental work focusing on scalar implicature. In fact, scalar implicature is arguably the pragmatic phenomenon which has been most often studied using experimental approaches. As Grossman and Noveck (2015: 147–148) point out, the evidence (developmental evidence and evidence from comparisons among adult participants) has tended to be against the view that there are processing defaults here. Nevertheless, this topic is still being debated and studied experimentally (for recent discussion, see Chierchia 2017, Skordos and Papafragou 2016, van Tiel et al. 2016).

Since then, a much wider range of experimental work has been developed involving a wider range of techniques, including the measurement of event related potentials (ERPs) using electroencephalography (EEG) and eye-tracking (for an overview discussion mentioning examples of these, see Sauerland and Schumacher 2016).

We have moved from a situation in the 1990s when there was scepticism about whether predictions of pragmatic theories could be tested experimentally to one where experimental techniques are a standard way of investigating theoretical claims.

4. Other methods

Over the years, researchers on language and communication in general have used an increasingly wider range of methods. Researchers have also become more eclectic with regard to methods, not tying themselves in advance to one method, and also sometimes using more than one method to investigate a particular question. This tendency has also been evident in work in pragmatics. At the same time, there

are arguably tendencies among researchers to value particular kinds of methods over others. If there is a general bias in this area, then it is towards what are perceived as more solidly empirical methods, with experimental methods sometimes seeming to be more valued than others. I would propose three reasons to resist this assumption. First, any method is as useful as its results, and it is always necessary to take the findings of each research project on its merits, critically assessing its findings and the nature of the evidence which supports them. Second, experimental methods have their limitations just as all methods do; most obviously, experimental contexts are not natural contexts and the behaviour of participants should be understood as different from what their behaviour would have been in more natural contexts. Third, some methods which are seen as less empirical, or even as unempirical, can provide evidence to help test aspects of a theory. It is often assumed that applications of a theory should be assessed purely on the basis of what they tell us about the phenomena they are being applied to. I would argue, however, that applications can provide evidence which helps us to test particular theoretical assumptions.

With these thoughts in mind, this section considers methods which are neither introspective nor experimental. The methods discussed here are observational, including corpus-based work, and applications of the theory in clinical contexts, in developmental and pedagogical work, and in stylistics. Each of them is discussed more briefly than the two kinds of methods discussed above, reflecting the fact that most current work is still based either on intuitions or on experiments.

4.1. Corpus-based and observational methods

Given its focus on psychological processes and the assumption of generally Chomskyan and Fodorian ideas, it is not surprising that corpus-based approaches were not explored in the early days of relevance theory. In fact, as Rühlemann and Aijmer (2014: 1) point out, corpus pragmatics is a "relative newcomer" to pragmatics with interest in using corpus methods increasing in recent years. As corpus methods have become more widely adopted, and as linguists and others have become more eclectic, it is also not surprising that relevance theorists have begun to explore corpus methods more fully.

Gisle Andersen (2000, 2001, 2015) was one of the earliest researchers to use corpus techniques in work based on relevance theory, looking in particular at discourse markers, which are usually seen by relevance theorists as encoding procedural meanings. Andersen (2015) points out that corpus methods can allow us to "observe the stimuli that speakers offer and listeners interpret […] and to apply various types of qualitative and quantitative analyses to them" (Andersen 2015: 143). Andersen provides a useful reminder of the relationship between corpus data and what pragmatic theories aim to explain. Like the evidence provided by introspection, corpus data is removed to some extent from the pragmatic processes

involved in production and interpretation (with the latter, of course, having been the main focus of much work in pragmatics). He goes on to show how evidence from corpora can complement introspective and experimental work and in fact suggests that it:

> leads to new knowledge about functional properties of individual forms, and […] this knowledge extends beyond what can be gained from a strictly theoretical or experimental approach (Andersen 2015: 143).

He points out that "corpora contain tangible evidence of speakers' choices of overt stimuli in specific speech situations" (Andersen 2015: 151). His own work has included work on the English markers *like* and *innit* (2000, 2001). His 2015 chapter considers the emerging markers *as if* and *duh*. It is, of course, hard to establish when these expressions began to be used with the functions focused on by Andersen, but it is clear that their use with these functions increased towards the end of the twentieth century and began to be borrowed into other languages. Andersen discusses them cross-linguistically, including exchanges in Norwegian as well as English, and develops arguments about how they are used based on these. This includes the claim that their uses are not significantly different in Norwegian and in English.

One key point to notice is that Andersen's analyses depend on his intuitions about the data he discusses, demonstrating that there is an introspective element to corpus-based work. It is trivially true, of course, that researchers always use their intuitions in analysing data. Introspection is used in a specific way in corpus-based work in pragmatics, since researchers are using their own pragmatic processes, engaging in metapragmatic inference, and considering what individuals intended by their use of particular expressions and how they were understood.

Kolaiti and Wilson (2014) report corpus-based work on lexical pragmatics, and metaphor in particular, carried out as part of a research project at University College London (http://www.phon.ucl.ac.uk/home/lexprag07/corpus.html). They quote Michael Stubbs (2001: 71), agreeing with him that, in their words:

> […] corpus-based evidence provides a valuable complement to more traditional methods of investigation, by helping to sharpen intuitions, develop and test hypotheses and reduce the possibility of intuitive data being mere artefacts of the linguist (Kolaiti and Wilson 2014: 212).

They mention some specific issues they encountered in using corpus data for this work. One is that their work took a different view from previous corpus-based work on metaphor (e. g. Deignan and Potter 2004; Deignan 2005; Pragglejaz Group 2007; Steen 2007; Steen et al. 2010a,b; Hanks 2012) which aimed to find criteria for distinguishing metaphors from other kinds of language usage. By contrast, their relevance-theoretic approach assumes a continuum with utterances being more or less metaphorical rather than definitively metaphorical or not. This meant that they

could not build straightforwardly on previous work on this topic. Another issue was that they were looking at novel rather than conventionalised uses. Corpus data are, in general, more useful for looking at recurring patterns. Nevertheless, they show how corpus data provided significant evidence, including about the pervasiveness of processes of lexical adjustment in comprehension, and some evidence which contradicted their own intuitions, illustrated with discussion of the meaning of the word *raw*. They claim that corpus evidence suggests the existence of an encoded sense of NOT PROCESSED for this word in English which has emerged from relatively metaphorical uses.

Kolaiti and Wilson refer to the comments about semantic and pragmatic intuitions made by Sperber and Noveck (2007) which were mentioned above and suggest that the intuitions which their work has focused on fall midway between the kinds of semantic and pragmatic intuitions envisaged by Sperber and Noveck:

> On the one hand, these intuitions are about actual utterances, produced in actual situations. On the other hand, those utterances were not addressed to us, which puts us in the position of overhearers rather than actual addressees. As a result, the pragmatic intuitions they give rise to are still to some extent about hypothetical pragmatic facts, and are open to error or influence by our prior theoretical commitments. This seems to be an unavoidable feature of the use of corpus data in lexical pragmatics (Kolaiti and Wilson 2014: 236).

Like Andersen, then, Kolaiti and Wilson see corpora as offering a useful complement to introspective and other data, also emphasising the importance of thinking about the nature of the data and how researchers interact with it, including how they use their own intuitions in analysing it.

There are other researchers who have used corpus data. De Klerk (2005), for example, uses corpus data to explore uses of *well* in Xhosa English, arguing that this data provides support for Blakemore's (1987, 2002) account in terms of procedural meaning. Jary (2008) uses corpus data to explore aspects of complement-choice for the verb *believe*. His approach assumes a relevance-theoretic framework and he argues that the theoretical ideas and corpus data interact here to provide insights which would not have arisen from either corpus data or the theoretical ideas alone.

Not all observational data come from corpora and there has been some work by relevance theorists which involves observing utterances not gathered into corpora. Examples include Watts (1986, 1988), who uses data from recorded conversations in his discussion of the semantics of *well, actually, really* and *basically*, and Jucker (1993), who uses data elicited in interviews in his analysis of *well*.

4.2. Applications

Relevance-theoretic ideas have been applied in a range of areas, including clinical work, work on first and second language acquisition and teaching, and stylistics.

In each case, the balance varies between application, either to understand a phenomenon or to help address a particular issue, and testing or developing the theory.

A number of researchers have applied or explored aspects of the theory in clinical contexts, including in work on autism spectrum disorder and linguistic developmental disorders. Happé's (1993, 1995) work on autism spectrum disorder, mentioned above, has been followed by a large number of studies and discussion (including Chevallier et al. 2009; Colombino 2006; Kissine 2012; Loukusa et al. 2007; Norbury 2005; Papp 2006; Reboul et al. 2012; Surian 1996; Wearing 2010). There is ongoing research on, and debate about, exactly what are the key features of autism spectrum disorder and about how exactly ideas from pragmatics in general, and relevance theory in particular, play a role here. One debate is around whether, as Happé's early studies suggested, differences in theory of mind ability are the key factors correlating with the ability to understand metaphorical utterances. Norbury (2005) suggests that language level is a more important predictor. What is clear overall, though, is that ideas from pragmatics can help in understanding the nature of autism spectrum disorder and that evidence from individuals with autism spectrum disorder can help in the development of pragmatic theories.

Foster-Cohen and Wong (2017) present and discuss three studies looking at strategies used by and taught to adults interacting with children with language delay. They argue that relevance theory helps to understand these interactions and claim that the relevance-theoretic framework "works just as well for them as it does for more familiar, adult to adult, ways of speaking" (Foster-Cohen and Wong 2017: 179). This is another example of applied work simultaneously helping to explore aspects of the theory which is being applied.

Relevance theory has also been applied in looking at developmental pragmatics, first language acquisition, and first and second language learning and teaching. Most of this work has applied ideas from relevance theory in order to understand the phenomena but some studies have aimed to develop interventions which can help with the processes of acquisition and learning.

Most work on developmental pragmatics and language acquisition has applied ideas from relevance theory and other approaches to account for the pragmatic abilities of individuals at various stages of development, sometimes comparing this with the behaviour of atypical individuals. An early paper by Bara, Bosco and Bucciarelli (1999) explored the extent to which then current pragmatic theories could account for pragmatic abilities of children with and without brain damage. A study by Bezuidenhout and Sroda (1998) presented evidence suggesting that children perform as well on some pragmatic inferential tasks as adults. Since then, a large number of studies have explored the abilities of infants and children at various stages. Some researchers have seen the abilities of infants as a problem for pragmatic theories which assume that pragmatic processing requires very sophisticated inferential ability (see, for example, Breheny 2006; Pfister 2010). More recently, work with infants and children has been seen as providing evidence to

guide pragmatic theorists in developing ideas about what is involved in pragmatic inference. Mascaro and Sperber (2016) review research on pragmatics in infancy and argue for further experimental work in this area.

There has also been some work on the acquisition of specific aspects of language. Wharton (2014) applies ideas from relevance theory in considering the processes of lexical acquisition, arguing both that they involve pragmatic mind-reading and that the processes share many properties with adult comprehension. Wałaszewska (2015) applies ideas from Carston's (1997, 2002) work on broadening and narrowing in considering how children understand word meanings, including discussion of underextension and overextension of meanings. Gundel (2011) considers the role of determiners and pronouns ("procedural expressions" in relevance-theoretic terms) in helping identify the referents of nominal expressions. She argues that understanding the nature of these expressions helps to explain why children aged 3 and younger can use and understand them appropriately before they can perform tasks which require more sophisticated representational/mind-reading ability. Gundel's work here, then, simultaneously considers ideas about developmental pragmatics and language acquisition.

There has been growing interest over the years in the role of ideas from relevance theory in understanding processes involved in second language learning and teaching. In a review article, Foster-Cohen (2000) argued that ideas from relevance theory could be useful in this area since second language teachers and learners are engaged in communication guided by pragmatic principles. She edited an influential journal special issue (Foster-Cohen 2004a) which collected papers on second language acquisition and argued (Foster-Cohen 2004b) specifically for relevance theory as a competitor to, and a better approach than, Herbert Clark's (1996) Action Theory approach. De Paiva (2007) argued that the technical notions of relevance and manifestness are particularly useful here.

Jodlowiec (2010) explores ways in which ideas from relevance theory can be useful in work on second language acquisition. She focuses in particular on the "emergentist" programme (discussed, for example, by O'Grady 2008 and MacWhinney 2006), which argues for understanding properties of language with reference to non-linguistic factors, suggesting that relevance-theoretic ideas can be particularly useful here. She says that:

> […] the major concern of emergentism, that is ensuring that SLA theory accounts for the mental representations underlying language processing, can find support from a relevance-theoretic treatment of the metarepresentational abilities that speakers and hearers use in communication (Jodlowiec 2010: 56).

She also gives a useful brief survey of earlier work (Jodlowiec 2010: 53–55).

Ifantidou (2014) develops a sustained account of the relevance of ideas from relevance theory in accounting for the development of pragmatic abilities by second language learners. She also reports some experimental work on this. In a more

recent paper (Ifantidou 2016), she focuses in particular on the role of "epistemic vigilance" (Sperber et al. 2010; Mercier and Sperber 2017): cognitive mechanisms which help individuals to avoid being misled or misinformed, in accepting interpretations in second language contexts.

Stylistics is another area where ideas from relevance theory have been applied. Work in stylistics involves the application of ideas from linguistics and other areas in accounting for the production, interpretation and evaluation of texts. In practice, work in stylistics has most often focused on how literary texts are interpreted, but there is no principled reason for this relatively narrow focus and work in stylistics has developed a broader focus recently, including work on non-literary texts and on production and evaluation. As with other applications, this work can also be understood as testing the ideas which are being applied. As one example (not, in fact, presented as an example of stylistic analysis), Carston's discussion of examples such as the metaphor in Carl Sandburg's *Fog* (e. g. in Carston 2002, 2010a, 2010b; Carston and Wearing 2015; this metaphor is also discussed by Sperber and Wilson 2008) played a role in the development of new thinking about how to account for creative and extended metaphors.

While work in stylistics in general is not confined to accounting for interpretations, and not confined to accounting for literary texts, the majority of work in stylistics has focused on these two areas, and this has also been true for relevance-theoretic work on stylistics. Key examples include work by Pilkington (2000) on "poetic effects" (the term usually used within relevance theory to refer to cases where texts seem to give rise to impressionistic and aesthetic responses), MacMahon (1996, 2009a, 2009b) on poetic voice and metarepresentation, Forceville (1996, 2014) and Yus (2008, 2009) on visual and multimodal communication,[11] Blakemore (1993, 2009, 2013) on reformulations and on free indirect style, Morini (2010) on irony, and Unger (2006) on genre.[12] A special issue edited by Pilkington (1996) and another edited by Caink and Clark (2012) collect articles applying ideas from relevance theory in a range of ways.

As well as aiming to account for particular interpretations or texts, some work focuses on particular interpretive phenomena. Work which does not identify itself within stylistics is also relevant here, e. g. work on metaphor (e. g. Carston 2002, 2010a, 2010b, 2011; Wilson and Carston 2006, 2007; Vega Moreno 2007) and irony (e. g. Wilson and Sperber 2007, 2012). Furlong (1996, 2001, 2007, 2011, 2012) and Fabb (1995, 1997, 2002, 2010) have explored the nature of "literariness", with Fabb's work also focusing on what constitutes literary form and on

[11] Wharton (2009) applies relevance theory in considering nonverbal communication but does not focus on stylistic analysis.

[12] For overview discussions of relevance theory and stylistics, see Clark (2014), MacMahon (2006).

aesthetic experience more generally. Wilson (2011) explores the application of relevance theory in accounting for literary interpretation more generally.

More recently, there has been an increase in work which focuses on production and on evaluation. Clark and Owtram (2012) discuss ways of applying ideas from relevance theory in teaching writing. Clark (2012) explores pragmatic processes involved in the writing and editing of short stories by Raymond Carver. Clark (2014) considers how texts are evaluated.

Work on stylistics so far has mainly aimed to account for intuitions about texts with little other empirical investigation. One exception is B. Clark's (1996) report of exploratory work with students on the interpretation of a short story. There has been an increase in empirical work in stylistics more generally in recent years (see, for example, Macrae 2016; Miall 2006) and so work in relevance-theoretic stylistics is likely to involve a broader range of empirical work in future.

While the aim in applying ideas from relevance theory in the areas just discussed is often mainly to develop understanding of the phenomena or to find ways of addressing particular issues associated with them, this work also helps to develop understanding of the theory and to develop new ideas.

5. Conclusions

Naturally, it is never possible to say in advance what kinds of methods will be useful in addressing particular research questions. The usefulness of particular methods is assessed by considering what findings they lead to and the nature of the evidence they provide. Ideas from relevance theory have been developed and applied in a wide range of areas and the theory has influenced thinking in a range of disciplines. These developments have mainly been based on introspective and on experimental methods (with some overlap, given that much experimental work aims to gather evidence about the intuitions of participants). Given this, it seems safe to assume that both kinds of methods will continue to be used in future work. Other methods have also been used, including corpus methods, observation, and applications of various types, notably in clinical work, pedagogy, text analysis and stylistics. While the usefulness of various kinds of applications in developing theoretical ideas has not been much remarked upon, some findings have arisen based on work in each of these. Work in relevance theory so far has explored a wide range of topics and shown itself to be relevant to a wide range of areas. The theory continues to be applied to further questions and topics. A good range of methods is available to explore them with.

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III. Experimentational pragmatics

8. Introduction to part 3: Experimentational pragmatics

Klaus P. Schneider

1. On experimentation in pragmatics research

While all methods discussed in part 2 of this handbook rely on the researcher's own intuitions, the methods discussed in the remaining parts 3, 4 and 5 all involve the use of data provided by people other than the researcher. Approaches employing these methods can therefore be subsumed under the label "empirical pragmatics". In both part 4 and part 5, the focus is on so-called naturally occurring data (on the complexities of this concept cf. Jucker, this volume, chapter 13), i. e. instances of verbal (and non-verbal) communication as an integral part of real life situations, which are either immediately observed by the researcher and recorded by using pen and paper or an electronic device (part 4), or retrieved from usually very large and machine-readable (pre-existing) collections of such instances specifically referred to as corpora (part 5). By contrast, the methods surveyed in the present part 3 are all methods involving data which do not occur naturally in real life situations, but are elicited under conditions created by the researcher for the specific purpose of data collection, which can be referred to loosely and in many, if not most cases rather metaphorically as "laboratory conditions" (cf. Jucker 2009), i. e. not usually in the literal sense of laboratory conditions in the natural sciences such as, perhaps prototypically, chemistry. Although in many academic disciplines scientific work is unthinkable without experimentation – and this applies not only to the natural sciences, but also to disciplines interested in human behaviour, including communication, such as behavioural economics or psychology –, experimentational work in pragmatics is sometimes frowned upon, especially by researchers working in the traditions of conversation analysis and interactional linguistics and rejecting experimentational data as "artificial" or "inauthentic". Scholars who are dogmatic about these issues should, however, remember that the choice of method depends entirely on the respective research questions, and that methods which are well suited to find answers to some questions may be ill suited for finding answers to other questions (cf. Schneider, this volume, chapter 2). The strongest advantage of all experimentational methods is that they permit systematic manipulation and control of relevant parameters as, for instance, situational variables. That is the common denominator of all methods discussed in this part of the handbook.

In the present context, the term "experimentational" is preferred over the more frequent term "experimental" to emphasize the broad notion of experimental pragmatics advocated in this handbook, which goes well beyond the narrower and

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more specific interpretation championed in the approach called "Experimental Pragmatics" commonly referred to as "XPrag" (cf., e. g., Noveck and Sperber 2004), which developed in the relevance-theoretic tradition. While in the framework of Relevance Theory researchers originally relied on their own intuitions (e. g. Sperber and Wilson 1995), in XPrag approaches methods are adopted from psycho- and neurolinguistics and more generally psychology and neuroscience, including eye-tracking and neuroimaging, and specifically such methods as electroencephalography (EEG) and functional magnetic resonance imaging (fMRI) (cf. Clark in part 2 of this volume). Yet there are also other approaches in pragmatics, older than XPrag, in which experimental methods are employed, including methods taken over from psychology, specifically in interlanguage pragmatics, applied linguistics and second language research aimed at developing and assessing the pragmatic competence and performance of learners in the context of foreign language teaching and testing (cf., e. g., Kasper and Blum-Kulka 1993, Kasper and Rose 2002, Ross and Kasper 2013). Interestingly, criticism of experimental methods has been levelled more against these more applied areas of pragmatics than against approaches in the tradition of Relevance Theory.

This third part of the handbook includes a total of four chapters, each dealing with a particular method, or set of methods, used in and representative of different approaches to pragmatics. Chapter 9, by Eva Ogiermann, deals with discourse completion tasks, and chapter 10, by Alma Veenstra and Napoleon Katsos, focuses on sentence judgment tasks. In chapter 11, Raymond W. Gibbs, Jr. surveys a wide range of psycholinguistic production tasks, whereas in chapter 12, J. César Félix-Brasdefer discusses role plays. Role plays, discourse completion tasks and the psycholinguistic tasks surveyed by Gibbs all serve the purpose of eliciting language production, while the tasks examined by Veenstra and Katsos are used to assess comprehension. These comprehension tasks, and also some of the production tasks discussed by Gibbs, are typical of research carried out in that field of pragmatics which is inspired by the work of Paul Grice and is characteristically focused on individual utterances or sentences. In other words, these methods are typical of that branch of pragmatics sometimes referred to as the "Anglo-American tradition" (Huang 2010), in which pragmatics is conceptualized essentially as an extension of semantics (Huang 2007: 4). Role plays and especially discourse completion tasks, on the other hand, are typically used in interlanguage pragmatics and educational contexts to empirically establish native speaker norms of language use and pragmatic features of learner performance as well as for assessing pragmatic competence in a second language (cf. Edmondson et al. 1979; Blum-Kulka, House, and Kasper 1989; Taguchi and Roever 2017). They are also used in contrastive, cross-cultural and variational pragmatics to identify differences and similarities between languages, cultures and social groups (cf., e. g., the contributions in Barron and Schneider 2009 and Beeching and Woodfield 2015). In these fields of inquiry and beyond, discourse completion tasks (DCTs, originally termed

"discourse completion tests"), are an extremely popular elicitation method, not least for the practical advantage that relatively large amounts of immediately comparable data can be gathered in a fairly short time. Hundreds if not thousands of studies have been conducted employing this particular method for investigating individual speech acts, most notably requests and apologies (Blum-Kulka, House, and Kasper 1989, Trosborg 1995). Since DCTs have predominantly, though not exclusively, been administered in writing (e. g. Jones and Adrefiza 2017 is a recent exception), while the purpose is to study oral communication, specifically *speech* acts, this method has received a great amount of criticism. Needless to say, several features of spoken discourse such as prosody, intonation and features sometimes collectively referred to as "normal non-fluency" (Short 1996: 176), i. e. hesitation, backchannelling, interruptions, overlap, and so on, cannot be studied in written DCTs. What can be studied, on the other hand, are the social norms and cultural values underlying spoken discourse, which are reflected in this type of experimentational data and can be conceptualized as "cultural models" (cf. Schneider 2012: 360–367 for some discussion). Normal non-fluency, intonation and prosody can, however, be studied in role play data. Employing role plays is also a method of generating data for the analysis of speech acts in context and sequences of interactional behaviour.

While the four chapters in part 3 highlight methods which are typically and extensively employed in experimentational pragmatics and have contributed and are still contributing significantly to advancing the entire discipline, these chapters are not intended to cover the full range of methods ever employed to elicit data for pragmatic analysis. Further methods not addressed include various kinds of rating tasks, perception tasks, individual thinking aloud, joint production, interviews, and diaries. Most of these methods are discussed in detail in Kasper (2000) and Kasper (2008)[1] (cf. also Félix-Brasdefer and Hasler-Barker 2017 and Schneider, this volume, chapter 2).

[1] Essentially, these two papers are two versions of the same article, which appeared in the first and second edition of the same book (Spencer-Oatey 2000 and 2008), two editions which do, however, not include the same authors, although there is, of course, massive overlap. What is worth noting about Kasper's contributions are the apparent differences between the two versions, which clearly demonstrate that the author has left experimentational pragmatics and moved over to observational pragmatics, no longer interested in role plays and DCTs successfully employed in her earlier projects (cf., e. g., House and Kasper 1981 and Blum-Kulka, House, and Kasper 1989), but now favouring CA methodology (cf., e. g., Kasper 2009).

2. The chapters in this part of the handbook

Part 3 of this handbook includes chapters 9, 10, 11 and 12. In chapter 9, discourse completion tasks (DCTs) are introduced and discussed. The DCT is an elicitation format which consists of the description of a specific social situation to which informants are requested to react, as a rule by producing a speech act, or more precisely a missing turn-at-talk (in a dialogue excerpt). In this chapter, Eva Ogiermann emphasizes the unique suitability of this particular data collection method for the specific purposes of cross-cultural, variational and interlanguage pragmatics, enabling large-scale systematic comparison of languages and varieties of languages as well as native-speaker and non-native-speaker productions by eliciting large amounts of contextually varied data with a focus on speech acts and their realizations. She provides an extensive overview of the wide range of languages and first, second and foreign language varieties that have been studied with this method, which include not only English and further Indo-European languages, but also typologically unrelated languages from around the globe, among them several which are still understudied in pragmatics research, e. g. Setswana, Lombok Indonesian and Jordanian Arabic. She also gives an overview of the language pairs that have been compared and the many speech acts that have been examined. In this context, she refers to the Cross-Cultural Speech Act Realization Project (CCSARP), which was a large-scale project investigating requests and apologies in five different languages and several varieties of these languages (Blum-Kulka, House, and Kasper 1989). This project has had, and still has, a huge impact on later DCT studies, not only with the scenarios used in it, but also with the elaborate coding scheme developed for the processing and analysis of DCT data.

Ogiermann furthermore describes the different design features and variations of the DCT format, including the nature of the scenarios to which the informants are requested to react verbally, the length and explicitness of the instructions, the systematic manipulation and integration of social variables (e. g. power and participant sex), and the presence or absence of a so-called rejoinder, i. e. a follow-up turn to limit the options of discourse completion. The respective advantages and disadvantages of the available options are pointed out, and how different options can be chosen to examine different types of speech acts, e. g. initiating acts such as requests or responding acts such as compliment responses, formulaic acts such as thanking or more complex acts such as apologies or complaints.

Ogiermann then surveys studies comparing DCTs to other experimentational methods, including in particular role plays and multiple choice questionnaires (MCQs). It was found that, apart from obvious differences, DCT, MCQ and role play data also display crucial similarities. Finally, Ogiermann deals with studies comparing DCT data and naturally occurring discourse and specifically addresses the criticism of the DCT method voiced in these studies. By discussing a number of examples in detail, she shows that these comparisons are biased and not fair, in that

they take naturally occurring data as their starting point and typically focus exclusively on those features of spoken discourse which, for obvious reasons, cannot be investigated in DCT data, while ignoring the strengths of the DCT method, and especially their suitability for comparative work, which researchers working with natural data are, however, not usually interested in. Yet, Ogiermann concludes, for the purposes of comparative work across languages and cultures, requiring large sets of contextually varied and directly comparable data, no better data collection method is currently available than the DCT method.

In chapter 10, Alma Veenstra and Napoleon Katsos give a critical account of sentence judgment tasks, which are a particular type of comprehension task commonly used in the Gricean tradition, at the interface of semantics and pragmatics, to assess the interpretation of utterance meaning. In sentence judgment tasks, participants are asked to decide whether a sentence is true or false or rate it in terms of e. g. (in)correctness or (in)appropriateness. Veenstra and Katsos are especially critical of such binary decisions. They report recent studies which suggest that sentence judgment tasks requiring such decisions do not reliably assess pragmatic comprehension. They refer to investigations into scalar implicatures and how they are understood which demonstrate that participants, e. g. young children, often accept pragmatically incorrect sentences, although they perform successfully on tasks designed to test other aspects of pragmatic competence. It was therefore concluded that these participants do not display comprehension deficits concerning the interpretation of scalar implicatures, as originally assumed, but are in fact pragmatically competent, showing more tolerance concerning the correctness of sentences, which they do not rate as correct or incorrect, but as more or less correct or incorrect, accepting sentences they regard as sufficiently correct or not very incorrect. To remedy the shortcomings of binary judgment tasks, alternative task formats, considered more suitable for the assessment of pragmatic comprehension, have been developed which Veenstra and Katsos discuss at the end of their chapter.

Veenstra and Katsos begin their account with a theoretical discussion of scalar implicatures and their properties, which are exemplified with implicatures based on the Gricean maxim of quantity. In this context, they briefly point to the consequences of diverging theoretical positions for psycholinguistic studies on the acquisition and development of pragmatic competence. They then survey a body of research employing sentence judgment tasks, especially empirical studies in acquisition research, in which decontextualized underinformative sentences have played a crucial role. These studies seem to suggest that children acquire comprehension of scalar implicatures at a relatively late age. This, however, does not appear to make sense in the light of other acquisitional experiments which clearly demonstrate that children at a younger age are well able to draw e. g. relevance inferences. In the ensuing discussion, Veenstra and Katsos present a detailed description of a large number of studies demonstrating the inadequacy of binary judgment tasks and offering a more convincing picture of pragmatic comprehension competence

in young children arrived at by employing for instance graded judgment tasks. Against this background, the authors introduce and elaborate their Pragmatic Tolerance Hypothesis, according to which at least some children notice pragmatic violations, but accept such sentences all the same.

While graded sentence judgement tasks are shown to be a more suitable method for assessing pragmatic comprehension than the much more frequently used binary judgment tasks, the former involve the same problem as the latter, namely a combination of a linguistic and a meta-linguistic component characteristic of all judgment tasks. Veenstra and Katsos therefore propose to abandon the sentence judgment paradigm and to adopt alternative methods in the examination of pragmatic acquisition and the development of pragmatic comprehension, which they briefly outline at the end of their chapter. These range from picture-matching and more complex behavioural tasks to eye-tracking and neuroimaging techniques such as ERP. In other words, Veenstra and Katsos advocate the methodological inventory currently deployed in the experimental paradigm otherwise known as XPrag (see above), although XPrag is not explicitly mentioned in their text.

In chapter 11, Raymond W. Gibbs, Jr. surveys a great number of experimentational methods developed and employed in psycholinguistics for investigating various pragmatic aspects of language production. These include a wide range of diverse tasks, designed to investigate when and how people use particular pragmatic phenomena in their language production, e. g. metaphors, irony, indirectness or rhetorical questions.

Gibbs emphasizes that language production is not an isolated psychological process. He points out that pragmatic language production is closely linked to language comprehension and therefore most suitably conceptualized as coordinated action involving the speaker as well as the hearer. Furthermore, language production is interrelated with several non-linguistic processes within interacting humans and also with their non-verbal behaviour. These insights underscore the necessity to examine language production in multimodal contexts.

The chapter is organized according to the research questions commonly addressed by psycholinguists interested in and working on pragmatic aspects of language production. Specifically, these questions are: (1) What do people say in a given social situation and how do they say it? (2) Why do people say what they say and what are the reasons for the linguistic choices they make? (3) How do people describe scenes they have watched and relate them to other people, and how do people read stories to other people? (4) How do people answer questions which require specific types of processing? (5) How do people use language to coordinate their own actions and joint action with other people? (6) Which role do bodily processes play in the coordination of actions? (7) To what extent is pragmatic language production conscious strategic choice or automatized? To each of these questions, Gibbs dedicates a section of his chapter, in which he reviews the experimentational methods respectively employed to find answers to these ques-

tions. Methods developed to find out what people say in particular situations and how they say it (question 1) involve tasks that include the description of a scenario to which the participants are asked to react. The examples reported, which were designed to examine to what extent ordinary language users have tacit knowledge of the felicity conditions speech act philosophers had postulated for e. g. promises or in what situations they would prefer an indirect realization of e. g. a request, are strikingly similar to the discourse completion tasks discussed in chapter 9. However, neither psycholinguists nor applied linguistics seem to be aware that the particular method they employ is also employed for very similar purposes in another discipline interested in essentially the same pragmatic phenomena. In his report of studies involving such speech act production tasks, which were sometimes combined with rating scales, Gibbs emphasizes how difficult it would be to identify systematically varied real life situations to research the same questions.

Researchers interested in the motivation of speakers to use particular types of figurative language (cf. question 2) for example asked participants directly for the reasons of their choices and then organized their answers (e. g. "to be funny", "to be polite") into an inventory of so-called discourse goals. To answer question 3, participants were, for instance, shown videos whose contents they were to tell to listeners who had not watched them; other participants were asked to read aloud short stories to an audience. In either case, the focus of these studies was on gestures and prosodic features, or more specifically on iconicity. Gibbs admits that similar narrative elicitation tasks are used outside psycholinguistics, e. g. in sociolinguistics, but maintains that in those cases the tasks are not carried out under systematically varied experimental conditions or to test specific hypotheses. Similar criticism could be levelled against recent work in variational pragmatics (Bieswanger 2015), asking people in the street for directions to elicit responses to thanks. This same tool and similar tools (e. g. asking the time) were used, among other instruments, by psycholinguists dealing with question 4 about question answering. Their studies were concerned with beliefs about common ground and relevance optimality. These examples show that psycholinguists interested in pragmatic language production carry out their experiments not only under "artificial" laboratory conditions, but also in controlled real life situations.

With J. César Félix-Brasdefer's chapter 12 on role plays, this part of the handbook returns to more applied research contexts. Role plays, like discourse completion tasks (chapter 9), are commonly used in cross-cultural pragmatics and interlanguage pragmatics and specifically employed for investigating the pragmatic competence of foreign language learners and second language users and also for testing their pragmalinguistic and sociopragmatic knowledge. Crucial distinctions made in this chapter include closed versus open role play, and role play versus role enactment.

The term "closed role play", as defined in this chapter, is in fact an alternative label for oral discourse completion tasks. Hence, closed role plays elicit only sin-

gle-turn responses. They involve only one participant and are therefore non-interactional. In some studies, participants "interact" with puppets, especially children in developmental studies. The instructions in closed role plays and the scenarios to which the participants are expected to react verbally, may be given in writing, orally by the researcher or, in more recent work, by a computer. A particular variant is the computer-based multimedia elicitation task (MET) which provides participants with audio and visual input.

Open role plays, on the other hand, are prototypical role plays. They involve two participants who are given written instructions including the description of a situation they are to act out, after reading, in face-to-face dialogical interaction, which is audio- or video-taped. Such recordings enable the analysis not only of single-turn speech acts, but also of multi-turn speech act negotiations, speech act sequences, conversational openings and closings and further interactive features of spoken discourse as well as paralinguistic and prosodic features plus, in the case of video-recordings, non-verbal behaviour. Both open and closed role plays enable systematic control of relevant contextual variables such as setting and participant attributes and identities and thus warrant comparability within collections of role play data.

While "role play" is, as a rule, used as a cover term for various subtypes, it can also be used in a more specific sense and distinguished from "role enactment". This distinction pertains to the roles the participants are requested to play. In role enactment, participants can be themselves and behave as they would in real life situations. In role plays in the narrow sense, by contrast, participants have to pretend to be somebody else and adopt roles for which they may lack immediate experience. For instance, students may be asked to perform the role of a professor, a doctor or a manager. Needless to say, role enactments generate more valid data, but at the same time they limit the range of social roles and social situations which can be examined by employing this particular method.

Special types of role play tasks and role enactment are integrated into test batteries developed to assess the linguistic competencies of second language learners and foreign language users. A prominent example is the "oral proficiency interview" (OPI). Variants of the OPI are included in several standardized language tests used around the globe, such as the well-known International English Language Testing System (IELTS) test. OPIs are organized in various stages to especially elicit data for the analysis of many different aspects of that component of pragmatic competence commonly referred to as interactional competence.

Félix-Brasdefer provides examples of entire role play transcripts to illustrate their processing and analysis, specifically their segmentation and coding. At the end of his chapter, he explicitly addresses issues of reliability and validity, and also some ethical concerns. The specific limitations of the role play method include their non-consequential nature. That is to say, role play interactions differ from naturally occurring interactions in that they do not have any social consequences, e. g. regarding the relationship between the interactants.

The four chapters in part 3 of this handbook thus deal with distinctly different experimentational methods which are widely used, but used in different areas of pragmatics research with different goals and purposes in mind and employed by researchers who do not usually take notice of each other. Yet, as indicated above, there seem to be some areas of overlap. The comprehension tasks and production tasks introduced and discussed in chapters 10 and 11 are commonly used in the overall framework of Gricean pragmatics, with a high degree of experimental rigour and explicit hypotheses to be tested. These tasks belong to the methodological inventory of Experimental Pragmatics known as XPrag. Here the focus is often on implicatures, metaphors and irony, but also many other aspects of utterances. Discourse completion tasks and role play tasks, on the other hand, are frequently employed to collect large comparable sets of data for contrasting languages and varieties of languages, cultures and social groups, native speakers and language learners in cross-cultural, variational and interlanguage pragmatics. Here the focus is often on speech acts and speech act sequences, but also further features of spoken discourse. Of all experimentational methods reviewed in this part of the handbook, role play tasks seem best suited to the systematic study of a range of interactional aspects. It is hoped that the chapters in the present part, and more generally in this handbook, contribute to methodological cross-fertilization and facilitate interdisciplinary work across the boundaries of what seem to be complementary research areas within the vast field of pragmatics.

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9. Discourse completion tasks

Eva Ogiermann

Abstract: The present chapter examines Discourse Completion Tasks (DCTs), a data elicitation method that generates large amounts of contextually varied and comparable cross-linguistic speech act data, used predominantly in cross-cultural and interlanguage pragmatics. It discusses different features of DCT design, including the formulation of scenarios, the incorporation of social variables and format choice. The chapter then reviews studies comparing DCTs to other data elicitation methods and to naturally occurring data. It shows that while the different data collection methods generate similar speech act realisation strategies, the reported differences – mainly regarding directness, mitigation, and politeness marking – are largely inconclusive, with the results depending on the speech acts and groups of speakers under study.

1. Introduction

The Discourse Completion Task (DCT) is probably the most widely used data collection instrument in cross-cultural pragmatics, a field of enquiry that compares different speech acts across languages, and in interlanguage pragmatics, which examines learners' pragmatic competence and development. What makes DCTs particularly valuable for these areas of investigation is that research aiming to establish culture-specific patterns in speech act realisation or the pragmatic features of a specific interlanguage needs to draw on large quantities of data, and the DCT is the only available data collection instrument that generates sufficiently large corpora of comparable, systematically varied speech act data. Since DCTs can be translated into any language and distributed to large groups of informants within a short period of time, they are the ideal instrument for the contrastive study of speech acts (Aston 1995: 62; Barron 2003: 85).

Although DCT responses do not fully resemble naturally occurring data, the administrative advantages make the DCT a valuable and effective data collection method (Johnston, Kasper and Ross 1998: 157; Billmyer and Varghese 2000: 521; Kasper 2000: 325; Barron 2003: 85), in particular for large-scale projects (Sasaki 1998: 479). DCTs can be designed to elicit multiple occurrences of any speech act across a variety of situations, thus documenting a wide range of semantic formulae by which a given speech act can be implemented (Beebe and Cummings 1996: 80; Johnston, Kasper and Ross 1998: 158; Kasper 2000: 325; Barron 2003: 84). This is particularly useful "when investigating languages which have not yet been

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described pragmatically and for speech acts which have not been described in languages which are better documented" (Bardovi-Harlig 1999: 239). Accordingly, one of the main merits of DCT-based research is that it has generated a vast amount of cross-linguistic data and provided insights into the pragmatics of numerous languages and language varieties.

The next section of this chapter illustrates this by providing a brief overview of DCT studies that have been conducted in the areas of cross-cultural and interlanguage pragmatics. Section 3 discusses DCT design, with a focus on sociolinguistic variables (3.1.) and format choice (3.2.). Section 4 reviews studies comparing DCTs with other elicitation methods (4.1.) and naturally occurring data (4.2.), and section 5 concludes the chapter by evaluating the role of the DCT in contrastive pragmatic research.

2. The impact of the DCT

The largest and most influential DCT study to date, the Cross-Cultural Speech Act Realisation Project (CCSARP), was conducted by an international team of linguists (Blum-Kulka, House and Kasper 1989). The project examined requests and apologies in five languages (Canadian French, Danish, German, Hebrew and English); with the last one represented by three varieties (American, Australian and British).

The framework developed in the CCSARP has been replicated in numerous speech act studies, resulting in a large body of comparable data from many more languages. Many DCT studies have followed the design of the project closely, and focused on requests and/or apologies. This was facilitated not only by replicating the CCSARP DCT – or a modified version thereof – but also by the availability of a detailed coding scheme for the two speech acts developed in the project.

As a result, the DCT has introduced many under-researched languages into the field of pragmatics, with studies analysing apologies and requests in South African Indian English (Bharuthram 2003), requests in Korean (Byon 2006) and apologies in Lombok Indonesian (Wouk 2006), as well as in Sudanese (Nureddeen 2008) and Tunisian Arabic (Jebahi 2011). Most DCT-based research, however, follows the cross-cultural design of the CCSARP, i. e. it compares different languages (mainly contrasting them with English), thus contributing to the debate on pragmatic universality vs. culture-specificity.

Apology studies have compared English with Hungarian (Suszczyńska 1994, 1999), Polish (Suszczyńska 1999, Ogiermann 2009a), Russian (Ogiermann 2008, 2009a), the South African variety of Setswana (Kasanga and Lwanga-Lumu 2007) and Jordanian Arabic (Bataineh and Bataineh 2008). Requests have not only been studied across languages such as French and Dutch (Van Mulken 1996) or English, German, Polish and Russian (Ogiermann 2009b), but have also been the subject of

study in variational pragmatics, where they have been contrasted across different varieties of English (e. g. Barron 2008), German (Warga 2008) and Spanish (Placencia 2008) *inter alia*.

Apart from apologies and requests, DCTs have been used to investigate a number of other speech acts, with the most popular ones being refusals, e. g. in Korean and American English (Kwon 2004) and Mexican Spanish and American English (Félix-Brasdefer 2008). There are also studies of compliments, e. g. Mulo Farenkia's variational study of Cameroon and Canadian French (2012), and compliment responses, e. g. comparing Mandarin with Australian English (Tang and Zhang 2009).

Another area where DCTs have been extensively used is the field of interlanguage pragmatics, which is closely related to cross-cultural pragmatics, in that interlanguage studies typically elicit three sets of data, allowing for a comparison between the native and the target language, as well as an examination of the pragmatic features of the interlanguage. Apart from examining learners' pragmatic transfer, thus documenting their difficulties in bringing across the intended illocutionary force of a given speech act, interlanguage studies using DCTs have also examined pragmatic development, albeit almost exclusively via a cross-sectional design (but see Barron 2003).

As with cross-cultural studies, apologies and requests are among the most researched speech acts in interlanguage pragmatics. DCT studies have examined apologies produced by Thai (Bergman and Kasper 1993), Jordanian (Bataineh and Bataineh 2006), and Catalan (Sabate i Dalmau and Curell i Gotor 2007) learners of English. Some other studies involved a wider range of participants, such as Al-Zumor's study (2011), which examined English apologies produced by learners from five different Arab countries. While English continues to be the most researched target language, there are also studies of apologies offered by Americans in Russian (Shardakova 2005), Austrians in French (Warga and Schölmberger 2007) and by English learners of Greek (Bella 2014).

Request studies have investigated the pragmatic competence of English learners from countries as varied as the Netherlands (Hendriks 2008), Spain/Basque country (Cenoz 2003), Turkey (Otcu and Zeyrek 2008), Greece (Economidou-Kogetsidis 2009), Iran (Eslami and Noora 2008), Jordan (Al-Ali and Alawneh 2010), and Germany and Japan (Woodfield 2008). Marti (2006) examined pragmatic transfer in Turkish requests produced by Turkish/German bilinguals and Byon (2004) analysed American speakers' requests in Korean. Pinto (2005) studied the acquisition of requests of English learners of Spanish, and Bella's work on requests (2012a, 2012b) examines the pragmatic development of learners of Greek from a variety of L1 backgrounds.

Barron (2003) conducted a longitudinal study of Irish speakers' acquisition of German, focusing on requests, offers and refusals. Interlanguage studies using DCTs to investigate refusals have also looked at Iranian (Allami and Naeimi 2011)

and Japanese (Beebe, Takahashi and Uliss-Weltz 1990) EFL learners. The pragmatic competence of Japanese speakers of English was also studied on the basis of complaints (Nakabachi 1996), as was that of Korean English learners (Murphy and Neu 1996) and learners of Hebrew (Olshtain and Weinbach 1993).[1]

While the above review allows only a small glimpse into the wealth of DCT studies and the broad variety of languages they have investigated, it illustrates the international scope of the fields of cross-cultural and interlanguage pragmatics.

3. Designing a DCT

The DCT evolved from discourse completion exercises developed by Levenston and Blum (1978), which were designed for the study of L2 lexical acquisition. One of the advantages of these exercises was that they enabled researchers to compare the performance of learners and native speakers or learners at different proficiency levels. Participants completing the exercises were instructed to fill in a blank with *one* word. The provided "discourse" was designed "to restrict as far as possible the number of acceptable alternatives" (1978: 5) and consisted of one or maximally two sentences.

Adapting this data collection instrument to investigate speech act realisation (Blum-Kulka 1982) involved expanding the "discourse" to provide more context and elicit complete conversational turns. Accordingly, DCTs consist of a number of scenarios[2] (typically between 8 and 12) describing different situations to which the participants are asked to react, e. g.:

> *You are on your way to work but your car won't start. You see your neighbour get into his. He notices you and waves, so you decide to say …*

The length of the scenarios varies across studies, with longer ones providing more contextualisation and shorter ones having the advantage of being easier to process. DCTs with particularly detailed descriptions of the scenarios (and more space for responses!) are bound to produce longer responses, but their length does not seem to affect speech act realisation (Billmyer and Varghese 2000).

The DCT usually contains instructions requesting the participants to respond spontaneously, without much thinking or to write down the first thing that comes to mind. There are, of course, limitations to how spontaneous one can be when

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1 For an extensive list of cross-cultural and interlanguage speech act studies, including many using DCTs, see the webpage of the Center for Advanced Research on Language Acquisition: http://carla.umn.edu/speechacts/.

2 Strictly speaking, each scenario constitutes an individual Discourse Completion Task, which is perhaps why alternative terms have been proposed to refer to this data collection instrument, such as Discourse Completion Test or production questionnaire.

instructed to respond to hypothetical situations in written form. The spontaneity and authenticity of the responses are also likely to be affected by the length of the scenarios and the amount of detail to be processed.

In general, researchers agree that completing a written task involves different cognitive processes than speaking (Cohen and Olshtain 1994: 148). It requires participants to "recall pragmatic information from memory and report rather than use it" (Barron 2003: 85). One of the main arguments against DCTs has, therefore, been that the responses do not necessarily reflect what the speakers would say if they found themselves in the presented situations, but rather what they *think* they would say (Aston 1995: 62; Schneider 2011: 18). This, however, does not necessarily invalidate DCT findings, given that the aim of cross-cultural pragmatic studies is to establish general, culture-specific patterns of language use. Whether the participants would use exactly the same expressions once they found themselves in the described situations is not crucial as long as they regard their responses as socially and culturally appropriate.

3.1. Incorporating sociolinguistic variables

With the focus of cross-cultural and interlanguage pragmatic studies being on *pragmalinguistics* (the linguistic formulation of illocutions) as well as *sociopragmatics* (their contextual variation) (Leech 1983), DCT scenarios are designed to contain certain social variables. Correlating these variables with preferences for particular speech act features can establish how they impact on strategy choice and politeness marking (Barron 2003: 85, Schauer and Adolphs 2006: 131). In order to investigate their impact on speech act realisation, the variables under study are varied systematically and, ideally, those not examined are kept constant across scenarios.

The contextual variables that have been examined in cross-cultural and interlanguage pragmatic studies are mainly those proposed by Brown and Levinson ([1978]1987), i. e. social distance, social power and the degree of imposition; as well as sex and (rarely) age. Social distance and power define the relationship between two interlocutors. In the context of a DCT, the relationship is between the character (the hearer) described in a given scenario and the participant filling in the DCT (the speaker).

Social distance (D) has been defined as a symmetrical variable which indicates the degree of familiarity and frequency of interaction between two interlocutors. In DCT studies, this variable is generally represented on three levels: strangers (high D), acquaintances (medium D) and friends (low D). Social power (P), on the other hand, is an asymmetrical variable indicative of the degree to which a speaker can impose his or her will on their interlocutor. As with social distance, this allows for three constellations, with the interlocutors being either of equal status (S=H), the DCT character being more powerful than the participant (S<H) or vice versa (S>H).

Accordingly, a DCT consisting of eight scenarios could contain four situations featuring status equal interlocutors (S=H) who know each other well (low D), resulting in interactions between friends, and four situations combining high social distance (high D) with equal status, which is generally assumed between strangers (see Ogiermann 2009a: 83 for further discussion).

Assigning the same sex to all characters and keeping the degree of imposition constant across all scenarios can then render results showing the impact of social distance on speech act realisation, while distributing hearer sex symmetrically across the two types of scenarios (see table 1) can provide additional insights into how sex influences strategy choice. The more scenarios per category are included in the DCT, the more reliable the findings regarding the impact of social variables on strategy choice.

Table 1. Distribution of social variables across scenarios

	Social Distance	Social Power	Hearer Sex
Scenario 1	[low D]	[S=H]	Male
Scenario 2	[low D]	[S=H]	Male
Scenario 3	[low D]	[S=H]	Female
Scenario 4	[low D]	[S=H]	Female
Scenario 5	[high D]	[S=H]	Male
Scenario 6	[high D]	[S=H]	Male
Scenario 7	[high D]	[S=H]	Female
Scenario 8	[high D]	[S=H]	Female

While the identity of the characters and their relationship with the participant are described in the scenarios, information about the participants, such as their age and sex are usually among the biographic information elicited through the DCT, along with their native language. DCTs used in interlanguage studies also contain questions regarding the participants' proficiency in the tested L2. Demographic information on the participants can thus serve for further comparisons, for instance establishing differences between responses provided by male and female participants or across different proficiency levels.

The vast majority of subjects in DCT studies are university students, and in most studies they retain their identity when responding to the scenarios. This generally restricts the choice of scenarios to students' everyday life, though it also has the advantage of increasing comparability across studies. However, since the chosen situations need to be realistic, the power constellation (S>H) is under-researched; students do not often adopt powerful roles so few studies use scenarios where the described characters are of a lower status than the participants.

Some studies require the participants to adopt a range of different roles. For instance, in the CCSARP, the students were asked to act out the role of a professor, police officer, waiter and even characters of both sexes (Rintell and Mitchell 1989: 252). The extent to which students can actually reproduce the pragmatic features of these people's speech will vary, but generally they are likely to resort to stereotypes, which reduces the authenticity of the results. Ultimately, "if social roles were interchangeable and anybody could act like anybody else, there would be little need for sociolinguistic research" (Ogiermann 2009a: 77–78).

Another problematic aspect of DCT design is that although experimental data collection methods allow for controlled variation of contextual factors, in the end, all the situations are different and include additional factors influencing strategy choice. Clearly, the most reliable way of determining the variable responsible for the use of particular linguistic items would be by using different versions of the same scenario, varied by one variable only, for instance: apologising for stepping on a female stranger's, male stranger's, and a female friend's and a male friend's foot. This, however, would give away the design of the study and the responses could easily become mechanical.

Although this could be resolved by distributing the four scenarios over as many versions of the DCT, to be distributed to parallel groups of participants, this is not practiced in cross-cultural and interlanguage pragmatics. What makes such a design problematic is that the interactions we have with our interlocutors tend to reflect the kind of relationships we have with them. Apologies between strangers, for instance, are generally limited to space offences; and there are things that we would only request from people we are close with. Hence, although using the same scenario while varying one contextual variable would increase the comparability and reliability of the findings, it would also considerably restrict the range of situations that could be examined.

Furthermore, a careful analysis of responses to DCT scenarios shows that the sociolinguistic variables incorporated into them are often insufficient when it comes to interpreting the described context and that additional factors may impact on how participants respond as well. The impact of P and D[3] can be affected by other situational factors; interacting with one's boss in a professional setting will be different from talking to him or her privately. Formal settings will differ from informal ones, private from public ones, and even third parties present during an interaction could make a huge difference to how we express ourselves. The par-

[3] It has also been argued that the variables of social distance or power are too broad. For instance, it has been suggested that social distance is made up of affect/liking as well as familiarity (Slugoski and Turnbull 1988; Brown and Gilman 1989). Interacting with somebody who we know and like well will clearly be different from talking to somebody we know well but dislike.

ticipants are also likely to be guided by their interpretations of certain situations, based on their previous experiences in similar contexts.

Ultimately, it may not always be possible to fully determine which situational factors have brought about the use of a particular strategy or politeness formula. Therefore, DCT scenarios need to be carefully designed and subjected to thorough pilot testing before data can be collected – and analyses correlating particular sociolinguistic categories with strategy choice need to carefully examine the responses and look beyond the incorporated factors.

3.2. Choosing a DCT format

While all DCTs consist of a number of scenarios in response to which the participants are expected to produce different realisations of the speech act(s) under investigation, the exact format of the scenarios varies across studies. DCT scenarios can be open, simply presenting the participant with a situation (e. g. Beebe and Takahashi 1989; Ogiermann 2009a), often including a prompt or an initiating line of dialogue in direct speech (e. g. Bardovi-Harlig and Hartford 1993), or they can be closed, i. e. providing the hearer's response to the speech act to be elicited (e. g. Blum-Kulka 1982, Blum-Kulka 1989). Some researchers have used longer dialogues, with multiple slots to be filled in by the participant (e. g. Beebe, Takahashi, and Uliss-Weltz 1990), while others asked the participants to construct an entire dialogue between two speakers (e. g. Barron 2003; Schneider 2008).

Hence, DCT scenarios minimally consist of a description of a particular situation, such as:

> *Your flatmate is about to go to the grocer's and asks you if you need anything. You realise that you have run out of toothpaste.*
>
> ---

This scenario specifies the relationship between the speakers (flatmates: S=H, low D), describes the situation (flatmate goes shopping, participant needs toothpaste), and contains an offer inviting a request, i. e. the speech act under investigation. Adding a prompt, such as "What do you say?" can provide additional guidance on what is expected from the participants, e. g. reminding them that a *verbal* turn is required. The addition of "What do you say to her?", on the other hand, also specifies the hearer's sex.[4]

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[4] The character's sex can also be made explicit by including a pronoun in the description (e. g. "and she asks you"), though this is more likely to be overlooked than a pronoun at the end of the description. Some studies have also used first names (e. g. "your flatmate Fiona") to mark the sex of the hearer.

DCTs used across different studies tend to differ in terms of the explicitness of the instructions they provide. While some researchers prefer not to reveal the speech act under study, with merely instructing the participants to "react" (e. g. Ogiermann 2009a), others provide much more specific information. In Barron's study (2003: 90), for instance, the participants were explicitly told to produce a refusal. The rationale behind this was that Barron was interested in eliciting refusals to offers, and not making the focus explicit may have resulted in some participants accepting rather than refusing (see e. g. Gass and Houck 1996). Hence, more explicit instructions may be needed in studies aiming to elicit a specific type of a reactive speech act, e. g. a dispreferred rather than a preferred response.

Whether to make the aim of the study explicit or not is also often a decision between ensuring that sufficient instances of the studied speech act are elicited vs. keeping the data maximally authentic. Clearly, using prompts such as "How do you apologise?" or "How would you complain?" presumes that the participants would indeed want to apologise or complain in the described situations.

Those stressing the importance of authenticity insist that the responses should not be unnecessarily constrained, by allowing the participants to produce whatever response they see fit, including a non-verbal response, as well as to opt out (e. g. Eisenstein and Bodman 1986, see also Bonikowska 1988). Leaving it open for participants to opt out may require asking them to provide a reason for doing so, in order to be able to distinguish genuine instances of opting out from scenarios being left blank for other reasons. This information can generate valuable metapragmatic data, allowing additional insights into participants' politeness norms.

Guidance on how to respond can also be provided indirectly, by embedding the turn to be elicited in a dialogue. The use of direct speech following the scenario has the advantage of not only clarifying what is required, but also considerably reduces the risk of participants *describing* what they would say or do instead. In studies of rejections of advice (Bardovi-Harlig and Hartford 1993; Bardovi-Harlig 1999), for instance, the advice to be rejected was given in the form of an initiating turn by the rejection recipient:

> *Your advisor suggests that you take a course which you would rather not take because you think that it will be too difficult for you.*
> Advisor: *If you are registered in our program you must take Syntax.*
> You say:
>
> ---
>
> (Bardovi-Harlig 1999: 242)

The inclusion of conversational turns preceding the turn to be elicited helps prompt the targeted reactive speech act, but it may not be feasible if the speech act under study is an initiating one. On the other hand, not all reactive speech acts require a verbal first pair part (FPP). Apologies, for instance, may but do not have to be preceded by a (verbal) complaint. The complaint becomes superfluous when both

parties are aware of the offence and the offender recognises the need for an apology. More importantly, in many situations, a complaint would not only sound unnatural but may even make the offender less inclined to apologise (see Owen 1983: 51).

In the "classic" DCT used in the CCSARP, the scenarios were constrained even more, as they were followed by an initiating and a closing line of dialogue (also referred to as a *rejoinder*):

> *A student has borrowed a book from her teacher, which she promised to return today. When meeting her teacher, however, she realizes that she forgot to bring it along.*
> Teacher: *Miriam, I hope you brought the book I lent you.*
>
> Miriam: _____
>
> Teacher: *OK, but please remember it next week.*
>
> (Blum-Kulka, House and Kasper 1989: 14)

Since the final turn expresses agreement, indirectly accepting the apology to be elicited, it does not allow the participant to opt out or produce a different speech act. When the apology has been accepted "it seems logical that the speaker has previously offered an apology and/or assumed responsibility for the offense" (Rose 1992: 53). Hence, a design like the one used in the CCSARP can produce findings on how people apologise in different languages but not whether they do or do not apologise in comparable situations.

Some DCT studies have expanded the dialogue even further, by including several turns requiring the respondents to provide two answers. This design is more likely to be used for the elicitation of speech acts that tend to evolve over several turns. Invitations or offers, for instance, when rejected, may be reiterated to provide the hearer with another opportunity to accept. The DCT used in Beebe, Takahashi and Uliss-Weltz's study of offer refusals (1990), for instance, consisted of a four turn dialogue, with two offers and two slots made available for refusals.

> *You are at a friend's house for lunch.*
> Friend: *How about another piece of cake?*
> You: _____
> _____
>
> Friend: *Come on, just a little piece?*
> You: _____
> _____
>
> (Beebe, Takahashi and Uliss-Weltz 1990: 71)

This design requires the participants to produce at least one refusal, not leaving them the choice to accept in the first turn. While the second turn could result in acceptance of the offer, a study focusing on refusals is likely to explicitly instruct the participants to refuse the second offer as well.

While providing an extended dialogue as the one above acknowledges the interactive character of speech acts such as refusals, this design does not necessarily

allow for a cross-linguistic comparison of their sequential organisation. Previous research has shown that the number of turns involved in accepting an offer is highly culture-specific and can range from prompt acceptance, e. g. in north European contexts, to extended rituals of rejecting and re-offering, in particular in Arabic-speaking contexts (see e. g. Grainger, Kerkam, Mansor and Mills 2015). A DCT scenario with two offer turns, therefore, while having the advantage of eliciting two instances of refusing, is unable to capture the most salient culture-specific feature of offer-refusal sequences, namely their length and the amount of negotiation required to make an acceptance acceptable in a particular socio-cultural context.

The constraints imposed by the format used by Beebe, Takahashi and Uliss-Weltz have led Barron (2003) to develop an alternative format, the so-called Free Discourse Completion Task (FDCT), which "requires respondents to write both sides of an open role play" (2003: 90). In Barron's study both offers and refusals were elicited by providing a blank space of eight centimetres and asking the participants to write as much as they deemed necessary (within the space provided). This format then captures the sequential organisation of offers and refusals as it requires the participants "to interact with an imaginary interlocutor until an appropriate compromise is found" (2003: 91).

Schneider (2008, 2011) adopts a similar approach in that his Dialogue Production Task (DPT) requires respondents to adopt the role of both interactants. His work lies within variational pragmatics and the DPT has been employed to compare the ways in which Irish, English and American speakers engage in small talk when meeting a stranger at a party. One of the examples he provides runs as follows:

1 A: This party is real cool, don't you think?
2 B: Yeah, it rocks!
3 C: What's your name?
4 B: I'm called Joan, what's yours?
5 A: I'm Dorothy, but you can call me Dotty.
6 B: Anyway I'll maybe see you later.
7 A: Bye.

(Schneider 2008: 108)

This design, as well as the choice of a longer, more flexible and yet highly recurrent interactional unit, allows Schneider to demonstrate that while speakers of all varieties of English resort to the same range of moves, there are systematic differences in the order in which they appear.

However, while the DPT has the advantage of capturing the sequential properties of speech acts and eliciting schematic knowledge about entire speech events, it moves away from the concept of a discourse *completion* task. As Schneider (2011) himself states, the creation of dialogues is comparable to (and requires the skills necessary for!) playwriting. It seems, therefore, that the high language proficiency

required to perform such tasks makes this instrument unsuitable for most interlanguage pragmatic studies.

And while the DPT comes closer to capturing the ways in which naturally occurring conversations evolve than does a DCT, it requires imagining several turns in advance, while turns in naturally occurring conversations evolve locally, with speakers re-assessing the context at every turn and adjusting their responses accordingly.

The above overview has illustrated that the different DCT formats that have been used in cross-cultural, interlanguage and variational pragmatics reflect the needs of the particular studies employing them. The choice of the most suitable format will depend on the type of speech act under investigation; whether it is an initiating (e. g. request) or a reactive speech act (e. g. refusal), whether it is formulaic (e. g. thanking) or involves a wide range of formulations (e. g. complaint), and whether it is generally performed in one turn (e. g. apology) or likely to be negotiated over several turns (e. g. offer-refusal sequences).

Those who place emphasis on eliciting spontaneous, maximally authentic responses will prefer vague instructions asking for people's reactions, whatever they are. They will also prefer open-ended scenarios over closed ones, given that closing turns create an artificial setting which provides responses to turns that have not yet been produced. They are also more likely to require the informants to react to the scenarios as they would, rather than adopting different roles, so as to elicit responses reflecting their politeness norms.

However, while this flexibility helps increase the authenticity of the data, it inadvertently reduces its comparability. Among the elicited responses, there may be other speech acts, instances of description of non-verbal behaviour and opting out. Keeping the instructions explicit and restricting the respondents' choices, on the other hand, not only produces more instances of the desired speech act, but has also been shown to facilitate the task for learners (e. g. Bardovi-Harlig and Hartford 1993). Hence, more structured DCTs may be the better option for interlanguage pragmatic studies. In fact, there is an extensive pool of literature comparing different types of DCTs and DCTs with other data elicitation instruments, which shows that non-native speakers' responses tend to be more affected by the different elicitation methods than native ones.

4. Methodological comparisons

4.1. Studies comparing different types of DCTs and DCTs with other elicitation methods

Research revealing that the different DCT formats used in cross-cultural and interlanguage pragmatics affect the findings has triggered an abundance of publications

comparing different DCT formats, as well as DCTs with other elicitation methods, such as oral role plays or multiple choice questionnaires.

Overall, the studies report a similar use of speech act strategies and mitigation across the methods, though differences have been found in length (with open formats generally eliciting longer responses), level of directness and the range of strategies. Comparisons of different DCT formats include Rose's (1992) study, which compares requests elicited with an open DCT with those elicited by means of a DCT with a hearer response, and Bardovi-Harlig and Hartford's study (1993), which compares DCTs with and without an initiating line of dialogue used to elicit rejections of advice.

While Rose found that both formats elicited very similar results (in terms of the choice of strategies and level of directness), the only difference being that the open format produced longer responses, the differences established by Bardovi-Harlig and Hartford were more striking. The DCT with an initiating turn of dialogue not only elicited longer responses, but they also contained more oral features – and the initiating turn seemed to facilitate the task for non-native participants (see also Rintell and Mitchell 1989, and Johnston, Kasper and Ross 1998). A crucial difference between these two studies, however, is that the former examines an initiating speech act, where the provided second pair part (SPP) confirms that it has been successful, whereas the latter looks at a reactive speech act, where the provision of the FPP helps contextualise the refusal to be elicited.

The impact of this difference has also been confirmed by Johnston, Kasper and Ross (1998), who compared the realisations of complaints, requests and apologies in three different DCT formats: open-ended, including a preferred, and a dispreferred SPP. Not surprisingly, they found that apologies "were most strongly affected by rejoinder type" (1998: 170), with a dispreferred uptake eliciting responses downgrading the offence.

Rose's later study (1994) compared Japanese speakers' use and perception of requests, using open-ended DCTs and multiple choice questionnaires (MCQ). It showed that the DCT responses were more direct than the MCQ responses, where the participants chose opting out and hinting more often. This led Rose to suggest that the DCT may not be suitable for studying speech acts in non-Western contexts. The results were confirmed in a follow-up study (Rose and Ono 1995), which also showed a reverse trend for speakers of American English, who were less direct on the DCT and more direct on the MCQ.

Hinkel (1997) conducted a similar comparison between advice elicited via DCTs and MCQs from American native speakers and Chinese speakers of English. Her results, however, are diametrically opposed to those established by Rose and Ono as she found her non-native speakers to be more direct in the MCQ than on the DCT; and the native speakers to be more direct on the DCT than the MCQ.

Comparisons between DCTs and oral role plays (Rintell and Mitchell 1989; Sasaki 1998, Yuan 2001; Félix-Brasdefer 2008, this volume), on the other hand,

all show that both instruments elicit similar expressions, but that oral responses tend to be longer and to contain a wider range of speech act strategies. Not surprisingly, oral role play responses have also been found to contain more features of spoken language. Written requests have been found to be more direct (Rintell and Mitchell 1989) while written refusals turned out to be more polite than oral ones (Félix-Brasdefer 2008, this volume).

On the whole, these methodological studies confirm that the choice and design of a DCT need to be adjusted to both the speech act and the groups of speakers under study. While this research has shown that written DCT responses are overall very similar to their oral counterparts, the comparisons with MCQs need to be treated with caution, given that MCQs test the perception and not production of speech acts.

4.2. Studies comparing DCTs with naturally occurring data

Cross-cultural and interlanguage studies based on DCT data work on the assumption that DCTs elicit spoken language "indirectly through the written mode" (Sasaki 1998: 458); and while it is simply not possible for elicited, written responses to fully resemble naturally occurring talk, it has been shown that DCT data "accurately reflect the content expressed in natural speech" (Beebe and Cummings 1996: 75).

While there is no doubt that language use is best studied by analysing actual speech, it is also evident that the large quantities of comparable speech act data that can be obtained by means of a DCT could never be derived from recordings of naturally occurring data. It has been argued that "with exception of highly routinised and standardized speech events, sufficient instances of cross-linguistically and cross-culturally comparable data are difficult to collect through observation of authentic conversation" (Kasper and Dahl 1991: 245).

Studies comparing DCT responses with naturally occurring data are different from the methodological comparisons discussed above, since they are contrasting two types of data typically used in different disciplines and for different purposes. Most of these studies build on the authors' previous research based on naturally occurring data. Collecting some additional DCT data related to the original project enables the researchers to conduct a methodological comparison. These comparisons tend to focus on features of natural data that are missing in the DCT data, thus illustrating the shortcomings of DCTs and their limited potential to represent naturally occurring conversations.

Although the main strength of the DCT is the amount of contextually varied data it can generate, these studies use relatively low numbers of participants and most of them only one DCT scenario in their comparisons. Hartford and Bardovi-Harlig (1992), for instance, compared rejections produced during 39 academic advising sessions with rejections elicited via a DCT, which was distributed to 24 participants (13 native and 11 non-native speakers). Golato (2003), on the

other hand, used the naturally occurring compliment sequences collected for her PhD thesis (2005) to design a DCT, allowing her to compare DCT compliment responses to spoken ones. The 50 tokens of compliment responses identified in 31 hours of recordings were contrasted with 20 DCTs.

Beebe and Cummings's study (1996) compared request refusals produced during eleven phone calls to an equal number of DCT responses. Similarly, Maíz-Arévalo (2015) collected disagreements from students engaging in an online group work assignment and derived one DCT scenario from this data. The 10 participants who responded to it produced 15 instances of disagreements.

While other researchers involved higher numbers of participants, they still asked them to respond to only one scenario taken over from their naturally occurring data. Bou Franch and Lorenzo-Dus (2008), for instance, collected 60 student email requests directed at lecturers (30 in Spanish and 30 in English) and picked one of the recurrent requests to create a DCT scenario to which then 58 Spanish and 58 British speakers responded. Similarly, Economidou-Kogetsidis (2013) used requests for information received by a flight reservation centre to construct a DCT scenario which was then distributed to 86 people.

The most comprehensive study comparing relatively large amounts of DCT data to other types of speech act data is Turnbull's (2001) methodological comparison of request refusals derived from both written and oral DCTs, role plays, experiments, and naturally-occurring data. While the naturally occurring refusals were produced during 113 phone calls, the DCTs were distributed to 80 students. The telephone numbers used for the phone calls were provided by research assistants who obtained them from students who had expressed a general interest in participating in an experiment. The students whose refusals were used in Turnbull's study were, therefore, strictly speaking not aware of the study they were taking part in – and they were only informed retrospectively that they had been recorded.

Turnbull propagates the use of pragmatic elicitation techniques that generate data "in situations in which researchers can manipulate variables in the testing of hypotheses and speakers can talk freely and spontaneously without awareness that their talk is the object of study" (2001: 31). However, while his phone call data come close to fulfilling all these criteria, the procedure employed was not fully ethical, and while it has worked in the context of request refusals, it is difficult to see how it could be used to elicit other speech acts.

On the whole, the above discussed studies have confirmed that DCTs and naturally occurring data contain similar semantic formulae (e. g. Eisenstein and Bodman 1993; Beebe and Cummings 1996; Economidou-Kogetsidis 2013). DCT responses were found to be longer (Golato 2005) or shorter (Beebe and Cummings 1996), depending on the speech act under study. In some studies they were more formulaic (Golato 2005; Maíz-Arévalo 2015), in others more direct and less polite (Hartford and Bardovi-Harlig 1992), and in yet others the two types of data were similar in terms of directness and lexical modification (Economidou-Kogetsidis 2013).

In comparison to e-mail messages, DCT requests were described as bare (Bou Franch and Lorenzo-Dus 2008: 261) because they lacked the opening and closing sequences found in emails; though this was perhaps to be expected since the DCT scenario did not request the respondents to write an email, instead eliciting face-to-face requests. Some researchers found a smaller range of linguistic expressions in the DCT data (e. g. Hartford and Bardovi-Harlig 1992; Maíz-Arévalo 2015). However, since the numbers of DCT responses collected in these studies were rather low and the scenarios chosen for the DCT represented only a subset of the contexts found in the natural data, it is not surprising that the DCT responses contained a narrower range of linguistic formulae.

The main shortcoming repeatedly reported in relation to DCT data is that they lack the interactional and prosodic features found in naturally occurring conversations. Admittedly, written data cannot convey prosodic (e. g. pitch, intonation) or kinesic (e. g. gesture, facial expressions, posture) features, which can be crucial to the interpretation of the responses. It has been argued that only when working with video-recorded data "every element of the interaction (hesitation, laughter, silences, eye-contact, and body-movements) may be incorporated in the analysis" (Golato 2003: 111).

The type of analysis described by Golato is conducted predominantly in the discipline of Conversation Analysis, which takes a qualitative approach and examines relatively small amounts of data in great detail. Cross-cultural pragmatics, on the other hand, takes a quantitative approach and analyses large amounts of data in the search of general patterns.

Likewise, that a written data collection method designed to elicit one-turn-responses lacks interactive features (but see the DPT) should not come as a surprise. Bardovi-Harlig and Hartford's comparison of recordings of advising sessions and DCT data on rejections has led them to conclude that DCTs do not "promote the turn-taking and negotiation strategies found in natural conversations" (1992: 47). DCTs have been declared to "obscure the sequential and co-constructed nature of talk" (Turnbull 2001: 35) and to be inappropriate for studies of "interactional rules and patterns of actual language use" (Golato 2003: 110).

Cross-cultural and interlanguage pragmatic studies, however, do not study interactional rules. Speech act studies, even if they are based on interactional data, "isolate the focal speech act from its interactional environment, submit its linguistic design to scrutiny, and relate the identified meaning and form conventions to discourse-external context factors" (Kasper 2004: 125).

What also needs to be considered is that speech acts differ in the extent to which they are likely to be performed over several conversational turns; which makes the DCT suitable for studying some speech acts more than others. Refusals, for instance, have been shown to consist of "multi-turn responses involving negotiation, hedging and even reversal" (Houck and Gass 1996: 47). Compliments, in contrast, are "most frequently packaged as single-turn utterances with a simple,

short, highly formulaic structure" (Kasper 2000: 319), and apologies "constitute a complete segment of a speech event" (Coulmas 1981: 86).

As the above discussion has shown, research comparing DCTs with naturally occurring data tends to be biased towards the latter by stressing the disadvantages of DCTs and leaving their strengths unmentioned. What is generally taken for granted is that the DCT has been developed to generate large amounts of comparable data allowing for generalisations about speech act realisation patterns across groups – something that could not be accomplished with the naturally occurring data discussed.

While DCTs can elicit any speech act across a wide range of contexts, their frequency and predictability in naturally occurring talk varies greatly, which is why speech act studies based on recordings of authentic conversations tend to be restricted to a particular situation in which the speech act under investigation is likely to recur. Aston's contrastive study of thanking in English and Italian (1995), for instance, is based on data collected during service encounters, with his insights into the speech act of thanking being restricted to this very specific setting. He admits that because of "their lack of situational variation" recordings of natural conversations appear "excessively restricted and routine" (Aston 1995: 64) in comparison to experimentally elicited data.

While CA studies examine the sequential organisation of talk, including that of speech acts, as, for instance, Robinson's (2004) work on apologies, the focus has overwhelmingly been on the structural properties of "responses" to speech acts, such as compliment responses (Pomerantz 1978) or agreements and disagreements with assessments (Pomerantz 1984). An interest in the linguistic forms used to implement speech acts only developed in the late 2000s (with the notable exception of Wootton 1981, 1997), which saw the publication of numerous CA studies on requests in both institutional and everyday settings. The fact that the vast majority of these studies focus on requests reflects the ubiquitous and recurrent nature of this speech act. The available CA research covers a wide range of languages, such as Swedish (Lindström 2005), Danish (Heinemann 2006), British English (Curl and Drew 2008; Craven and Potter 2010; Antaki and Kent 2012), American English (Mandelbaum 2014), Italian (Rossi 2012) and Polish (Zinken and Ogiermann 2013). While most of them contrast the use of two request forms in the analysed settings, cross-linguistic CA speech act studies are exceedingly rare (but see Zinken and Ogiermann 2013).

What does seem to emerge from these studies, however, is that in comparison to research on requests conducted in cross-cultural pragmatics, the requests analysed in CA studies exhibit an overall higher level of directness than the requests elicited by means of DCTs, which show a very strong preference for conventional indirectness across all languages examined. This is, however, likely to be related to the types of requests examined in the two disciplines, with many of the CA request studies looking at low imposition requests for immediate actions, such as requests

for objects to be passed at the dinner table, or produced during collaborative activities where the outcome benefits the speaker and the hearer alike. DCT scenarios, on the other hand, almost exclusively depict requests solely benefiting the speaker and requesting favours that lie in the future.

5. Discussion and conclusions

As the above discussion has shown, the DCT has not only been extensively applied to the study of a wide range of speech acts in numerous languages, it has also been subject to scrutiny, variation, comparison with other methods, and ample criticism.

The comparisons between different data elicitation methods are largely inconclusive, with the results varying according to the speech act examined as well as the participants' linguistic backgrounds and proficiency levels. There does seem to be a general agreement, however, that DCT responses do contain a similar range of linguistic expressions to those found in other types of data. With the focus in cross-cultural and interlanguage pragmatics being on patterns of speech act realisation, the ability to elicit such realisations is the main criterion in choosing a data collection method. The DCT not only provides this, but also fulfils these disciplines' requirement for large amounts of contextually varied and comparative data – as no other data collection instrument does.

Even though DCT responses may differ from actual language performance, they represent "a participant's accumulated experience within a given setting" (Golato 2003: 92), and it has been argued that "it is precisely this more stereotyped aspect of speech behavior that we need for cross-cultural comparability" (Blum-Kulka 1989: 13). It is by "abstracting away the uncontrollable accidentalities and often inaccessible idiosyncrasies of actual performance" (Schneider 2011: 30) that the data become maximally comparable. Importantly, cross-cultural and interlanguage pragmatic studies do not study prosodic features, non-verbal or sequential properties of speech acts; and research that does would never use DCT data.

What has perhaps negatively affected these two fields of enquiry is the perceived ease with which DCT data can be collected and analysed, resulting in a large body of "quick" studies which often do not go beyond quantifying and comparing speech act strategies. Designing a robust DCT is a laborious and time-consuming process. In order to generate valid and reliable findings, the construction process should start with observations of real-life interactions (see e. g. Eisenstein and Bodman 1993), also ensuring that they are likely to occur in all languages examined, and extensive pilot testing, ensuring that the incorporated variables have the desired impact.

The potential of the DCT to assemble large corpora of speech act data should be fully exploited, so that the results are indeed representative and generalisable. The quantitative analysis should ideally be backed up by statistical testing (see Ogiermann and Saßenroth (2012) for an overview of statistical tests used in contrastive

pragmatics), and complemented with qualitative analysis and careful interpretation of the findings within the relevant theoretical framework.

What complicates things is that the theoretical frameworks underlying cross-cultural and interlanguage pragmatic studies have also met with ample criticism over the last few decades. Speech act theory as well as politeness theory have both been criticised for equating linguistic expressions with functions and overemphasising the role of the speaker. Separating the analysed speech acts from their sequential context (or placing them in a reduced context created within a DCT) means that the analysis cannot take into account the hearers' uptake, thus relying solely on the linguistic content produced by the speaker. While this is untenable from a CA perspective, where meaning is validated by the following turn, recent politeness research has also moved away from equating linguistic structures with politeness (e. g. Watts 2003). Politeness is increasingly viewed as something that is co-constructed and negotiable, with the focus shifting towards the hearer's evaluations of im/politeness. However, despite all the criticism directed at Brown and Levinson's theory and cross-cultural speech act research in recent years, no new framework suitable for a cross-cultural comparison has been proposed thus far.

Ultimately, one could argue that if hundreds. of speakers agree on using a particular speech act formulation in a particular context, this formulation is likely to be perceived as appropriate by these and other speakers of a language. And if hundreds of speakers of another language prefer a different strategy in the same context, then cross-cultural pragmatic differences have been established. The DCT cannot capture all aspects of spoken language, but it does provide valuable data on some of them. As long as we are aware what it can and cannot provide, and of other methods that enable us to analyse other aspects of interaction, and as long as those methods cannot provide us with large amounts of contextually varied, comparable data, the DCT has its place in pragmatic research.

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10. Assessing the comprehension of pragmatic language: Sentence judgment tasks

Alma Veenstra and Napoleon Katsos

Abstract: Researchers have used several different types of comprehension tasks to investigate how listeners interpret language pragmatically. This chapter focuses on sentence judgment tasks in which participants typically judge utterances of other speakers on a binary scale, e. g. for correctness/incorrectness or appropriateness/inappropriateness. Using examples from the scalar implicature literature, we argue that these sentence judgment tasks should be used with caution. In binary judgment paradigms, where participants are asked to make a judgment as to whether a sentence is correct/incorrect, the acceptance of pragmatically incorrect sentences has often led researchers to conclude that the participant has not yet acquired the pragmatic phenomenon under investigation. A growing number of studies, however, suggest that these speakers, when tested with other paradigms, actually are competent in pragmatics. We explain why the experimental investigation of pragmatic phenomena is particularly sensitive to the type of task chosen, and we conclude this chapter with an overview of alternative comprehension tasks that are less likely to underestimate the performance of participants.

1. Introduction: Eliciting data about meaning

A widely held idea in the study of semantics and pragmatics is that the meaning of a sentence can be described (at least in part) in terms of its truth-conditions (see Davidson 1967; Dummett 1959). In this view, a good starting point for obtaining empirical data for a theory of meaning in natural languages is the speaker's intuitive understanding of the conditions under which a sentence is true. When it comes to quantifying and comparing intuitions about the truth-conditions of different kinds of sentences (or of the same sentence in different conditions), a seemingly straightforward method is to elicit judgments of truth and falsity from a number of speakers using comprehension tasks. The field of language acquisition, language processing, and experimental research in linguistics in general, abounds with variations of such tasks. In its most simple, and most frequent, form, the one we called here *Sentence Judgment Task*, this involves the presentation of a sentence (either in spoken or written form) and a situation of evaluation which is usually depicted pictorially (though of course the situation can be presented orally as well). The participant is then asked for a binary judgment on the sentence's truth or falsity for the situation. Among many other phenomena, sentence judgment tasks (hence-

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forth *SJT*s) have been used to study quantifier meaning (Smith 1980), quantifier scope ambiguities (Lidz and Musolino 2000), presupposition projection (Chemla and Bott 2013), speech acts (Gibbs 1994), figures of speech (Glucksberg 2003) and implicature (Noveck 2001).

In the last fifteen years, the study of implicature, and in particular of scalar implicature, has enjoyed increasing and sustained focus as a paradigmatic case of the interaction of semantic and pragmatic meaning. In this chapter, our focus on implicature is from a methodological perspective, with the aim to scrutinize the felicity of SJTs as a suitable paradigm for the study of pragmatic meaning. The chapter is structured as follows: first, we will introduce the phenomenon in broad terms and hint at (but not explore) the theoretical debates surrounding the mechanism and nature of implicature. Second, we will review how SJTs have been used to study the acquisition and processing of implicature. Next, we will outline in what respects the binary version of SJTs can be misleading as regards a participant's competence with implicature. To spill the proverbial beans, participants may deem that while the situation they are presented with is not compatible with the implicature they have drawn, this violation may not be grave enough to warrant the down-right rejection of the sentence in a binary sentence judgment task. In this respect, participants in sentence judgment tasks are asked to take part in a meta-linguistic judgment, which evaluates their tolerance towards pragmatic violations, in addition to their actual comprehension of pragmatic meaning. While the object of theoretical inquiry is the latter, namely what a participant understood, SJTs mostly reveal the former, namely the participant's disposition towards what they understood. In the final section we will review several other paradigms of comprehension tasks that do not face this challenge. We will also acknowledge the conditions under which using a SJT would still be felicitous. Our take-home message is a call for a nuanced understanding of what comprehension tasks can and cannot reveal, and that extra care should be given to the choice of tasks to minimize (or at least acknowledge) the meta-linguistic component of SJTs.

2. Quantity implicatures

In Gricean pragmatics, the first sub-maxim of Quantity, "make your contribution as informative as is required (for the current purposes of the exchange)" (Grice 1989: 26), is expected to guide speakers and addressees to communicate and infer a broad class of inferences. These inferences include scalar implicatures (*SI*s), which are related to scales whose terms differ in informativeness, such as <some, all>, as in (1) below.

(1) A: Did you eat the cake?
B: I ate some of it. (=> not all of it)

In (1), the use of an informationally weaker term, *some*, implies that the speaker cannot make a statement with the stronger term, *all*. Assuming that it was relevant to do so, if she could, and that she was in position to know if the statement with *all* was true (which is intuitive in this mock example), then the speaker can be taken to communicate that she did not eat all of it. Scalar implicatures involve expressions that can form a scale of entailment which could be evoked without any context, such as the quantifier scale mentioned already, modal scales <might, must>, disjunction <or, and>, verbs of affection <like, love> among many others. However, scalar implicatures are but special cases of a larger set of inferences that are based on the Quantity maxim. Let us take the following conversation where a bride is talking to her former boss and lover, Bill, about her fiancée, Tommy:

(2) The Bride: Have you seen Tommy?
Bill: Big guy in the tux?
The Bride: Yes.
Bill: Then I saw him. I like his hair.
The Bride: You promised you'd be nice!
(Kill Bill, Volume 2; script by Quentin Tarantino;
Uma Thurman as the Bride; David Carradine as Bill)

And let us further assume that the following inferences can be drawn from Bill's last utterance:

(3) a. Bill doesn't love, adore, or worship Tommy's hair.
b. Bill doesn't like anything else about Tommy besides his hair.

While (3a) involves the cancellation of the stronger scalar alternatives of *like* in a scale like the following, <like, love, adore, worship …>, the inference in (3b) relies on alternatives that are harder to pin down. An entailment scale for (3b) could consist of sets of things that one can like about a prospective groom, <{hair}, {personality}, {…}, {hair, personality}, {hair, personality, …}, …>. Alternatively, the scale for (3b) could involve a person's characteristics, ranked in terms of noteworthiness, e. g. <hair, …, overall physical appearance, …, personality …>. There is not an entailment relation between the terms of such a scale, but we can still see how the terms could be ranked according to this (subjective) criterion. Whichever way the scale is formed, in both (3a) and (3b), the reasoning that derives the inference goes somewhat like this: the interlocutors are interested in establishing what Bill thinks of Tommy. Hence any information to that effect is relevant to the topic of the conversation. Now, the speaker said "I like [Tommy's] hair". If the speaker wanted to say something more informative than what he said, he would have done so. If we assume that he is cooperative and that he knows what he is talking about, then the fact that he did not say anything more implies that he did not want to. In plain terms, the fact that Bill only said that he *liked* Tommy's hair implies that he does not feel any stronger towards it, and the fact that Bill only said that he liked Tommy's *hair* implies that he does not like anything else about Tommy. This,

arguably, justifies the Bride's reproach. While the first inference is considered a scalar implicature on the grounds that there exists a context-independent scale of alternatives for verbs of affection, the second inference is substantially dependent on the context of conversation. Notwithstanding this difference, both inferences are considered implicatures, and more precisely *quantity implicatures*, as they rely on the maxim of Quantity.

The precise mechanism by which quantity implicatures are generated has been the subject of much linguistic debate (Carston 1998; Chierchia 2004; Hirschberg 1991; Horn 1984; Geurts 2010; Levinson 2000; Sauerland 2004; Sperber and Wilson [1986] 1995; among others) and corresponding psycholinguistic investigations (Bott, Bailey, and Grodner 2012; Bott and Noveck 2004; Breheny, Katsos, and Williams 2006; De Neys and Schaeken 2007; Dieussaert, Verkerk, Gillard, and Schaeken 2011; Feeney et al. 2004; Grodner, Klein, Carbary, and Tanenhaus 2010; Huang and Snedeker 2009; Noveck and Posada 2003; Panizza, Chierchia, and Clifton Jr. 2009; among others).

From a linguistic perspective, the questions that arise concern whether these inferences are generated post-propositionally, that is after the truth-conditions of the sentence have been computed, or sub-propositionally, and whether there is a substantial distinction between generalized conversational distinctions, which according to Horn (1984) seem to be available unless the specific context of the conversation cancels them (this would be the case for (1) and (3a)), and particularized conversational implicatures, which are available only if the specific context of conversation supports them (this would be the case of (3b)).

These considerations have led to two broad classes of psycholinguistic accounts. *Contextual accounts* propose that participants only infer SIs when certain contextual conditions are met, such as that the inference would be relevant, that the speaker is cooperative, and that the speaker would be in a position to assert the more informative proposition with *all* if it were true. Because these conditions are not necessary in order to access the plain meaning of *some* (= at least one and possibly even all), contextual models often assume that additional processing costs are incurred when an interpretation with an SI is generated compared to an interpretation without an SI (e. g. see Bott et al. 2012). *Default accounts* on the other hand predict that SIs are the preferred interpretation of words like *some*, and that SIs are not generated by standard pragmatic mechanisms. Instead, SIs are relatively context-independent inferences, and additional costs are incurred whenever the SI is not generated (if it transpires that some of the contextual conditions were not met). In these cases, the preferred interpretation with the SI which was generated by default will be cancelled, leading to processing costs associated with backtracking and re-analysis. From a child language acquisition perspective, these two issues arise in terms of the age at which children acquire the ability to infer scalar and other quantity implicatures, and the contextual conditions in which they do so (see Katsos 2014, for an overview).

3. Sentence judgment tasks and the study of implicature

As mentioned in the introduction, a method that is very commonly used to study the pragmatic inferences that participants make is the comprehension task. In its most common form, the sentence judgment task, or *SJT*, involves the participants hearing or reading a sentence which is intended to be a description of a situation that they are presented with (visually, as a picture, or in a narrative). The participants are then asked to make a judgment on the felicity of the sentence as a description of that situation, e. g. they may be asked if the sentence was "true" or "false", or if it was "correct" or "incorrect", or if they "agree" or "disagree". The comprehension task is designed in such a way as to elicit one kind of response if the participant does make the pragmatic inference that is associated with the sentence they were presented with, and to give another kind of response if the participant does not make the inference.

When it comes to implicature, the most prolific strand of research has tested the debate outlined in section 2 using SJTs where underinformative statements are presented in order to elicit participants' judgments. For example, Noveck and Posada (2003) asked participants to perform a timed binary judgment task on sentences such as (4).

(4) Some elephants have trunks.

This sentence is pragmatically infelicitous, given that all elephants (stereotypically), have trunks. Noveck and Posada (2003) argued that rejection of (4) would indicate the generation of the scalar implicature *some but not all*, whereas acceptance of (4) would indicate an interpretation without the SI. Consequently, by comparing rejection and acceptance times, Noveck and Posada were able to compare interpretations with and without the SI respectively, and documented significantly longer response times for rejection. This supports the contextual model, which predicted a slow SI derivation. To further test these two models, Bott and Noveck (2004) controlled for response type (acceptance or rejection), and also documented a preference for SI responses when the permitted response time was increased. They also reported that SI responses incurred a processing cost relative to responses to semantically true or false control utterances.

SJTs have also been used in language acquisition research. In a paradigm that kick-started much of the developmental research on implicature, Noveck (2001, Experiment 3, 179–183) presented 8- and 10-year-old children and adults with de-contextualized underinformative utterances, such as *some giraffes have long necks* or *some cars have motors*. They found that while adults rejected these utterances at rates around 40 %, 8- and 10-year-old children overwhelmingly accepted them. It is critical to note that neither children nor adults had substantial difficulties accepting or rejecting patently true or patently false sentences, indicating that the difficulty was specifically to do with the pragmatically infelicitous sentences. It

is important to note that the purpose of the studies reported in Noveck (2001) was not to investigate the youngest age at which children can generate implicatures, but rather to highlight quantity implicature as a systematically challenging kind of inference for children (and adults), using a range of paradigms and a range of expressions.

A number of studies have since focused on when and under what conditions children derive quantity implicatures. In most subsequent work, the context of evaluation is not the world at large (as is the case with the de-contextualized sentences in Noveck 2001, Experiment 3) but rather a more strictly delineated situation, usually by visual depiction. Papafragou and Musolino (2003) among others, again using a binary SJT, studied 5-year-old children's performance on quantified, numerical, and aspectual scales, and found that children often accepted underinformative statements. Training and explicit instruction improved the children's performance, increasing the success on the numerical scales to a near-ceiling, 90%. Feeney et al. (2004) found that manipulation of the relevance of the implicature also enhances rejections of underinformative utterances, finding higher rejection rates in 7-year-olds than those reported in Noveck (2001, Experiment 3) for 10-year-olds. Guasti et al. (2005) studied children's pragmatic competence in a binary SJT setting by adapting Papafragou and Musolino's training and explicit instructions. They found that the performance of 7-year-olds did improve, but this effect did not persist over a longer period of time. Barner, Brooks and Bale (2011), Foppolo, Guasti and Chierchia (2012), Papafragou and Tantalou (2004), and Skordos and Papafragou (2016) shed more light on the discourse, task and scale-related conditions under which SIs are generated, which go beyond the scope of the present chapter.

Overall, the developmental trajectory of competence in informativeness can be understood as one in which children initially interpret sentences in the literal, semantic interpretation, with the pragmatic interpretation, the implicature, being acquired later on. These studies all base their conclusions on the assumption that the children who accept underinformative sentences in the SJT do not have the competence to draw an implicature. But 5-year-old children's difficulties with deriving implicatures are surprising given their competence with many of the preconditions for pragmatic inferencing at an age as young as two years. For example, much younger children, 2- and 3-year-olds, can track their interlocutors' attention, epistemic state and cooperativity as well as the common ground for the on-going communicative interaction (Baldwin 1993; Behne, Carpenter, and Tomasello 2005; Grassmann, Stracke, and Tomasello 2009; Liebal et al. 2009; Southgate, Chevallier, and Csibra 2010; Tomasello 1992).

Moreover, in the well-known case of excluding already-labelled referents in novel word learning, 2-year-old children succeed with a form of related counterfactual reasoning (Clark 1987, 1988; Grassmann et al. 2009; Markman 1989, 1990; Markman and Wachtel, 1988). Specifically, they can reason that had their interloc-

utor wished to refer to an object whose label is known, he or she would have used the known label. Hence, the fact that it was not used, suggests that the object being referred to has not yet been labelled.

Likewise, studies by Wynn (1992) and by Barner and colleagues (Barner and Bachrach, 2010; Barner et al., 2009) show that children as young as two years of age can compute exclusion inferences based on numerals: in a forced choice picture selection task, children who only know the meaning of *one* and are shown two sets of one and four items, pick the set of four when asked to "point to four". These inferences are very similar in form to quantity implicatures.

Additionally, another study demonstrated 3-year-old children's skills in drawing relevance inferences (Schulze, Grassmann, and Tomasello 2013). In that study, an adult answers a closed question (e. g. "Would you like cornflakes or a roll for breakfast?") with a seemingly irrelevant utterance (e. g. "The milk is gone"). Only by inferring the adult's intentions in the situational context can the child conclude that the adult would prefer the roll. Moreover, even 18-month-old children have been shown to make relevance inference in indirect nonverbal communication (Schulze and Tomasello, 2015).

Why, therefore, would quantity implicature generally, and scalar implicature more specifically, be especially difficult for 5-year-old, let alone 7- or 10-year-old children? In this chapter we will not attempt to give a comprehensive answer to this question, but see Katsos and Wilson (forthcoming) who assume that there is no single answer but rather a confluence of linguistic, cognitive and experimental factors. Here, our contribution is to point out the importance of the methodology used to study the inference, and especially the potentially misleading role of binary SJTs because of the meta-cognitive component involved. To do so, we turn to a series of studies that have directly taken issue with the SJT.

4. Sentence judgment tasks and children's pragmatic competence

A number of recent studies have shown that SJTs are not the ideal paradigm to test participants' competence with pragmatics, especially in the context of child language acquisition. This section will review these studies and touch lightly upon the Pragmatic Tolerance Hypothesis which we will return to in more detail in the next section. First of all, Katsos and Smith (2010) were interested in the acquisition of informativeness from both a production and a comprehension perspective. The literature on exhaustivity had shown that children start to produce fully informative answers to questions (thus, to have acquired the first maxim of Quantity in language production: do not be underinformative) around the age of 5 to 6 years (Roeper 2004; Roeper, Schulz, Pearson, and Reckling 2006) For example, a fully exhaustive response to the question 'Who is holding a balloon' would be to mention all the people who are holding a balloon rather than just one of them. The

literature on the acquisition of informativeness, however, had shown that children rejected underinformative statements (thus, to have acquired the first maxim in comprehension: speakers are not underinformative) only at a later age (e. g. Noveck, 2001). Was this discrepancy in the age of acquisition a manifestation of an interface or of a production/comprehension asymmetry? Or could it be that the paradigm used for the investigation of comprehension somehow did not test the children's actual competence in informativeness?

The idea that binary SJTs might obscure participants' actual competence in informativeness was first put forward by Katsos and Bishop (2008). They argued that underinformative sentences in SJTs not only require the participants to generate an implicature, but also require them to consequently reject the underinformative sentence. It might very well be possible that the children notice the pragmatic violation or that they draw the implicature, but at the meta-cognitive level, they do not think this is a violation grave enough to warrant a rejection of the utterance (which semantic violations typically do). To explore if this is the case, Katsos and Smith (2010) compared children's performance on a binary SJT and a graded SJT. By providing participants with more options than the binary "right" or "wrong", the authors predicted that if the participants' true competence was obscured by the binary choice, their sensitivity to underinformativeness might be shown with a graded rating scale: although the pragmatic violation of an underinformative sentence is less "wrong" than a semantic violation, it might still be less "right" than an unambiguously semantically and pragmatically correct sentence.

In the first experiment, twenty 7-year-old English speaking children were tested using a binary SJT (which also had a production component, but the focus here is on the comprehension part). On a computer screen, the participants were introduced to a fictional character, Mr. Caveman, who was "trying to learn English". The experimenter would narrate a short story and end the story with a display of a protagonist together with the objects he/she was manipulating and ask Mr. Caveman what the protagonist had been doing in the story. Using pre-recorded sentences, Mr. Caveman gave semantically correct, semantically incorrect, and, critically, underinformative answers (the control conditions were there to confirm that the participants were willing to reject or accept sentences in general). To help Mr. Caveman learn English, participants had to judge whether he said it *right* or *wrong*. Whenever the answer from Mr. Caveman was wrong, the participant was invited to provide the correct answer themselves, thus, eliciting fully informative sentences in the underinformative condition. Half of the implicatures were scalar implicatures, based on context-independent so-called *generalized* scales (e. g. *the mouse picked up some of the carrots*, while all of the carrots were in fact picked up) and half of them were context-dependent quantity implicatures, based on so-called particularized ad hoc scales (e. g. *the dog painted the triangle*, while the dog painted both a triangle and a heart). The participants were at ceiling for

the semantically correct and incorrect sentences, both in production and comprehension. However, in the underinformative condition, their comprehension significantly lagged behind the comprehension of semantically correct or incorrect sentences, as well as their production.

In the second experiment, fifteen 6- to 7-year-old English speaking children were tested on a five-point scale rating task. The same items as Experiment 1 were used, but instead of providing a judgment in the form of *right* and *wrong*, now participants had to reward the answers from Mr. Caveman with one, two, three, four, or five strawberries. Again, the children were at ceiling for the semantically correct and incorrect sentences. The underinformative sentences, however, were rated significantly higher than the semantically incorrect sentences, but lower than the correct ones. This was taken as evidence for the Pragmatic Tolerance Hypothesis, which proposes that children at a certain age may have acquired the ability to derive implicatures, but may not reliably show it in a binary SJT.

More evidence for the Pragmatic Tolerance Hypothesis was reported by Katsos and Bishop (2011). The authors put the binary SJT to the test by comparing it to a graded SJT and a sentence-to-picture matching task. In the first experiment, twenty 5- to 6-year-old English speaking children, as well as twenty adults, were tested in a binary SJT. Apart from the absent production component, this experiment was identical to the procedure and items in Experiment 1 from Katsos and Smith (2010), above, in which Mr. Caveman was *right* or *wrong* in describing situations from a narrative. The children and adults were at ceiling for the correct and incorrect control conditions, and whereas the adults never accepted any underinformative sentences, the children accepted them on over 70 % of the trials. The children thus performed significantly worse on the critical underinformative condition compared to the control conditions, and also when compared to the adults' performance on the critical condition.

In the second experiment, eighteen 5- to 6-year-old English speaking children, as well as ten adults, were tested in a ternary SJT. This experiment was comparable to Experiment 2 from Katsos and Smith (2010), but instead of judging them on a five-point scale, here participants had to reward the answers from Mr. Caveman with a small, large, and huge strawberry. Both children and adults rewarded the semantically incorrect sentences with the small strawberry, the semantically correct sentences with the huge strawberry, and the underinformative sentences with the intermediate, large strawberry. This clearly demonstrates that when given an additional option that does not represent "right" or "wrong", children as well as the adults show their sensitivity to underinformativeness, by selecting the intermediate option.

The final experiment was a sentence-to-picture matching task. Here, the same fictional character from the previous experiments, Mr. Caveman, narrated by means of pre-recorded utterances the same stories that were used in the previous experiments. At the end of each story, four pictures appeared on the screen and the

participants were asked to indicate which picture matched the story. To test the generalized scale <some, all>, Mr. Caveman would say "the mouse picked up some of the carrots". The corresponding pictures showed a mouse picking up three out of five carrots, three out of five pumpkins, five out of five carrots, and five out of five pumpkins. To test the ad hoc scale <triangle, triangle and heart>, Mr. Caveman would say "the dog painted the triangle," while the corresponding pictures showed only a triangle, only a heart, a heart and a triangle, or a star and a triangle. Fifteen 5-year-old English speaking children participated in this experiment, as well as ten adults. The adults were at ceiling for all conditions and the children did not perform significantly different from the adults.

To summarize the findings from Katsos and Bishop (2011) which are relevant for our methodological review, with regard to underinformativeness, 5-year-old children lag behind adult performance when tested with the binary SJT, but not when tested with the graded SJT or the sentence-to-picture task. Not only did the authors show that the 5- to 6-year-old children show sensitivity to underinformativeness in some (but not all) tasks, they also pointed out that even rejecting an underinformative sentence does not automatically imply that an implicature has been generated. If the dog painted a heart and a triangle, but only the triangle is mentioned, you could argue the answer is *wrong*, because the character used the less informative form on the scale <triangle, triangle and heart>. Using this weaker term may be taken to imply that the speaker means that the dog did not paint anything but what he said; therefore, not the triangle and the heart, which is not true because he did. Therefore, generating an implicature could lead some participants to reject the critical underinformative utterance. However, the mere observation that the speaker was underinformative may lead participants to reject the underinformative utterance as well. That is, even without enriching what Mr. Caveman said with an implicature, and taking him to have said that "the dog painted a triangle, and possibly more items" or that "the mouse picked some and maybe all of the carrots" is still infelicitous, because Mr. Caveman has witnessed a situation where a stronger term could be used.

Whereas the studies above investigated the acquisition and processing of the first maxim of Quantity (do not be underinformative), another study investigated the acquisition of the second maxim of Quantity (do not be overinformative). Davies and Katsos (2010) studied whether children can be pragmatically tolerant towards overinformativeness, in the same way as they were shown to be tolerant towards underinformativeness. They investigated children's performance with regard to both the production and comprehension of under- *and* overinformativeness. Parallel to predictions about underinformativeness, the Pragmatic Tolerance hypothesis predicted that children should be adult like in their production, but not in their comprehension, if that is measured with a binary SJT. However, when comprehension is measured with a graded SJT, the children's competence is more likely to be revealed.

In the first experiment, twenty-four 5-year-old English speaking children and twenty-four adults participated in a production task. To create situations in which a speaker can make under- and overinformative sentences, the study used referring expressions in a context of four possible choices. The participants were shown a display of four objects and had to instruct a fictional character to pick up one of the objects. In one set of items, there were four different objects, in the other set of items, among the four objects, there were two that only differed in some attribute (e. g. a fresh and a moldy apple). The participants received a separate booklet with displays matching the ones on the computer screen. An arrow in the paper display indicated the object that the participant had to ask for. For example, when the display showed a fresh apple, a moldy apple, a comb, and a sausage, and the participant had to instruct the character to pick up the fresh apple, the adjective *fresh* was necessary to distinguish between the two apples. The instruction "pick up the apple" would be underinformative in this case. However, when the display showed an ice cream cone, a fresh apple, a comb, and a sausage, and the participant had to instruct the character to pick up the fresh apple, the adjective *fresh* was not necessary. Therefore, the instruction "pick up the fresh apple" would be overinformative. The adults were rarely overinformative, but did produce a few underinformative sentences. The children were also rarely overinformative, but produced underinformative sentence about half of the time.

In the second experiment, the same children who had participated in Experiment 1 and twelve new adults were asked to judge referring expressions in a binary SJT. Participants heard pre-recorded descriptions of one object from a four-object display. The descriptions were instructions of one fictional character to another fictional character to pass them one of the objects. Similar to Experiment 1, sometimes there were four different objects, sometimes two of the objects only differed in some attribute (e. g. a small and a large star). The description would either contain an adjective, or no adjective. In a display with a pineapple, a toothbrush, a frog, and a star, "pass me the small star" would be overinformative. In a display with a large star, a chick, a house, and a small star, "pass me the star" would be underinformative. The adults accepted over 70 % of overinformative sentences and about 40 % of underinformative sentences. The children accepted almost 90 % of overinformative sentences and around 75 % of underinformative sentences. So whereas the adults penalized underinformativeness, but not overinformativeness, the children did not penalize either of them.

In the third experiment, the same children who had participated in Experiment 1 and 2 and the twenty-four adults who had participated in Experiment 1 were asked to judge referring expressions on a magnitude estimation scale, which is a type of graded SJT. The magnitude estimation scale is a scale set up by each individual participant without upper or lower limits and has been argued to be sensitive to fine distinctions that participants may make but not be able to express in pre-defined

Likert scales (Bard, Robertson, and Sorace 1996)[1]. Here, the participants were instructed to award the speaker as many strawberries they wished, with at least one strawberry as a positive lower limit. The procedure was similar to Experiment 2, where sentences (correct, incorrect, underinformative, and overinformative) had to be judged. The adults rated the under- and overinformative sentences lower than the correct ones, and the difference between the under- and overinformative ratings were not significant. The children's ratings were very similar to the adults', with lower ratings for under- and overinformative sentences than correct ones, and no difference between the two critical conditions.

To summarize, Davies and Katsos (2010) showed that 5-year-old children have acquired the second maxim of Quantity, overinformativeness, in both production and comprehension. However, as with the studies on underinformativeness, the children's performance was strongly dependent on whether a binary or a graded SJT was used. In a strong demonstration that the type of SJT makes a difference on participant performance, whereas the underinformativeness studies reviewed above used different sets of 5-year-olds, this study used the same children on both types of SJT and showed that the exact same children who in a binary SJT seemed not sensitive to overinformativeness, did show sensitivity in the graded SJT.

The final study we will review is by Veenstra, Hollebrandse, and Katsos (submitted). They were interested in the development of Pragmatic Tolerance and looked at underinformativeness in 4- to 9-year-olds with a binary SJT and a graded SJT. In contrast to some of the earlier underinformativeness studies reviewed above, here the same children participated in both the binary and the graded SJT.

Seventy-five 4- to 9-year-old Dutch speaking children participated in the first study. A fictional character made statements about a display with three objects in or next to a basket, which the participants had to judge with a press on a green button (if the statement was "right") or a press on a red button (if the statement was "wrong"). In addition to the answers, the response times for the button presses were recorded. Only ad hoc scales were used, so an example of an underinforma-

[1] A pre-defined Likert scale is a scale where the author has decided in advance how many distinctions can be made. For example, a Likert scale of 1–3 allows participants to draw up to three distinctions between the items in the experiment. A disadvantage of a pre-defined Likert scale is that a participant may wish to make more distinctions, e. g. she may judge some sentence as completely unacceptable, some as somewhat unacceptable, some as mostly acceptable and some as perfectly acceptable. These distinctions cannot be expressed straightforwardly if this participant is offered a scale with just three points. A magnitude estimation task, in brief, allows participants to conjure their own scale –and therefore it allows them to draw as many distinctions between the items as they think is necessary, without forcing them to use the number of distinctions that the author believes are sufficient. Using some statistical calculations, the responses can then be 'normalised' on a single scale.

tive statement would be *in de mand ligt een bal* 'in the basket there is a ball' when in fact in the basket there are a ball and a shoe. The children were at ceiling for the semantically correct and incorrect control sentences, but in the critical underinformative condition, they accepted half of the sentences, and would therefore seem to be only partially able with informativeness.

The same seventy-five 4- to 9-year-old children who had participated in Experiment 1 participated in the second experiment. The procedure was similar to Experiment 1, as participants had to judge the fictional character's descriptions about a display, now with three animals on or next to a sofa. Instead of providing a binary judgment, now the participants had to reward the fictional character with a small, large, or huge strawberry (see also Katsos and Bishop 2011). The children rewarded almost all incorrect sentences with the small strawberry and the correct sentences with the huge strawberry. The results for the underinformative sentences were more mixed: 25% of the underinformative utterances were rewarded with the small strawberry, 40% with the large strawberry, and 35% with the huge strawberry.

Although the percentage of items that were accepted went down from 50% in the binary SJT to 35% in the graded SJT, the results make even more sense when looking at individual participants. In Experiment 1, there were twenty-two participants who *never* accepted underinformative statements. They have clearly acquired underinformativeness and responded after it by rejecting the underinformative utterances. There were also twenty participants who *always* accepted underinformative statements. Out of these latter children who would be categorized as pragmatically oblivious by the binary SJT alone, six never awarded the huge strawberry in Experiment 2, whereas seven always awarded the huge strawberry in Experiment 2. This is where the distinction can be made between pragmatically tolerant children (the six who show sensitivity in the graded SJT) and pragmatically oblivious children (the seven who do not show sensitivity in the graded SJT). Although not statistically significant because of the small number, the pragmatically oblivious children were younger in age compared to the pragmatically tolerant children.

The graded SJT differentiated between pragmatically tolerant and pragmatically oblivious children, and based on this categorization, the response times provide additional evidence for the Pragmatic Tolerance Hypothesis. The hypothesis predicts that pragmatically tolerant children notice the pragmatic violations, but decide not to penalize it, whereas pragmatically oblivious children do not notice the pragmatic violation to begin with. Accepting an underinformative sentence took significantly longer compared to accepting a semantically correct sentence in pragmatically tolerant children, whereas there was no difference in the time to accept underinformative and correct sentences for pragmatically oblivious children.

5. Implications for the interpretation of data from sentence judgment tasks

All in all, the studies reviewed in the previous section raise concerns about how to treat results from a binary SJT when it comes to pragmatic competence. One thing to keep in mind is that accepting and rejecting underinformative sentences in a binary SJT can be the outcome of different kinds of competence. If a participant accepts an underinformative sentence, such as "the mouse picked up some of the carrots" in a situation where the mouse picked up all the carrots, this could be because of four reasons. First of all, it is possible the participant did not generate the scalar implicature that is available from the critical utterance, namely that "the mouse did not pick up all of the carrots". Second, it is possible that the participant did not even notice that there was a more informative expression that the speaker could have used, namely "the mouse picked up all of the carrots". In both these cases, the participant is oblivious to some important aspect of pragmatics, either that there exist more informative alternatives, or that a cooperative speaker who utters a less informative expression usually implies the negation of the more informative alternative. Therefore, in both case the acceptance of the underinformative utterance is due to lack of some aspect of pragmatic competence. However, there is also a third, distinct, possibility that the participant did generate an implicature or that, fourth, they did at least notice that there was a more informative expression that the speaker could have used, but in either case, they did not consider the violation to be grave enough to categorically reject the critical utterance. In these two cases, the participant is tolerant towards pragmatically infelicitous utterances but not oblivious to some aspect of pragmatics. And in these two cases, the acceptance of the underinformative utterance is due to a meta-cognitive disposition, rather than their linguistic competence which is the actual focus of interest of linguists.

Turning to the case where a participant rejects an underinformative sentence, we are in somewhat more certain ground as regards interpreting their competence, but not completely. A rejection might be elicited because the participant generated the implicature, compared it to the display that does not match the implicature interpretation and decided that the difference is big enough to warrant the rejection of the utterance. Alternatively, the participant simply notices that there is a more informative expression that the speaker could have used, and rejects the utterance on these grounds, without generating the implicature. These two scenarios involve distinct levels of pragmatic processing, because noticing that there exists a more informative statement is a precondition of generating an implicature.

The upshot of these observations is that if the main purpose of an experiment is to study whether a speaker has acquired the ability to generate implicatures, then binary SJT leaves much to be desired. Acceptances of pragmatically infelicitous utterances may be due to lack of some kind of pragmatic competence (competence with generating alternatives or with actually generating implicatures), or to toler-

ance to pragmatic infelicity. These are categorically different mental and developmental states, the former pertaining to linguistic competence while the latter relates to a meta-linguistic judgment. Rejections of pragmatically infelicitous utterances are also ambiguous, because it is not straightforwardly clear on what grounds the participant has rejected the critical utterance: is it the fact that they noticed that there was a more informative alternative that was not used? Or is it that they actually generated an implicature? The binary outcome of a SJT does not suffice to clarify this issue. What is the way forward then?

6. Alternatives for the sentence judgment paradigm

As Katsos and colleagues have done (Davies and Katsos 2010, Experiment 2; Katsos and Bishop 2011, Experiment 2; Veenstra, Hollebrandse, and Katsos, Experiment 2), one way to side-step some of these challenges is to retain the format of the SJT but move away from the binary scale. By introducing a graded scale, from a ternary-one as in Katsos and Bishop (2011, Experiment 2) to a magnitude estimation task used by Davies and Katsos (2010), participants who are tolerant but not oblivious towards pragmatic violations are given the option to select a response that is less penalizing than a categorical rejection. This minimal adaptation of the binary SJT is quite simple and yet powerfully effective. However, while SJTs have been the statistically dominant paradigm in the study of pragmatics, there is no particular motivation for using a judgment paradigm in the first instance. At the risk of stating the obvious, a paradigm where participants judge the felicity (or grammaticality, or phonological or phonetic realization – to make this point more generally) of a sentence will involve two components by definition: a linguistic component where participants assign an interpretation to the utterance (or a syntactic or other representation), and a non-linguistic, meta-linguistic component where they evaluate the similarity between the representation they formed and the given situation of evaluation and form a judgment. While graded SJTs allow more than two possible judgments, and therefore allow for more nuanced judgments, they do not by-pass the fundamental challenge of any SJT, namely that it involves a meta-linguistic judgment.

Any paradigm where the participant is presented with the critical utterance and is offered a range of situations among which they can select one to match to the utterance avoids the meta-linguistic component of SJTs. There is a wealth of variations of this paradigm, from the very simple sentence-to-picture-matching task reported in Katsos and Bishop (2011, Experiment 3) to the visual-world eye-tracking paradigm used by Huang and Snedeker (2009). As mentioned above, Katsos and Bishop (Experiment 3) presented participants with an utterance and four pictures, of which only one matched with the pragmatic interpretation of the utterance (e. g. the mouse picked up *some* but *not all* of the carrots). One other

alternative matched with the logical interpretation of the utterance (e. g. the mouse picked up all of the carrots, which is compatible with the mouse picking up at least some of the carrots), whereas the other two pictures did not match at all. The 5-year-old children in this task scored at ceiling, always selecting the picture which matches with the pragmatic interpretation ('some but not all') in stark contrast to their performance on the binary judgment task (Experiment 1) where their responses seemed more in line with the logical interpretation. In another version of this sentence-to-picture-matching task, Horowitz and Frank (2015) showed participants three pictures of book covers and asked them to point out the book that matched the experimenter's description. In the underinformative condition, one cover depicted the pragmatic interpretation, one cover the logical interpretation, and one did not match the utterance at all. Only three pictures were used to reduce the task demands. The authors used the paradigm to test both quantifier and ad-hoc scalar implicatures and concluded that 4- to 5-year-olds had more difficulties with the quantifier implicatures than with the ad-hoc ones but in both cases they performed better than what would have been expected from SJT data.

Bill et al. (2014) wanted to investigate whether indirect scalar implicatures (the implicature from *not all* to *some*) and presuppositions are generated in the same way in adults and two groups of children. They used a covered box picture selection task. Here, participants were presented with a context picture and a description of it. Next, two pictures were shown, one with an actual scene and one that was covered with a black screen. A new description was played and the participants had to select the picture that matched this description. In the indirect scalar implicature condition, the story was introduced with "Today a group of penguins and a group of rabbits went to the park. All of the penguins brought balls". Then the target pictures were presented, and the experimenter said "But not all rabbits brought balls. Which group of rabbits do you think I'm talking about?" (Bill et al., 2014: 63–64). The visible picture showed the literal interpretation, a group of rabbits with *no balls*, whereas the covered picture implied the pragmatic interpretation, on which *some rabbits* would have a ball. Choosing the covered box meant that the implicature or presupposition was generated. Adults more often selected the covered picture for indirect scalar implicatures than for presuppositions. The opposite was evidenced for 4- to 5-year-old children. Similarly, the adults were more likely to generate a direct than an indirect scalar implicature, which was reversed for the children. The group of 7-year-old children patterned with the 4- to 5-year-olds.

Huang and Snedeker (2009) used the visual-world paradigm to study the comprehension of scalar implicatures with *some* and *all*. Participants were presented with a visual display which showed four pictures. Each picture depicted a person and a set of items. For example, in the condition testing the comprehension of *some*, one picture showed a boy with two socks, one picture showed a girl with two socks, one picture showed a boy without any item, and the final picture showed a girl with three balls. Participants heard the utterance "point to the girl that has some of the

socks". While the utterance unfolds over time, the unconscious eye-movements reflect how it is being interpreted: the word *girl* distinguishes between the pictures with the boys and the girls. The word *some* distinguishes between the girl with some of the socks and the girl with all the balls, but only participants that have generated the implicature will show more looks to the girl with the socks at this point. On the logical interpretation, the final decision can only be made upon hearing *socks*. This paradigm allows researchers to study how the interpretation develops over time, rather than looking only at the end results of the comprehension process. Although Huang and Snedeker investigated implicature in 5-year-old children, the visual-world paradigm is also very useful for studies with very young children. Yoon, Wu, and Frank (2015) investigated the comprehension of ad-hoc implicatures in 2- to 5-year-old children using eye-tracking. The participants were presented with two pictures and a pre-recorded utterance describing one of the pictures. In the underinformative condition, one picture showed a plate with a carrot, whereas the other picture showed a plate with a banana and a carrot. The corresponding utterance was "Look at these plates. Elmo's plate has a carrot". The trial ended with the character marking the correct plate. The participants were not required to do anything other than look at the pictures. Anticipatory eye-movements to the target and distracter pictures showed whether or not the participants interpreted the utterance pragmatically. The results showed that the 4- and 5-year-olds performed better (e. g. produced more looks toward the target picture) than the 2- and 3-year-olds.

In a similar vein, paradigms where the participant is invited to act upon the situation they are presented with and to make it match the critical utterance also bypass the meta-cognitive component of the SJTs. In a very simple, but elegant Direct Instruction Task, Miller et al. (2005) presented participants with a sheet of paper on which there were four faces, each of them lacking a mouth. They were instructed to make some faces happy. The authors used this paradigm to study if stressing the quantifier helped children generate implicatures, which turned out to be the case for children as young as three-and-a-half years old. Using a slightly different approach, Pouscoulous et al. (2007) designed an action-based task where children are presented with physical containers and objects (e. g. tokens or toys) that may be moved in or out of them. The participants were required to change the position of the objects to match the sentence they heard. Critically, the starting configuration of containers and objects for each trial of the experiment is different. In the critical condition for implicature, in the starting configuration all of the containers have an object inside them, while the participant hears "some" of the containers have an object. In this paradigm, Pouscoulous et al. (2007) reported substantially high rates of implicature in 4-year-olds and 5-year-olds, higher than what is to date reported with SJTs.

Another paradigm that does not require meta-linguistic judgment measures brain activation during the comprehension of implicatures with the Event-Related

Potential technique (ERP). The advantage of this technique is that no overt task is necessary as comprehension is tracked without the participant's conscious control while the utterance unfolds. Noveck and Posada (2003) had participants listen to utterances that were semantically true, false, or pragmatically underinformative. They focused on the N400, which is a particular negatively charged electrical response of the brain which occurs around 400 ms after a semantically incongruous sentence is processed. Both true and false utterances produced larger N400s than the underinformative utterances, which was unexpected and difficult to explain, as semantically true utterances are not expected to generate a large N400. In a more recent study, Nieuwland, Ditman, and Kuperberg (2010) pointed out some methodological issues with the Noveck and Posada's study (for instance, the counterbalancing of the items and the timing of stimulus presentation). They conducted an ERP study where participants read utterances that were presented on a monitor in a word-by-word fashion. The N400 response on fully informative utterances (e. g. "some people have pets") was compared to underinformative utterances (e. g. "some people have lungs"). Pragmatically weak participants, who scored high on an autism-spectrum quotient questionnaire, showed no difference in N400 between the two types of sentences. However, pragmatically strong participants, with a low autism-spectrum quotient score, showed stronger N400s for underinformative than informative utterances. Finally, Hunt et al. (2013) measured ERPs while their participants saw pictures and heard utterances describing these pictures. They found that the strength of the N400 was mediated by the type of violation: compared to when the sentence was fully informative and matched the picture, the N400 was strongest for semantic mismatches where the sentence completely mismatched with the picture, but intermediate for sentences that were semantically appropriate but pragmatically underinformative.

7. Concluding remarks on the use of sentence judgment tasks

In this chapter we do not advocate that, because of the challenges we identified for SJTs, they should be abandoned wholesale. As long as researchers are aware that the interpretation of acceptances and rejections in SJTs is not unambiguous, and that a meta-linguistic judgment is involved, one can use SJTs when what is at stake is whether a certain factor has a discernible effect on adult language processing or child acquisition. For example, Skordos and Papafragou (2016) use a SJT to investigate the effect of relevance and of the availability of the stronger alternative to children's judgments on underinformative utterances. Their findings show that indeed these two factors are taken into account and they have a significant effect on the rate of rejection of underinformative utterances. We argue that important questions remain unanswered by these findings, e. g. about whether children use relevance and the availability of alternatives to generate implicatures, or whether

these two factors simply raise the salience of the stronger alternative. Nevertheless, the SJT findings do provide a robust demonstration that these two factors affect some level of pragmatic computation, which is in fact a critical observation about theories of implicature acquisition and processing. Similarly, one may use SJTs to investigate group differences, e. g. between native speakers and learners of a language, or typically- and atypically-developing populations among others, as well as in all situations where the main question is whether a property of the test-population or test-items is significant.

Having said that, when it comes to research whose aim is to identify age-ranges and boundaries before or after which a certain competence is available to children, or research that aims to unveil if participants unambiguously have the ability to generate implicatures, then SJTs are ill-suited, for the reasons we discussed in this chapter. This is exceptionally so for the binary version of SJTs. In the final section of this chapter, we reviewed alternative methods that can be employed to measure a participant's comprehension of pragmatics, from simple to more complex behavioral tasks to neuroimaging techniques. These methods do not involve a meta-linguistic judgment and are more suited to reveal the participant's true competence with pragmatics. A gentle shift towards these paradigms and a nuanced understanding of the limits of SJTs would be a particularly helpful move in the field of experimental pragmatics, and experimental linguistics in general.

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11. Psycholinguistic production tasks

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Abstract: This chapter reviews several of the important experimental tasks employed within psycholinguistics to study the pragmatic language production. These tasks range from what would you say in different contexts, why people speak in certain ways, describing scenes and reading stories, answering questions, cooperative communication games, and language production in multimodal contexts. A major theme here is that language production is not an isolated psychological process which is separate from language comprehension. Instead, pragmatic language production must be situated and theoretically understood as a "joint" or "coupled" activity involving both speakers and listeners as they attempt to cooperate and coordinate. Moreover, pragmatic language production is by no means a modular linguistic activity as it is tightly linked to many ongoing non-linguistic, bodily processes in human communicative interaction.

1. Introduction

Psycholinguistics has always suffered from an imbalance in its attention to language comprehension and production. On the one hand, it is relatively easy to study language understanding. Participants in an experiment can be presented with some linguistic stimuli (e. g., phonemes, words, phrases, sentences, longer stretches of discourse) and asked to perform some task that will reveal insights into the processes and products of interpretation. There is a vast array of methods by which different levels of language understanding may be examined and theoretically described.

On the other hand, language production is far more challenging to study in controlled experimental conditions. This is especially true for topics within linguistic pragmatics. For example, imagine that I am interested in the psycholinguistics of figurative language production, such as when and how people produce metaphors, idioms, irony, and so forth. It makes little sense to present someone with a phrase, such as "John kicked the bucket", and then repeat this as a method for exploring the dynamics of how idioms, in this case, are accessed and uttered in context. After all, we produce language on our own without some researcher telling us what to say in advance. Describing the sequence of psychological operations leading from idea to speech requires that we investigate how speakers produce language on their own. How can we get people to say things related to different, specific pragmatic phenomena and do so in a naturalistic way characteristic of ordinary language production processes?

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Much work on language production examines what people really say in discourse. Corpus linguistic studies provide a wealth of evidence about different pragmatic phenomena, which is complemented by various scholarly analyses of pragmatic language use by linguists and philosophers. Nonetheless, the examination of complex segments of naturalistic discourse is limited in terms of what it can reveal about specific psychological processes of language production. Corpus analyses, for example, are less amenable to examining specific hypotheses that may test exactly how and when people speak as they do in context. For this reason, different methods have been created and employed that enable researchers to investigate alternative hypotheses about people's language use under controlled conditions.

My goal in this chapter is to describe some of the attempts to examine pragmatic language production within experimental psycholinguistics. A major theme of this review will be that language production is not an isolated psychological process which is separate from language comprehension. Instead, pragmatic language production must be situated and theoretically understood as a "joint" or "coupled" activity involving both speakers and listeners as they attempt to cooperate and coordinate. Moreover, language production is by no means a modular linguistic activity as it is tightly linked to many ongoing non-linguistic, bodily behaviors in human communicative interaction. I explore these issues through discussion of different experimental tasks including what would you say in different contexts, why people speak in certain ways, describing scenes and reading stories, answering questions, cooperative communication games, and language production in multimodal contexts.

2. What would you say?

The first task of interest here is one that asks people to say something in very particular, social, pragmatic conditions. For example, we are all accustomed to making promises to other people in our daily conversations. A speaker may say "I promise to meet you for lunch at noon" or "I'll meet you for lunch at noon" to indicate that he or she will have lunch with the other person tomorrow at noon. When a speaker utters any of these statements, is he or she obligated to actually show up at the scheduled time? If so, where does the obligation to show up on time actually come from?

Philosophers of language argue that there are rules guiding people's production of promises. Within the theory of speech acts, three conditions, known as felicity conditions, must hold true for a promise to be made (Searle 1965). These include (1) the speaker intends his utterance to count as the undertaking of the obligation referred to (obligation condition), (2) the speaker believes that the listener would prefer him to do what was promised (the hearer preference condition), and (3) it is not obvious to either the speaker or the hearer that the speaker would do what he

has promised in the ordinary course of events (the non-evident condition). Each of these conditions is seen as necessary for the felicitous production of a promise and taken collectively the set of conditions will be sufficient for a promise to have been made.

Gibbs and Delaney (1987) experimentally investigated the pragmatic factors that determine how people actually make and understand promises. We explored whether people have tacit knowledge of the felicity conditions listed above, which affects how promises are produced and interpreted. Participants were presented with stories that depicted a person about to say something concerning a future event. These stories were either consistent with the three felicity conditions (i. e. obligation, hearer preference, and non-evident) or violated one of them. Participants read each story and produced an utterance that they would say in the situation. Afterwards, participants went back and rated, on a seven-point scale, their utterances on the extent to which each one represented a promise.

We hypothesized that if people have tacit knowledge governing how they make promises, then violating any of these conditions should affect participants' ratings of the utterances they produce as promises. For example, suppose that you have been mowing the lawn once a week for the past three summers and that everyone in your family expects you to do so. One day you say to a member of your family "I'll mow the lawn this afternoon". According to Searle, this utterance should not count as a promise because it is obvious to both you and the hearer that you would have mowed the lawn in the normal course of events. This violates the non-evident felicity condition in that there is no point in making a promise if the action to be performed would have been done anyway.

The participants in this study produced a range of utterance types, including most frequently statements of future acts (e. g., "I'll take out the garbage"), statements of fact (e. g., "I don't mind taking out the garbage") and reassurances alone (e. g., "Don't worry about the garbage, really"). These utterances generally fit into Searle's scheme of felicity conditions because people referred to one of these when making their promises, such as when a speaker predicates a future action.

An analysis of the promise ratings showed that the utterances produced in the normal and different violation conditions were not equally promise-like. Thus, people gave higher promise ratings to utterances generated in the normal condition than in each of the obligation, hearer preference, and non-evident violation conditions. But people gave higher ratings to utterances produced in the non-evident condition than in the other two violation conditions, indicating that promises can be made in situations where the speaker would have done the action in the normal course of events. A second study in this same series found similar results when a different group of participants rated the utterances produced by people from the first experiment. Overall, the rating data are consistent with the idea that people implicitly believe that certain conditions should hold for promises to be felicitous, and this seems especially true for the obligation and hearer preference felicity conditions.

It would be great if one could conduct an experiment like the one above when people make promises in real-life contexts that they were actively involved with and simply stated what they intended to a real addressee (i. e. the recipient of the promise). However, it would be really difficult to discover, or even create, systematically different real-life situations which exemplify the key characteristics of Searle's felicity condition theory of promising. Asking individual participants to make promises in a range of contexts and then reflect on their promise-like behaviors offers a good compromise in being able to draw inferences about what people implicitly believe is needed to make socially appropriate promises.

One long-standing debate within speech act theory is whether people can implicitly produce different illocutionary acts (e. g., directives, assertives, commissives, expressives, declaratives) without explicitly noting that one is giving a direction, making an assertion, making a promise, and so forth. Thus, can one make a promise by saying "I'm sure that I will have it finished tomorrow", without having to include the explicit performative phrase "I promise". A series of experiments examined whether participants could make different speech acts without the inclusion of explicit performatives (Holtgraves 2005). Participants were asked to imagine that they were speakers in specific situations and to indicate what they would say in each one. Most importantly, participants were precluded from using a relevant speech act verb (e. g., "I promise," "I apologize," "I request") when stating what they would say. Consider, for example the following situation (Holtgraves 2005).

> You and a close friend are roommates. Your friend is very forgetful. You know that your roommate has a dentist appointment today which you are sure he has forgotten. You're eating breakfast together and you want to *remind* your roommate of the dentist appointment. What exactly would you say (please do not include "remind" in your remark)? (Holtgraves 2005: 207)

Participants' responses to situations depicting four major speech act types (i. e. assertives, expressives, directives, and comissives) were then analyzed by a second group of participants who wrote down a single word that best described the specific action that they believed the speaker was performing with his remark. The main finding was that speakers most typically referred to one of the most relevant felicity conditions for a particular speech act. Thus, when people had to remind the roommate of the dentist appointment, they also make reference to a particular state of affairs in the world (e. g., "You have a dentist appointment later"). Similarly, when people made promises, again without being able to use the words "I promise," they referred to a future action (e. g., "I swear I will see you tomorrow"), which is one of the key felicity conditions associated with the appropriate making of promises in discourse. It appears, then, that people are capable of producing implicit performatives by referring to the felicity conditions that support a particular linguistic utterance as conveying a specific speech act meaning.

The main drawback of this production task is that it does not directly examine whether people routinely produce implicit performatives even when they are free to explicitly state the relevant speech act function (e. g., "I promise"). Placing restrictions on how different speech acts are made (e. g., no explicit performatives) may be unnatural, yet it enables researchers to more systematically investigate the role that certain pragmatic features have in shaping speakers' verbal behaviors.

A slightly different version of the "what would you say" paradigm explores the pragmatics of making and understanding indirect requests. Imagine that you need to find the time as you walk down a crowded street. You go up to one person and say, "Excuse me," followed by one of the following indirect requests:

"Do you have the time?"
"Can you tell me the time?"
"Would you mind telling me the time?"

These utterances are all indirect because they do not state a clear imperative (e. g., "Tell me the time"). Still, does it matter which of the above sentence forms you use to make your request for the time? Making requests of others typically interrupts what a listener is doing, and speakers must find a way of inserting their request into the conversation to maximize the possibility of the listener fulfilling the request. One possibility is that these indirect forms of making a request, along with many others, are equally good, with some of them perhaps becoming quite conventional to use for mostly arbitrary reasons. However, empirical research suggests that people formulate their requests in specific ways to deal with the listener's greatest potential obstacles in complying with the request (Francik and Clark 1985; Gibbs 1986). For example, if a listener may not possess the desired information or object then the "Do you have …?" form may be most appropriate. On the other hand, if a person's ability to fulfill the request is in question, then the form "Can you tell me …?" may be preferable.

One experimental test of this obstacle hypothesis brought participants to different locations on a university campus, each of which was carefully designed to highlight a different potential obstacle (Gibbs 1986). For example, an experimenter and a participant went inside the university library and walked over to a table where a student, who was specifically set up for this situation, was busily working on a paper assignment. The participant was told to imagine sitting near the student and also working on a paper when his pen suddenly ran out of ink. Participants were then asked to state what they would say to the nearby student in order to get that addressee to lend them a pen.

Overall, participants produced requests that specified the most likely obstacles for addressees 74 percent of the time. Furthermore, other laboratory studies demonstrated that people find it easiest to interpret indirect requests that appropriately specify the main obstacle for addressees. People take less time, for example, to understand "Do you have …?" requests when they are stated in possession obsta-

cle contexts than in ability obstacles contexts. People take less time to infer the meanings of "Can you …?" in ability contexts than when the context highlighted the possession obstacle. The obstacle hypothesis, therefore, provides a strong constraint on people's production and interpretation of indirect requests.

There is one advantage in asking people to be physically present in real-world scenes before stating what they would say to the addressees in these contexts. Rather than asking people to imagine being in a situation by reading a short paragraph in which different pragmatic features are explicitly emphasized, putting people in the actual scene forces them to assess in their own way what is most appropriate to do or say (i. e. observing different obstacles). This method better approximates real pragmatic language production, and does so in a controlled systematic manner that would not be possible to accomplish by simply observing people making requests in real-life.

3. Why would you say it?

A different approach for studying pragmatic language productions explores the reasons for why speakers talk in specific ways. For example, why do people employ pragmatic figures of speech such as metaphors, idioms, ironies and so forth in their speech and writing? These different types of figurative language may be motivated by different pragmatic purposes. One empirical attempt to examine why people use a variety of figurative/indirect language presented participants with 10 examples each of eight kinds of "figurative" (or at least indirect) language: hyperbole, idioms, indirect requests, ironies, understatements, metaphors, rhetorical questions, and similes (Roberts and Kreuz 1994). Participants were asked to read the examples, and to then generate three other examples of each figure. After completing this task, participants listed reasons for why speakers might use the particular forms in discourse.

Participants' responses to the last question were organized into a taxonomy of discourse goals. Care was taken in creating the taxonomy to identify unique goals (e. g., "to be comical" and "to be funny" were seen as satisfying the same goal of "to be humorous"), although it is not clear exactly how this was practically done by raters in this study. For example, the goals of "to add interest," "to get attention," "to emphasize," and "to provoke thought" show many similarities, as perhaps do "to be conventional," "to be polite," and "to protect the self." Some goals may also reflect clearly identifiable cognitive or social motivations (e. g., "to be polite" appears to have a strong social motivation), while other goals, such as "to clarify" and "to contrast differences" may be motivated by a combination of cognitive, social, and even emotional factors. These classification problems highlight one difficulty in enumerating specific reasons for speaking figuratively.

Nonetheless, Roberts and Kreuz's (1994) analysis revealed both a great deal of similarity and variation in what different figures appear to socially accomplish. Seemingly unrelated figures, such as irony and simile, were often shown to accomplish similar discourse goals. At the same time, different figures also accomplished quite a large number of different goals. Indeed, out of the total number of 19 unique discourse goals reported for all the figures (not including miscellaneous goals collectively labeled as "other"), the average number of goals accomplished by each figure of speech was 14.6 (77 % of all the possible goals). This diversity of discourse goals was not exclusive to a small group of tropes, because people listed between 12–18 goals per figure (63 % – 95 % of all the goals mentioned).

Among the most notable commonalities among the figures was that metaphor and simile, not surprisingly, shared several discourse goals of "to compare similarities," "to provoke thought," and "to clarify." Interestingly, these two figures also differed given people's judgments that simile, but not metaphor, exhibited the goals of "to be humorous" and "to deemphasize." People also generally thought that several figures accomplished the social, pragmatic goals of "to be humorous", namely hyperbole, irony, simile, and idioms. However, the goal of "to be polite" was only noticeably indicated for indirect requests among all the tropes.

One problem with the Roberts and Kreuz (1994) study is that it did not compare reasons for using different kinds of figurative language against nonfigurative expressions. Although there are clearly problems in drawing principled distinctions between figurative and nonfigurative language, it may still be useful to contrast people's intuitions about why, for example, a metaphor may be differentially informative in some context compared to some other nonmetaphoric expression. Conducting this kind of study may provide data that permits a more global set of reasons for why figurative language could have special rhetorical purposes. For example, several scholars have emphasized the importance of ambiguous, including indirect and figurative, language for keeping language "expressive", capable of evoking a rich layer of propositional, affective, and social meanings, and enabling speakers to convey mastery over some complex situation (Colston 2016). These reasons for speaking figuratively are more general than those emerging from the Roberts and Kreuz study (e. g., "to clarify," "to be comical"), and depending on the particular trope, may supersede people's local aims when using one specific trope, as opposed to another, in discourse.

A different concern with this study is that participants in the study were asked to speculate about the possible reasons for using a particular category of figurative language in an abstract manner apart from realistic discourse contexts. These introspections are relevant to understanding people's folk ideas about the functions of figurative language, but are less informative on the complex motivations for why people pragmatically produce figures of speech, and the specific functions of these expressions, in realistic speech and writing contexts. For example, ironic language is often disparaging and critical, but depending on the context and specific utter-

ance, irony can accomplish these goals while driving a large social wedge between speakers and some listeners (i. e. addressees in the case of sarcasm) but not others (i. e. overhearers who are friends of the speaker). Other kinds of irony (i. e. jocularity with friends) can be humorous and actually increase intimacy between speaker and listeners, despite their superficial negativity. The general problem is that asking people to think about the reasons for what they may say apart from real contexts opens up too much of a gap between the data obtained and a sensible account of real-world pragmatic behavior. At the very least, people should be asked for their communicative motivations in discourse contexts that are systematically varied along different pragmatic dimensions.

4. Describing scenes and reading stories

One method for analyzing people's language production is to have them watch a short video and then verbally describe its contents to a listener. This task has been quite useful for examining people's productions of gestures, especially those that exhibit metaphoric representations of concepts, called "metaphorics" (McNeill 1992: 73). For example, in one study participants were shown a cartoon and then asked to describe what they saw to another person (McNeill 1992: 74). At an early point, the speaker said

(1) "It was a Sylvester and Tweety cartoon".
(hands rising to offer an object)

The raising of the hands here suggests that the speaker is offering the listener a material object, referring to the cartoon event or the cartoon genre. Thus, the speaker makes the abstract idea concrete by forming an image of a bounded, spatially localizable object supported in the hands and offered to the listener for her consideration. This metaphorical mapping is motivated by the CONDUIT metaphor in which language, meaning, knowledge or works of art are presented as a physical container into which substances are placed and the whole is moved along a conduit (Reddy 1979). Asking people to describe the cartoon they saw elicits this kind of pragmatic, metaphoric understanding of the video and its contents.

A related topic of interest to linguists and psychologists is the role that iconicity plays in verbal language production. For example, linguists have long observed that language often parallels the physical characteristics of real-world objects and events. Many words convey semantic information through their forms, which suggests that form-meanings pairings are far from arbitrary. Indeed, some research showed that speakers modulate their prosody in iconic ways. One study asked participants to describe the direction of a dot moving on a computer screen, either up, down, left or right (Shintel, Nusbaum, and Okrent 2006). Speakers raised their pitch when describing upward movements and lowered their pitch when referring to downward

movements of the dot. They also spoke faster when describing a fast moving dot and decreased their articulation rates when describing a slow moving dot.

These findings on the iconic modulation of speech have been extended using a production task in which people read different short stories that contrasted along different elements of meaning. People inflected their pitch when reading stories about higher locations and upward movements versus low locations and downward movement (Clark, Perlman and Johansson Falck 2014), and about small- versus big-sized objects (Perlman, Clark and Johansson Falck 2015). Moreover, speakers modulated their articulation rates when reading stories about fast versus slow-paced events (Perlman et al. 2015), a finding that has also been observed when people were asked to spontaneously describe depictions of fast versus slow events on short video clips (Perlman 2010).

One other production study explored whether people modulate their prosody when speaking about both concrete (e. g., fast driving) and abstract, metaphorical (e. g., fast career progress) events (Perlman et al. 2015). Participants read aloud stories referring to fast rates of speed more quickly than they did slow stories for both the concrete and metaphorical events. They also read both types of stories in lower pitch when these referred to events that were physically heavier (e. g., lifting a heavy object) or metaphorically more important (e. g., having an important meeting). These findings suggest that people's metaphorical understanding of events influences the spoken quality of their speech when talking about these events. For example, noting that a metaphorical event refers to a fast "life is a journey" or a heavy "importance is weight" situation alters the vocal quality of their language productions.

Of course, asking people to read aloud stories is not the same as having them produce language on their own in specific discourse contexts. But the reading task is still useful for examining people's in-the-moment appreciation of iconicity, and other possible pragmatic constraints, in the speech planning process.

There is a significant literature on narrative language production in which people see a film and then describe it to others, such as the project on the "Pear Stories" (Chafe 1980). Examination of these narratives enable scholars to detail a range of cultural, cognitive, and linguistic factors in immediate language production, especially regarding how words unfold during a monologue. A good deal of this, and related, work is devoted to examining people's conceptualization processes when they verbally describe events, including the use of conceptual metaphors in speaking about personal and emotion experiences (Gibbs and Franks 2002), and how different languages shape these event construals (von Stutterheim and Nüse 2003). Some elicitation research has also, quite naturally, investigated how speakers pay attention to listeners' specific needs, or perspectives, when introducing topics or referents (Smith et al. 2005).

There are a variety of narrative elicitation techniques used by linguists and sociolinguists, primarily, in which participants are, once again, given specific stim-

uli to watch and describe or to recall past life events. However, most of these techniques, and the resulting empirical findings, are not examples of psycholinguistic productions tasks per se. For example, most of the work on narrative elicitation is not conducted within an experimental framework in which participants engage in different tasks within different experimental conditions (e. g., with different orienting instructions). At the same time, these studies do not typically analyze all the data collected from all participants, but focus more selectively on certain examples within the corpuses created to illustrate specific theoretical points (e. g., how a person speaking one language describes a short film differently from how another person, speaking a different language, describes the same film). Few of these studies also test particular experimental hypotheses with explicit performance predictions. These observations are not intended as criticisms of any of this line of linguistic research. I only offer these comments to suggest that narrative elicitation techniques require an analysis and evaluation that extend beyond what is typically seen within experimental psycholinguistics.

5. Answering questions

Asking people to answer specifically worded questions in different contexts has also been shown to be a very useful psycholinguistic production task. For example, one enduring issue in the study of linguistic pragmatics is whether people analyze the literal meaning of linguistic expressions as part of how these are processed and interpreted (Gibbs 1994; Gibbs and Colston 2012). There is much debate about this topic, with various reading time experiments offering results which suggest that people can often understand what others pragmatically imply without first deciphering and then rejecting the literal or semantic meanings of utterances (Gibbs and Colston 2012). One possibility, though, is that people analyze the literal meanings of speakers' utterances at some point during linguistic processing without it being fully determined before pragmatic messages are inferred.

One set of studies provided some initial support for this idea using a naturalistic question answering task (Clark 1979). An experimenter called local merchants on the telephone and made simple indirect requests about the time these businesses closed at the end of the day, such as "Can you tell me what time you close?" and "Will you tell me what time you close?" Many merchants included "yes" in their responses to these indirect requests as in "Yes, we close at 6 pm". People presumably included "yes" in their responses to adequately address the literal question and "we close at 6 pm" to provide the information that was indirectly requested. It appears that listeners ordinarily analyze the literal meanings of indirect requests, perhaps in parallel to interpreting the indirect request message. This strategy seems particularly useful to enable listeners to know when a speaker is being polite, and therefore requires a polite response in turn.

Yet it is not clear that the inclusion of "yes" in people's verbal responses to certain indirect requests is due necessarily to their analysis of an indirect request's literal meaning. People may include "yes" simply because it is conventionally polite to do so even though they do not actually analyze a statement's literal interpretation. One reason to suspect that this might be true is because merchants also included "yes" when verbally responding to the indirect request "Would you mind telling me what time you close?" People should have included "no" as in "No, we close at 6 pm" if they were really responding to the literal question asked. In fact, the mention of "yes" in people's verbal responses to indirect requests may only signal a willingness to comply with the implied request rather than because of some automatic analysis of speaker's literal meanings. At least in this case, one must be careful not to over-interpret people's answers to questions as necessarily reflecting different parts of the language interpretation process.

Still, do people produce language that is specifically designed to meet the presumed needs of their addressees? Psychologists and sociologists have long argued that speakers design each utterance so that their addressees can figure out what they intend by considering the utterance against their current common ground (Clark 1996). Some common ground information is cultural (i. e. information broadly shared by members of a community), and some information is personal (i. e. information uniquely shared by two or more speakers). When people converse, they typically design their utterances to take into account the perspective of the listener, which facilitates addressees understanding speakers' communicative intentions.

A simple demonstration of this is seen in a study looking at people's assumptions about mutually known beliefs and knowledge when speaking with others (Krauss 1987). This study had an experimenter stopping people on the street in downtown Boston, Massachusetts, where he asked for directions to Jordan Marsh, a large department store about six blocks away. To a third of the people, the experimenter asked, "Can you tell me how to get to Jordan Marsh?" To another third, the experimenter said, "I'm from out of town. Can you tell me how to get to Jordan Marsh?" To the remaining third, the experimenter asked, "Can you tell me how to get to Jordan Marsh?" but did so employing a rural Missouri accent, representative of a speech style in a different part of the United States.

The addressees' responses were secretly tape-recorded and analyzed for the number of words spoken and the number of places en route that were referred to. When the experimenter prefaced his question with "I'm from out of town," people responded with significantly more words and more place names than when asked this question without the preface. Alerting the addressee to the fact that the speaker does not share the same community knowledge clearly gets respondents to design their answers differently. But the respondents also gave longer, more detailed, answers when the experimenter asked his question without the "I'm from out of town" preface but spoke with a Missouri accent. Again, people designed their answers given their assumptions about how well their addressee may most easily

infer their communicative intentions. This study, therefore, showed in a realistic situation how people's language productions are constrained by assumptions regarding common ground beliefs and information.

As noted earlier, much research debates whether people necessarily must hold explicit common ground information in all aspects of language production and understanding. One proposal claims that speakers aim to be optimally relevant in saying what they do (Sperber and Wilson 1995; Wilson and Sperber 2012). Under this view, called "relevance theory", every act of ostensive behavior communicates a presumption of its own optimal relevance, that is, a presumption that it will be relevant enough to warrant the addressee's attention and as relevant as compatible with the communicator's own goals and preferences (the Communicative principle of relevance). Speakers design their utterances to maximize the number of cognitive effects listeners infer while minimizing the amount of cognitive effort to do so. Listeners understand speakers' communicative intentions via the "relevance-theoretic comprehension procedure" (Wilson and Sperber 2012), by following a path of least effort in computing cognitive effects. They do this by testing interpretive hypotheses (e. g., disambiguations, reference resolutions, implicatures) in the order of accessibility, and then stopping when their expectations of relevance are satisfied.

Consider one detailed experimental test of this view in which people answered simple questions about the time. Imagine a situation in which a stranger approaches you on the street and says "Excuse me, do you have the time?" If you were wearing a watch, how would you interpret and respond to this person's request? Some possible replies include the following:

(2) a. "It's about 4."
b. "It's 3 minutes before 4."
c. "It is um … 3:57."

All these responses provide a reasonable answer to the person's request. But the three responses differ in the exactness of their time given, the form in which it is given (minute-hour vs. hour-minute), and whether the answer was given directly or included other paralinguistic information (pauses and filled pauses).

Although statement (b) provides the same cognitive effect as does (c), it likely requires more cognitive effort to comprehend than (c), given the extra mental computation needed to derive the exact time of 3:57 from the statement "It is 3 minutes before 4." Statement (b) is therefore less optimally relevant because greater effort is expended than what is required to understand statement (c). At the same time, the filled pause in (c) may work to signal that an answer is forthcoming which is indeed worth the addressee's continued attention. In this manner, statement (c) may convey an additional cognitive effect over that seen in (b), namely that a highly relevant answer is forthcoming, which clearly benefits the addressee and may facilitate her understanding of the speaker's communicative intention.

Of course, statement (a), "It's about 4," may provide sufficient cognitive effects with little cognitive effort, unless the questioner first mentions the fact that he needs to reset his stopped watch. In that case, the approximator "almost" should supply a highly relevant cognitive effect that the following numerical answer is just good enough (e. g., "It is almost about 4"). How do people respond to time requests given some of these considerations? Complicating the pragmatics of the time answering situation is that some people may wear digital watches and others analog watches. Although it may be ideal to answer any "Do you have the time?" question with an exact answer, doing so when wearing an analog watch may require more effort than when wearing a digital watch.

However, research shows that when people are asked "Do you have the time?" they typically provide rounded answers, even when wearing digital watches (Gibbs and Bryant 2008; van der Henst, Carles and Sperber 2002). The fact that respondents tend to round their answers to time questions, even when wearing digital watches that provide exact times, suggests that conversational exchanges are not guided by an egocentric bias to state what is easiest, or to follow a maxim to always speak truthfully (cf. Grice 1989), both of which would predict that digital watch wearers should invariably give the exact time. Rather, people aim to provide answers to questions that are optimally relevant for the circumstances, which in most cases does not require an exact time.

In other research, people were approached and asked "Do you have the time?" and their answers tape-recorded (Gibbs and Bryant 2008).[1] An analysis of the responses showed that speakers plan their answers to time questions in specific ways by often including acknowledgments ("Yeah, it is 10 till 4"), approximators ("It is about 3:30"), and filled pauses ("It is um 10 till 4"). These linguistic and paralinguistic cues do not simply indicate that the speaker is experiencing production problems, but may function as a green light for the addressee to continue with the process of deriving relevant cognitive effects (see Finlayson & Corley, 2012 for a discussion of this question).

Furthermore, people who wore digital watches and gave exact replies took longer to plan these than did those who provided rounded answers. Thus, people with digital watches who saw the exact time actually put more cognitive effort to produce that exact time than when they produced a rounded answer. But digital

[1] These tape-recordings, each one lasting less than 10 seconds, were collected without asking participants' permission beforehand. Many participants rushed off after providing their time responses and so it was not always possible to ask for their explicit permission to use their answers as data. Not all universities or countries approve of this degree of lack of consent. More generally, though, there are complex ethical issues in studying language production in real-world settings, especially in terms of obtaining naturalistic language evidence without people being potentially biased by knowing that they are participating in an experiment.

watch wearers did not take longer to produce exact replies in a context where the original speaker asked "Excuse me, my watch has stopped. Do you have the time?" This pattern of findings suggests that respondents most easily understood that giving an exact time was optimally relevant in the case where it appeared that the questioner wanted the time in order to reset his watch. On the other hand, respondents were less sure that an exact time was relevant when the question only stated "Do you have the time?" despite that the exact time was easiest to retrieve for digital watch wearers.

This research on answering time questions is unusual in that it explores people's pragmatic responses in a real-world context, while still measuring response latencies as is done in typical laboratory psycholinguistic experiments. The beauty of this method is that it is both naturalistic and produces very detailed information about the speech planning process as it operates in real-time. Our results indicate that people appear to be striving for optimal relevance when formulating their pragmatic responses to people's indirect time requests. Being optimally relevant requires that speakers do not aim for the greatest efficiency in an abstract sense, but they take pragmatic considerations into their immediate evaluation of what to say.

6. Cooperative communication tasks

A central feature of many pragmatic theories is that people use language for coordinating both their individual and joint actions. There have been notable examples of how coordination may possibly be accomplished in conversation within the fields of linguistics and philosophy. However, a major development in our understanding of pragmatic language use has occurred over the past 30 years with the emergence of psycholinguistic studies employing cooperative communication tasks. Thus, experimental participants are asked to perform some task together, usually with one person directing another to solve some problem, such as arranging cards or pictures in a certain order or constructing some toy building. The participants' performance on these tasks, and the dialogue they engage in to do so, are then closely analyzed for evidence of coordinative, cooperative linguistic and nonlinguistic behaviors. Most of these psycholinguistic studies aim to demonstrate how the accrual of common ground enables speakers and listeners to more readily coordinate their intentional meanings in discourse.

Consider, for example, an experiment in which two persons talk to each other, but cannot see each other (Clark and Wilkes-Gibbs 1986). Both sit before schematic drawings of cartoon figures, called tangrams, which are new to both parties. One conversant describes a specific figure from her set of figures, and the other identifies the correct picture from his set using the heard description alone. Unsurprisingly, participants get better at this task over time. Speakers initially provide detailed descriptions of the figures to make initial identifications possible, but

over time each pair of dialogue partners eventually evolves a shared idiosyncratic lingo specific to the given task environment allowing them to pick out figures more quickly. Thus, on a first trial, one speaker referred to a figure by saying, "All right, the next one looks like a person who is ice skating, except that they're sticking two arms out in front." But on the sixth trial in this study, the same speaker simply said, "The ice skater." These results suggest that understanding what a speaker intends to communicate, and the criteria by which listeners judge that they have understood that message is a joint product requiring coordination and cooperation between listeners and speakers.

Another version of this card-sorting task examined the role of expertise (Isaacs and Clark 1987). In these studies, pairs of people, some being from New York (experts) and some not (novices), attempted to arrange a set of postcards with pictures of different buildings and places in New York City. To the extent that the director and matcher could establish that each was from New York, more proper nouns (e. g., the Chrysler Building, Rockefeller Center) would be used to describe the postcard scenes. If both participants were novices (i. e. not from New York) far fewer uses of proper names would be expected. If an expert and a novice were paired, then the use of proper names would increase over time (or trials) as the experts taught the novices about the names for different postcards.

These general predictions were shown to be correct. There was also an increase in the efficiency of the conversations as shown by a decrease in the overall number of words used and the number of turns required to complete the task. Thus, in conversations between experts, proper names were used about 80 % of the time while proper names were used less than 20 % of the time between novices. When an expert was talking to a novice, the number of proper names initially decreased as it became clear to the expert that the novice did not know what some of the names referred to. When novices talked to experts, the number of proper names increased as some of the expertise "rubbed off" and the names of landmarks were learned from the expert partner. Experts and novices seemed to have discovered that they were talking to other experts or novices by the way the conversation proceeded, because in only 6 of the 32 pairs did participants actually ask or tell the other person whether they were New Yorkers.

Participants in real-life conversations sometimes design their utterances with the intention of excluding some person from understanding their pragmatic meaning. One set of experiments explored this type of situation. In this particular case, participants in a card-arranging task had to communicate the ordering of photographs of Stanford University scenes, but there was a third person in the room, provided with the same set of pictures, and the two conversants had to try to ensure that the third person did not succeed in the task (Clark and Schaefer 1987). Thus, the speaker had to ensure that the addressee understood, but had to conceal his meaning from the overhearer. All three participants were Stanford University students and thus "experts", but the two conversants were friends and the overhearer was a stranger.

Because the three participants had the same community membership, it was expected that the conversant would use "private keys" or information that was part of their particular common ground, but which was unknown to the overhearer. Although there were certain instances when the speakers slipped up and uttered the name of a scene, the vast majority of references contained these private keys. For example, a speaker referred to a fountain on campus as "where someone wanted to put my teddy bear." Overall, the addresses were twice as successful in correctly arranging the photographs as were the overhearers, suggesting that speakers and listeners can often successfully hide their communicative intentions from some people.

Producing language in these dialogue situations is not a ballistic process in which speakers state what they mean and then hope for the best that addressees will somehow understand them. Various psycholinguistic research demonstrates that speakers actively, automatically monitor listeners' reactions to insure proper understanding of what was expressed, both linguistically and gesturally. For example, one study had pairs of participants assemble different Lego models with one person acting as the director and the other as the builder (Clark and Krych 2004). For one group of people, the director and builder could see each other and the builder's workspace. In a second group, the participants could hear but not see one another, and in a third group, the director gave only audiotaped instructions to the builder.

The participants performed the worst in constructing the specific Lego model when they communicated using an audiotaped message, and somewhat better when they could hear, but not see, each other. Not surprisingly, people performed the assembly task best when they could both see and hear one another. Examination of the discourse showed that directors engaged in a host of actions when speaking with builders, including exhibiting, poising, and pointing, in addition to using eye gazes and head nods to communicate their in-the-moment messages. These different linguistic and nonlinguistic actions were also exquisitely timed given what the builders were doing at any moment. In many instances, directors altered their utterances midcourse when they sensed that the builders needed to reorient their specific actions to better complete the overall assembly task.

This version of the communication game task provides an excellent method for exploring how pragmatic language production is a joint activity involving both speakers and addressees, and sometimes overhearers. Speakers produce language not only to express what they mean, but also to ordinarily ground what is said through a variety of linguistic and nonlinguistic devices. Language production is not just a matter of verbally articulating one's private thoughts, and it is fundamentally used for continually updating common ground between individuals given different real-world adaptive requirements. Furthermore, as Clark and Krych (2004) emphasize, speech planning is opportunistic in taking advantage of the online process of language production to alter what is said as problems arise. Finally,

language production is also multi-modal given the intricate blend of verbal and gestural/bodily processes in dialogue.

The use of cooperative communication games offers systematic evidence on the ways speakers and listeners, sometimes in the presence of overhearers, coordinate what they say and do to reach joint goals. These experimental tasks are, consequently, ideal for examining how language is used for purposes of both monitoring and altering the always changing common ground between people in everyday life. Systematic variations on the design of these experiments provide different opportunities for testing specific hypotheses on pragmatic language production that could not be done through the analysis of ordinary, unstructured speech.

There are, not surprisingly, challenges against the idea that speakers always design their utterances to best meet their listeners' understanding needs. Under some circumstances, such as stress or high levels of cognitive burden, speakers can be more egocentric in their productions than the traditional common ground view would predict. Listeners do not consistently consider common ground in their comprehension (Barr and Keysar 2005). People frequently misjudge the effectiveness of their own communication precisely because they do not correctly understand what is, and is not, part of their common ground with others. Speakers who have learned the meaning of opaque phrases (e. g., "as the goose hangs high" meaning that something is to your liking), for instance, sometimes overestimate the likelihood that other people know those meanings (Keyser and Bly 1995). Speakers also sometimes think their own utterances are less ambiguous and more effective than they actually are (Keysar and Henly 2002). Nonetheless, these various studies do not contest the view that common ground exists and may constrain language production and comprehension. Instead, the argument is over whether initial stages of speech production and understanding are inherently egocentric, particularly in moments when speakers experience cognitive stress in some manner.

7. Language production in multimodal contexts

There is an emerging body of research within psycholinguistics on coordination during conversation that explores the embodied dynamics of how speakers and listeners make use of common ground. These experimental studies employ tasks that are often similar to what was described above, such as asking participants to perform joint tasks together under different conditions. In other studies, however, people are just given different topics to discuss, sometimes in the presence of specific visual cues. The notable feature of these studies is that they focus more on different aspects of bodily coordination than on the semantic content of what people say. Nonetheless, this work offers important lessons on how psychologists and others should conceive of pragmatic language productions as an embodied activity in which spoken language is one part of a large repertoire of conversational behaviors.

For example, one study asked people to verbally describe pictures that were arranged on an easel (Bangenter 2004). People employed a range of verbal forms when making their descriptions. Most notably, participants pointed more often to the pictures when they were physically closer to the easel. Indeed, this pointing behavior increased as the distance decreased and pointing often replaced verbal descriptions as people stood closer to the pictures. These data demonstrate how pointing can be easily and opportunistically employed along with speech when people describe objects in the world.

Similar to previous studies, some psycholinguistic experiments have explored how speakers coordinate when talking about a given topic (Richardson, Dale and Kirkham 2007). For example, one study had two people discuss their favorite characters from one of two TV shows (e. g., "Friends," and "The Simpsons"); they both could see pictures of cast members, even though the two speakers could not see one another. The main interest here was to monitor participants' eye-movements as they engaged in conversation. An analysis of when people looked at the pictures, and for how long, revealed a tight coupling of the eye-movements of the two participants, especially during the first few seconds after which any cast members' name was mentioned. Furthermore, when participants were first given a background story regarding the objects they were looking at in a separate study (e. g., looking at paintings by Salvador Dali), there was an ever greater coupling of the participants' eye-movements. This latter finding suggests that having additional common ground knowledge helps people exploit other types of common ground information, namely the shared visual pictures presented. In general, people's conversational behaviors may be coordinated at many levels beyond speech alone.

Many other experiments have clearly demonstrated how people synchronize their verbal and non-verbal behaviors along multiple dimensions in conversation. Paxton and Dale (2013) had participants, who did not know one another, talk about one of two topics, one of which they both agreed about (affiliation group) and the other topic was one they disagreed on (argumentation group), based on prior survey results. These conversations were recorded and later analyzed for coordination among many different verbal and non-verbal dimensions. Most generally, there was a much greater degree of temporal coordination in their eye gazes, head nods, body posture, prosody, and so on when the speakers agreed than when they disagreed.

These studies are only representative of a large body of research in psycholinguistics and experimental psychology on the implicit bodily coordination that arises between speakers in conversation. Most importantly, what people say, and how they say it, are tightly coupled with a repertoire of nonverbal behaviors. This linguistic and nonlinguistic coordination is inherently flexible to meet the changing demands of different conversational contexts. Indeed, the diversity of empirical findings suggests that no single mechanism drives conversational behaviors. For this reason, "it is unlikely to be the case that conversational performance and lin-

guistic interactions can be accounted for in terms of a small single subset of mechanism" (Dale et al. 2014: 80). Characterizing language production must, therefore, always be situated as a multimodal process in which language plays only a contributing, but not exclusive, role in what gets conveyed and interpreted. There is clearly a great need in this emerging body of research on multimodal language use to examine more of the semantic content and pragmatic implications of what people produce with their language. Still, analysis of the pragmatic nature of speaker meaning should be conceived of as part of embodied communication involving multiple people working to achieve both individual and common goals.

8. Is some language production quite deliberate?

A widely-held belief within linguistic pragmatics is that speakers make choices in strategic ways during online language production. The underlying idea is that language production is not completely automatic because speakers are consciously aware of what they are doing. People are believed to be occasionally quite thoughtful when speaking and even produce very specific linguistic expressions with conscious deliberation, both when using conventional and novel word formations. One example of this idea is the proposal on "deliberate metaphor theory" which assumes that only a small select group of words or utterances really conveys metaphoric messages, namely those that are composed and delivered with a deliberate aim to alert others to particular cross-domain mappings (e. g., Shakespeare's Sonnet 17 line "How shall I compare thee to a summer's day") (Steen 2008). Many linguists and literary scholars maintain that different stretches of language must be deliberately composed and produced for one reason or the other with deliberation being closely tied to conscious intent.

However, there is actually no psycholinguistic evidence that supports the claim that some metaphors are produced deliberately with all other so-called metaphors not really conveying metaphoric, or other forms of, meaning (Gibbs 2015a, b). Many studies employing different production tasks show that speakers are sensitive to a wide range of constraints when articulating what they mean in context, such as the studies described in the earlier sections. Yet these experimental findings do not offer any support for the hypothesis that the context-sensitive production of certain language is "necessarily" deliberate or conscious. Speakers and listeners may be influenced by multiple constraints that push them toward adopting certain verbal practices in different circumstances. This fact does not, in any way, show that the speakers' so-called strategic choices are due to special deliberative thought processes. All language, to one degree or other, is intentional in the sense that people aim for others to understand their implied intentions given what is stated. But intentional language production is quite different from a unique process of deliberate language or metaphor production.

I discuss this topic given the arguments over deliberation in many contexts within the worlds of metaphor and linguistics pragmatics. At the same time, it is questionable whether any single psycholinguistic production task will be capable of unambiguously detecting conscious deliberation when people produce specific language materials, such as particular metaphors. The main difficulty is that there simply is no clear distinction between mental processes which are automatic and fully conscious. First, when people presume that they have performed some action with deliberative forethought or full awareness, they often mistakenly believe their behaviors are entirely the sole product of conscious mental processes. Experimental psychology has dozens of studies that drive home this important point (Gibbs 2011).

At the same time, when people act automatically, or without deliberate thought, they mistakenly believe that their actions are not shaped by many interacting personal, interpersonal, and environmental constraints. For example, skilled drivers move around in their cars without little conscious thought, unless some problem is encountered. Yet this so-called automatic behavior is really organized by a complex set of cognitive, perceptual, and motor skills, all of which operate again without much conscious awareness. For similar reasons, our intuitions as pragmatic scholars that people mostly produce language in one of two modes, automatic or controlled or conscious, is far too simplistic and fails to acknowledge the dynamic reality of how people really work, including when they speak or write. As more and more psycholinguistic production tasks demonstrate, people's speech planning behaviors emerge from a constellation of interacting sub-personal, personal, and contextual factors. No single force, such as a consciousness module, solely drives the language production process. It is a mistake, then, to argue that some specific aspects of language are only, or primarily, due to conscious, deliberate production processes which are completely different from automatic speech planning behaviors.

9. Conclusions

Different psycholinguistic production tasks have been developed to systematically examine various aspects of pragmatic language production. These tasks, which vary considerably, enable scholars to test specific falsifiable hypotheses and investigate details of the speech planning process. Of course, there are always disadvantages in studying people's linguistic behavior in scientific contexts, the most notable one being that laboratory situations do not always approximate real-world conversational behaviors. The distinct trend in psycholinguistics now is to examine language production not as a solitary process, but as a joint activity. What speakers say, and how they do so, is always constrained by their implicit attempts to cooperate and coordinate in order to achieve social, pragmatic tasks. At the same time,

language production is tightly linked with people's nonverbal behaviors along a variety of dimensions. Experimental findings in support of this conclusion point to the need for scholars to create theories that are sensitive to the multimodal nature of everyday language use where language itself only plays an important, but not solitary, role in shaping the course of human interaction.

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12. Role plays

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Abstract: This chapter offers a comprehensive account of the role-play method commonly used in cross-cultural and interlanguage pragmatics. Role plays have been used to investigate different aspects of the learners' pragmatic competence (e. g. pragmalinguistic and sociopragmatic knowledge). This chapter focusses on the conceptualization of the role-play method for research and assessment purposes, looks at the structure of the role-play task and instructions of the task for the role-play taker and role-play conductor, reviews existing varieties of role plays, and explains procedures for the coding and analysis of role play data. The distinction between closed and open role play is explained, as well as the relevance of the role-enactment approach. Finally, this chapter ends with an overview of key issues of validity and reliability, and methodological and ethical issues for researchers using the role-play method.

1. Introduction

Role plays provide oral data, enable simulations of real-life interactions, and are used for experimental purposes under controlled conditions. They are used to elicit interactive data from native (NSs) and non-native speakers (NNSs) in different interdisciplinary research fields. The role-play method was introduced in social psychology research during the 1940s (Sarbin 1943) with participants who were asked to take on roles in psychodramatic experiments assuming roles based on previous experience. This method was validated in subsequent experiments to further examine the role behavior of patients under experimental conditions (Sarbin and Jones 1955). From a psychological foreign language teaching perspective, the concepts of social role and role play are complex because the use of this "quasi-dramatic device" is now used with learners "who do not have the linguistic skills to express the conventional expectations for that role, in order to develop just those skills" (McDonough 1986: 80). Within the field of linguistics, role plays are widely used to collect data in second language acquisition (SLA) (Cohen and Macaro 2010; Dörnyei 2007; Mackey and Gass 2005), cross-cultural and interlanguage pragmatics (Cohen 2012; Félix-Brasdefer 2010; Kasper 2000; Kasper and Dahl 1991), and linguistic politeness (Félix-Brasdefer 2008). Role plays have been used to investigate different aspects of the learners' pragmatic competence, and are employed for training, for assessment and testing purposes, and for the teaching of pragmatics in the classroom.

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This chapter provides a comprehensive review of the role-play method in the service of pragmatics among NSs and NNSs in bilingual and multilingual contexts. It focuses on the conceptualization of the role-play method, role play types, task design, analysis of role play data, issues of validity and reliability, and methodological and ethical issues.

2. Role plays: Measurement of online (pragmatic) knowledge

The role-play method has been used to examine different aspects of pragmatic knowledge among NSs and NNSs, including children, who assume roles in order to produce and interpret communicative action. According to Crookall and Saunders (1989), a role play can be defined as "a social or human activity in which participants 'take on' and 'act out' specified 'roles', often within a predefined social framework or situational blueprint (a 'scenario')" (1989: 15–16). Within the field of interlanguage pragmatics (ILP), role plays can be of two types, each of which has different formats: closed and open role plays (Kasper and Dahl 1991). With role plays one can control for a series of contextual parameters: the description of the setting, the degree of social distance and social power between the interlocutors, the weight of imposition, gender and age of the participants, context of learning (foreign language [FL] vs second language [L2]), and proficiency level. The description of the situation makes explicit or implicit reference to the pragmatic target that is required of the participants, such as requesting, apologizing, or refusing. The main difference between closed and open role plays is the degree of interaction between the participants, and the amount of contextual information provided to the interactants.

The role-play method has been widely used in cross-cultural and ILP research. For example, of the 39 studies in ILP which are reported in Kasper and Dahl (1991), 33 % (13 of 39 studies) were carried out using role plays (open or closed). And, of the 51 studies on refusals and rejections conducted in cross-cultural, single-moment studies examined in Félix-Brasdefer (2008), 31 % used role plays (open or closed) (16 of 51 studies).

Influenced by social psychology research (Sarbin and Jones 1955), a distinction is made between role playing and role enactment. Role playing is "pretending to react as if one were someone else in a different situation", while role enactment is "performing a role that is part of one's normal life or personality" (McDonough 1986: 80–81). In the former, participants are asked to take on a social role in a setting that may or may not have happened to them, such as asking a university student to pretend to be a boss, an employee, a doctor, or the manager of a restaurant; in the latter, the role plays are designed to fit participants' characteristics based on previous experience, containing characters and difficulties that are known to be familiar to the participants. Although both types gather simulated data, the

role enactment approach is considered most effective, as it ensures a higher degree of validity of the data based on previous experience. For example, the role enactment approach was used by Trosborg (1995) in her study of learner data with open role plays to elicit requests, complaints, and apologies. To increase the degree of validity of the data, the role plays were "tailor-made to the participants or, at least, contain problems and characters which were known beforehand to be familiar to those involved" (1995: 144).

When adopting the role enactment approach, the aim is to construct role simulations that approximate real-life interactions using a variety of communicative activities that are embedded in everyday interaction. However, one should keep in mind that the role enactment approach limits the number of roles assumed by participants, while role playing may include a wider variety of roles in formal and informal situations to measure different aspects of pragmatic competence. Overall, researchers should keep this distinction in mind when designing the role-play task, in closed or open role plays.

2.1. Closed role plays

Closed role plays (also called Oral Discourse Completion Test [DCT]) elicit one-turn responses in reaction to a situational prompt with an initiating or reacting speech act. While there are different types of closed role-play formats, they are characterized by oral data in non-face-to-face interaction. The participant's oral response is recorded and later transcribed and analysed. Walters (1980) represents one of the early studies that examined children's L2 requests using a closed role play. Children were asked to make a request to a puppet which differed on variables such as age, sex, and race. This data collection technique, in which children interact with puppets, is often used in L2 developmental pragmatics. Rintell and Mitchell (1989) compared the performance of requests and apologies of learners of English as a Second Language (ESL) and NSs of English using a DCT and a closed role play. Differences were found with regard to the length and content of the speech acts, with closed role plays producing longer responses that contained verbal and non-verbal features often found in oral discourse. The responses included features of oral discourse, namely, more supportive moves, hesitation, and recycling in comparison to written DCTs, which produced features of written discourse. In the classic closed role play, participants read the situation and are asked to respond with either an initiating (compliment, request) or responding act (refusal, compliment response). The description of the situation is limited to a written stimulus and a brief description of the situation for which the interlocutor has to provide an appropriate response.

In order to provide rich audiovisual and contextual information in the situation prompt, Schauer (2004) designed the computer-based multimedia elicitation task (MET) to examine ILP development of requests in 16 scenarios among German

learners of English during a year-long study-abroad program in Great Britain. The MET controls the time and the nature of the audio and visual input, guarantees equal conditions for every participant, elicits oral data, and is delivered by means of a computerized presentation format with visual (photographic images) and audio input (description of the situation). The MET represents an interactive format with the situational prompt (not with an interlocutor), with different stimuli, that increases the degree of construct validity. In her study of compliments and compliment responses in L2 Spanish, Hasler-Barker (2013) used a revised version of the MET to elicit compliments and compliment responses from learners of Spanish in a FL context. In her cross-sectional study, learners at two proficiency levels were provided with a situational description which included written and aural stimuli, and visual information (delivered through Power Point slides on the computer). After the learners read the situation, they were asked to respond with a compliment or a compliment response. Following Hasler-Barker's (2013) experimental design, Félix-Brasdefer and Hasler-Barker (2015) used the computer-delivered closed role play to elict compliments and compliment responses from learners of Spanish who studied abroad in Mexico for seven weeks. Example (1) shows the instructions used prior to the task, example (2) shows the description of the situation, and example (3) provides a sample response:

(1) Instructions for the computer-delivered closed role play

You will see a series of situations during your study abroad program in Guanajuato, Mexico. You are studying Spanish for eight weeks this summer with Mexican professors from the *Universidad de Guanajuato*, and you are living with a host family. The following situations take place with a host family, at school, or in the city. Following the description, you will be prompted to speak your response to the situation out loud. You will have twenty seconds to read the situation and respond to it. Please remember to respond to the situations in Spanish. Your responses will be recorded.
Any questions?

(2) Sample of computer-delivered closed role play (complimenting host sister) (Félix-Brasdefer and Hasler-Barker 2015)

Photo of an attractive young woman with green eyes	Your host sister picked you up on the city bus and is taking you to your host family's house. When you saw her, she was wearing sunglasses. When you get on the bus, she removes them and you notice that she has striking eyes. What do you say to her?

(3) Sample response of the closed role play (compliment in L2 Spanish)

Oh – tus ojos son muy bonitos quiero ahm ojos ahm verdes también porque el contraste ahm entre la piel morena del mexicano es muy bonito.
'Oh – your eyes are very pretty um I want um green eyes, too, because the contrast um between the dark skin of the Mexican is very pretty'

The instructions in (1) direct the learner to read the situation. In this example, the instructions were provided in English to avoid difficulties with comprehension, but the responses were in the target language (L2 Spanish). The example in (2) provides the prompt with written and visual stimuli, and the information of the pragmatic target, a compliment. The sample in (3) shows an oral response from the closed role play with some oral features: a non-verbal token to express surprise (*oh*), repetitive hesitation markers that are common in oral discourse (*um*), and prosodic features such as fast speech, low final intonation, and elongation of non-verbal tokens to express surprise or emotion.

If the research goal is to analyze different dimensions of interaction (e. g. turn-taking, speech acts sequences, repair, collaborative talk), the open role-play is appropriate as it elicits data at the discourse level.

2.2. Open role plays

Open role plays (also called "discourse role play tasks" Brown 2008: 232) specify the actor's roles, but the course and outcome of the conversation is not predetermined. During a role-play task, participants are asked to read a situational description and to respond orally as they would in a real situation with an interlocutor in face-to-face interaction. The (open) role-play technique has the advantage of including interaction in a dyadic face-to-face format with another participant. Role plays are generally audio-taped and/or video-recorded. Once the situations have been recorded, the data are carefully transcribed according to a system of transcription notation in order to capture the sequential organisation of discourse (e. g. Jefferson 2004). Scarcella (1979) represents one of the early studies that used open role plays to examine learners' production of requests and invitations when speaking to superiors, equal familiars, and subordinates. Example (4) shows a classic situational role play description:

(4) Description of an open role play (Scarcella 1979: 277)

> You are planning an office party. You invite your boss, the clerk who works under you, and your good friend, a fellow employee. You request that each of your guests come unaccompanied by his wife.

According to Scarcella, role plays (i) "obtain complete conversational interactions, containing both conversational openings and closings"; (ii) allow the researcher "to control the conversation to a certain extent"; (iii) provide "comparable samples of speech"; and (iv) facilitate "videotaping, important when examining paralinguistic features of discourse" (1979: 277).

The data gathered by means of open role plays will depend on whether sufficient contextualized information is included in the description of the situation. For instance, the role-play situations used in the pilot study in Félix-Brasdefer (2002)

were tested for content validity with three groups: ten Americans, ten Mexicans, and ten US learners of Spanish (all university-level students). Using an open role play, the participants in each group were instructed to role play nine situations of equal and unequal status (they included three distracters and six refusals to invitations, suggestions, and requests) with another NS of English or Spanish (the mean number of words in the situations was 51.6 words). An example of an archetypal (unenhanced) role-play prompt is shown in (5) (36 words):

(5) Refusing a friend's invitation to a birthday party

> A friend of yours invites you to his birthday party next Friday evening. He is inviting a select group of friends over to his house, and you are one of them, but you can't make it.

Immediately after the participants completed the nine role-play situations, they were asked about the validity of their responses during the interactions. Regarding the content of the situation as in example (5), participants commented that more specific information was needed in each situation, such as detailed information with respect to the situation, time, place, and more information regarding the degree of formality of the relationship such as distant or close friends and the degree of social power between the interlocutors in situations which involved a boss or professor and an employee or student. In fact, most participants mentioned that their responses in the role-play interaction would have varied based on whether their relationship with the friend, boss or professor was close or distant. Thus, in light of the observations of the participants, and following Billmyer and Varghese (2000), the descriptions of the situations were enhanced to include enriched role-play scenarios (the mean number of words for the situations was 130.5 [Americans], 146.5 [Mexicans], and 140.5 [learners]). The role play in (5) was enhanced with contextual information about the setting, the relationship between the participants, gender of the initiator, and time of the event. The enhanced role play is shown in (6) (138 words) and a sample of the response that resulted from that situation between two American college students is given in (7) (taken from Félix-Brasdefer [2010: 48–49]):

(6) Enhanced role play: Refusing a friend's invitation to attend a birthday party (-P, -D)

> You are walking across campus when you run into a good friend of yours whom you haven't seen for about a month. You and he have been studying in the same program at the University for three years, and have studied and written papers together in the past, but you don't have any classes together this semester since you have been doing an internship off-campus. He invites you to his 21st birthday party at his house next Friday night at 8:00 p.m. He tells you that a group of mutual friends that you both used to hang out with and whom you haven't seen since the semester started will also be there. You know that this would be a good opportunity to see everyone again and to celebrate this special occasion with him. Unfortunately, you cannot make it.

(7) Sample response of open role-play interacton (NSs of US English) (Félix-Brasdefer 2010: 49)
Role play interaction: Declining a friend's invitation to a birthday party. Erin issues invitation; Paul declines invitation.[1]

1	Erin:	Hey Paul – how's it going?	Opening sequence
2	Paul:	hey, Erin how are you?	
3	Erin:	I'm fanta::stic=	
4	Paul:	=I haven't seen you in a long time – [where you been?	
5	Erin:	[I –	
6		I've just been working – going to class	
7	Paul:	[oh good - good	
8	Erin:	[the usual –	
9		I'm so glad that I saw you – I've been - trying to figure out	Invitation-refusal
10		how to get in touch with you cuz –um – I just turned 21 -	
11		yesterday – and I'm gonna have a party this Friday night	
12		and I'm just trying to get in touch with everybody –um –	
13		from last semester – that we were all in class together and	
14		everything and I really wanted you to come –	
15		it's gonna be at eight o'clock at my house	
16	Paul:	ooh – this Friday?	
17	Erin:	yeah	
18	Paul:	ohh – my goodness – it's my grandmother's birthday this weekend	
19	Erin:	you're kidding	
20	Paul:	and my grandmother lives out of town - too	
21	Erin:	oh [no:::	
22	Paul:	[and normally, you know, my parents go of course – you know	
23	Erin:	umhm	
24	Paul:	so – when we go, we spend the weekend with 'em	
25	Erin:	yeah	
26	Paul:	because I live so far away –	
27		we just can't come back and forth on [a day	
28	Erin:	[yeah	

[1] The following transcription notations are used: Contiguous utterances
= Equal signs indicate no break-up or gap. They are placed when there is no interval between adjacent utterances and the second utterance is linked immediately to the first.
[A left bracket indicates the point of overlap onset.
] A right bracket indicates the point at which two overlapping utterances end, if they end simultaneously, orthe point at which one of them ends during the course of the other. It is also used to parse out segments ofoverlapping utterances.
- A dash marks a short untimed pause within an utterance.
Characteristics of speech delivery
↑↓ The up and down arrows mark sharp rises or falls in pitch.
: A colon marks a lengthened syllable or an extension of a sound.
::: More colons prolong a sound or syllable.

29 when are you leaving?
30 Paul: Thursday night
31 Erin: oh man::
32 Paul: and we're gonna get there Friday morning and stay until Sunday

33 Erin: and – there's no way you can – like =
34 Paul: = oh, I wish I could – I – I wish I could make it
35 because, you know - I haven't seen you for such a [long time
36 Erin: [yeah
37 Paul: and I'd like to get - you know –
38 I'd like to get back with you but –

Insistence-response

39 um – maybe next – are you busy next week?
40 I mean - I'll take out for dinner or =
41 Erin: = ohh ((laughs)) that's nice of you – um yeah we can just –
42 we can get together – that's cool
43 Paul: would that work?
44 Erin: yeah
45 Paul: ok

Suggestion-response

46 Erin: well, I'm sorry you can't come,
47 but have a good time with your grandmother
48 Paul: alright – I'm sorry too –
49 Erin: alright
50 Paul: happy birthday
51 Erin: thank you.

Closing sequence

The interaction in (7) is between two NSs of English (university students) from one Southern region of the United States (North Carolina). Erin initiates the interaction (female) and Paul (male) responds to the initiation. In this role play interaction, there are five sequences commonly used in American refusals to invitations from a friend (Félix-Brasdefer 2010): an opening sequence (lines 1–8), the invitation-refusal sequence (lines 9–32), the insistence-response sequence (lines 33–38), the suggestion-response sequence (lines 39–45), and the closing of the interaction (lines 46–51). After the invitation (lines 9–15), a pre-refusal response is realised in one turn (line 16, 'ooh – this Friday?') followed by the refusal response, which is accomplished by means of various turn-constructional units (TCUs) (Schegloff 2007) (lines 18, 20, 22, 24, 26–27). Notice that the insistence-refusal response (lines 33–38) is shorter than the initial invitation-refusal sequence (lines 9–32). One can also appreciate several instances of overlap (lines 21–22, 27–28), interruption (lines 40–41), and laughter particles which serve to reinforce the links of solidarity between the participants (line 41). Finally, with role-play data researchers can examine the pragmatic effect of prosodic elements employed in an interaction to express tentativeness, politeness, or degrees of directness or indirectness, such as pitch direction, pitch range, pauses, loudness, tempo, and voice quality (e. g. creaky voice) (Selting 2010). For example, in his contrastive study of pro-

sodic features in Mexican, Costa Rican, and Domincan Spanish, Félix-Brasdefer elicited refusal (2011) and request exchanges (2009) using data from open role plays. The author found prosodic patterns of low final intonation and loudness (prosodic cues) that accounted for the realisation of directness and indirectness and politeness features.

Role-play data are widely used in formal and informal contexts, in different learning contexts (at home vs abroad), and among learners at different proficiency levels (Félix-Brasdefer 2008; Kasper and Dahl 1991). For instance, Félix-Brasdefer (2004) examined the sequential organization of dispreferred responses among learners of Spanish with different lengths of study abroad in Spain or Latin America. The role-play task included three informal and three formal situations (two refusals to invitations; two refusuals to requests; two refusals to suggestions). The example in (8) shows a refusal exchange between a boss (NS) and an employee (+P, +D) during an invitation-refusal sequence (Félix-Brasdefer 2004: 648–49). The boss was a NS of Mexican Spanish (a professor of Hispanic literature), and the employee was an undergraduate student of Spanish who had studied in Mexico for approximately two years. The role-play situation is given in (8) and the invitation-refusal response is provided in (9):

(8) NS-learner role-play interaction: Refusing a boss's invitation to attend a farewell party (+P, +D)

Imagine that you are in (Spanish-speaking country of your preference). You have been working at 3M as a sales representative for the last five years. You have a good working relationship with your boss although you do not socialize together outside the office. Your boss has always been supportive of your ideas and has been instrumental in your receiving a recent promotion. After working for him for three years, he has recently been promoted and will become the Manager of the Latin American Sales Division which will require his relocation to Mexico City next month. He is having a party next Saturday evening at a restaurant and is inviting you and other members of his sales group to celebrate his promotion and as a farewell, but you are unable to attend.

(9) Learner of Spanish (spent 24 months in Mexico: Refusing a boss's inviation to attend a farewell party)
(Learner role: Employee; NS of Spanish: Boss) (male-male interaction)

Boss:	1	*Hola, Greg, ¿cómo te va?* ('Hi, Greg, how are you?')	Open
Learner:	2	*muy bien, y tú?* ('very good, yourself?')	
Boss:	3	bien ('good')	
	4	*no sé si has escuchado la noticia de que me han ascendido de puesto,*	Invitation-Refusal Sequence
	5	*me han reubicado en la ciudad de México, y tendré que translardame allá.*	
	6	*Pienso tener una reunión en un restaurante, tus colegas estarán ahí,*	
	7	*y quería extenderte esta invitación a ti también, el próximo sábado a las 6:00 p.m.*	

8 *Me gustaría que estuvieras con nosotros.*
('I don't know if you've heard the news that I've been promoted and relocated to Mexico City, and I'll have to move there. I plan to have a gathering at a restaurant, your colleagues will be there, and I wanted to extend this invitation to you too, next Saturday at 6:00 p.m. I'd like you to be there with us.')

Learner: 9 *Gracias por tu invitación*
('Thank you for your invitation')
10 *lo que pasa es que ya tengo una cita con mi novia y vamos*
11 *a ir a un concierto, ya tenemos, este, los boletos*
12 *y no vamos a poder asistir*
('the thing is that I already have a date with my girlfriend and we are going to go to a concert, we already have, um, the tickets and we are not going to be able to attend')

Boss: 13 *qué pena, quizá un poco tarde, trae a tu novia también*
('maybe pretty late, bring your girlfriend also')
Learner: 14 *y van a estar ahí hasta ...?*
('and you're going to be there until …')
Boss: 15 *creo que estaremos hasta por las once y media*
('I think we'll be there until around 11:30')
Learner: 16 *pues quizás después del concierto podemos llegar y platicar, tomar algunas*
17 *sodas, pero primero tenemos que ir al concierto y luego llegamos.*
('well maybe after the concert we can come and chat, have some sodas but first we have to go to the concert and afterwards we'll come')
Boss: 18 m*e parece ideal*
('sounds great')
Learner: 19 *¿está bien?, haremos lo possible por llegar , no sé*
('is that fine?, we'll do our best to be there, I don't know')
Boss: 20 *me daría mucho gusto verte por allá, aunque sea un ratito.*
('I would very much like to see you there, even if it's for a short time')
Learner: 21 *okay*

Insistence-response

Boss: 22 *bueno, hasta luego,*
('well, see you later')
Learner: 23 *felicidades* ('congratulations.').

Closing

The exchange in (9) is realized across 14 turns during four main sequences (or joint-actions), namely, an opening (lines 1–3), an invitation-response (lines 4–12), an insistence-response (lines 13–21), and a closing (lines 22–23). After the boss's invitation (lines 4–8), the learner expresses appreciation with the informal pronominal form *tú* ('you-informal') (instead of the formal pronoun *usted* ['you-for-

mal']) (line 09) and employs an indirect refusal by means of one justification (lines 10–12). Upon the boss' insistence (line 13), the learner engages in a negotiation process in search of a successful resolution and requests further information in the next turn (line 14). In the learner's next turn, he compromises with the boss and provides a vague alternative (lines 16–17). In the following turn, the learner offers a clarification request (and a vague response) to confirm that his previous alternative has been well received by the boss (lines 19–21). The last two turns (lines 22–23) serve to close the interaction politely and successfully. Overall, this exchange shows the learner's ability to negotiate a refusal across multiple turns, with various mitigating strategies that comprise the speech act set of refusals, expressions of politeness, as well as the learner's ability to open, close, and negotiate the interaction successfully.

The next section describes four varieties of role plays that examine different aspects of the learner's pragmatic competence: simulated role play, naturalized role play, the Advanced Placement (AP) role-play task, and the oral-proficiency-interview (OPI) role play. The aim of each role play is to enhance construct validity in order to elicit data that approximates natural discourse (simulated role play, AP role-play task, and the naturalized role play). The OPI role play and the AP role play are mainly used for testing and assessment purposes. Each role play variety has advantages and disadvantagtes and is employed for different purposes.

2.2.1. Simulated (role-play) task

Simulated tasks are similar to role enactments in that they ask participants to simulate a situation based on their own roles, such as giving directions. In her study on giving directions in ESL, Lee (2014) utilized a simulated task to ask learners to give directions to specific places on a university campus. According to Lee (2014: 76–77), role plays and simulated tasks share certain characteristics: both elicit interactive and multi-turn discourse in face-to-face interactions, they are not consequential, and interlocutors engage in the co-construction of speech act sequences. Unlike role plays which ask participants to take on social roles that may or may not have happened to them, in simulated tasks participants are given "discourse roles" (e. g. direction-giver and direction-seeker). Further, in similated tasks participants do not take on social roles different from their own, as in Lee's (2014) study where the participants "take a role of direction-giver and direction-seeker" (2014: 77), roles that are familiar to students. Similar to role plays, participants receive a card with a description of the situation, and the role play conductor is trained prior to the role-play interaction. Although this instrument is not frequently used in ILP research, future studies should elicit interactive data using simulated tasks with a variety of initiating and responding speech acts to enhance the validity of the data.

2.2.2. Naturalized role play

The naturalized role play (NRP) was proposed by Tran (2006) in order to increase the validity of the traditional open role play. It elicits spontaneous data in controlled settings and the participants are not aware of the research focus. Spontaneous data does not mean natural; instead, it refers to data that approximates natural discourse. The researcher who uses data from the NRP also collects additional data from other sources such as observation and field notes, thus, increasing the degree of validity of the data. With regard to the design of the situations, the author noted that the role-play description should be "carefully designed with attention to detail in order to be elicited with real-life situations" (2006: 7). The NRP differs from open role play in that it consists of distracting tasks for informants to perform. Participants respond to spontaneous speech acts which are elicited without the participants being aware of the pragmatic target. The instructions for the role-play conductor include the following information shown in (10):

(10) Instructions in the card for the role-play conductors (Naturalized Role Play, Tran 2006: 23)

- Please ask for directions to ["place"].
- Please ask him/her what time the bookshop is closed today.
- Please accept the ride that he/she offers.
- When it is most natural during the talk, compliment him/her on:
  - his/her article published last week
  - his/her car.
- Please make the conversation as natural as posible. Speak as you would in real life. It is very important that you compliment naturally and make your compliments a part of the normal social talk. Do not make it obvious that the compliments are among the tasks listed in the card for you.

While the data elicited through the NRP approximates natural discourse, the process to conduct the interview for the desired pragmatic target requires creativity on the part of the researcher as well as the ability to perform the task on the part of the role-play conductor. One advantage of this method is that it triangulates data from other sources, thus increasing the degree of construct validity. And while the NRP seems to be more suitable to elicit data from responding speech acts such as compliment responses (Tran 2006), future studies are needed to elicit data from other responding speech acts such as refusals, or initiating speech acts (e. g. compliments, invitations, complaints, or requests for action or information). The NRP should be tested with other speech acts, in various learning contexts, and across proficiency levels.

2.2.3. The Advanced Placement (AP) role-play task

The AP exam is administered by the US College Board to assess written and oral proficiency among high school students who study a second language (e. g. French, German, Italian, and Spanish). This exam is developed and scored by experienced college and university faculty members, as well as by experienced AP (high school) readers. For example, the Spanish AP Exam is one of the various proficiency tests offered by Educational Testing Services (ETS) to measure the language proficiency (speaking, written, and comprehension skills) of high school students who intend to be placed in advanced language Spanish courses at the university level (5th and 6th semester or the equivalent). The AP exam committee of the College Board incorporates rigorous practices of language instruction and language testing by considering documents such as the ACTFL Proficiency Guidelines and the Standards for Foreign Language Learning[2] in preparing their exams. The first part of the oral section, in which students participate in a recorded role-play (conversation) task with a NS of Spanish, measures interpersonal speaking skills. The AP role-play task includes five or six prompts, and students have 20 seconds to respond. The role-play task is based on a role-enactment approach in that it asks students to take on roles in situations that are likely to happen to them in everyday life, such as inviting a friend to a party, asking for information on the street, or an interaction with a teacher. Some of the communicative functions students are expected to accomplish on the exam include the ability to initiate (greetings), maintain, and close a conversation (farewells) on a familiar topic, formulate questions for information or action, and seek clarification information. Example (11) includes the instructions for the role-play task and example (12) shows the structure of the role tasks.[3] In each turn, the student is provided with information.

(11) Instructions to the AP Spanish role-play task (instructions are provided in Spanish and English)

> You will participate in a coversation. First, you will have a minute to read a preview of the conversation, including an outline of each turn in the conversation. Afterward, the conversation will begin, following the outline. Each time it is your turn to speak, you will have 20 seconds to record your response. You should participate in the conversation as fully and appropriately as possible.

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2 See description of the ACTFL Proficiency guidelines: https://www.actfl.org/publications/guidelines-and-manuals/actfl-proficiency-guidelines-2012

3 The instructions, structure, and audio of the 2016 Spanish role-play task can be accessed here: http://apcentral.collegeboard.com/apc/public/exam/exam_information/4554.html

(12) AP Spanish role-play task[4]

Context: This is a converation with your friend Sonia about opportunities of community service. You will participate in this conversation because you are interested in doing community service. (instructions in Spanish)

Speaker	**Test Booklet**	**Master Audio**
Sonia	Te saluda, te pide disculpas y te hace una pregunta	Hola. Siento haberme perdido tu fiesta de cumpleaños. Ese día me tocó trabajar como voluntaria en el Centro Social. ¿Cómo estuvo la fiesta?
	'She greets you, apologizes and asks you a question'	'Hello. I'm sorry I missed your birthday party. That day I had to volunteer at the Social Center. How was the party?'
Tú:	Responde, incluyendo detalles 'Respond, including details'	[Tone] 20 seconds [Tone]
Sonia:	Continúa la conversación y te hace una pregunta	Ah … Lamento no haber asistido. Por cierto, ¿sabes que están buscando voluntarios para trabajar con niños? ¿Te interesaría participar?
	'She continues the conversation and she asks you a question'	'Ah … sorry I couldn't make it. By the way, do you know that they are looking for volunteers to work with kids? Would you be interested in participating?'
Tú:	Responde afirmativamente y explica por qué. 'Respond affirmatively and explain why'	[Tone] 20 seconds [Tone]
Sonia:	Continúa la conversación y te hace otra pregunta.	¡Qué bien! ¿Y … qué tipo de actividades podrías hacer con los niños?
	'She continues the conversation and she asks you a question'	'That's great! And … what kind of activities could you do with the kids?

[4] Role-play task: https://secure-media.collegeboard.org/digitalServices/pdf/ap/ap16_frq_spanish_language_script.pdf. Audio for AP Spanish (Task 3: Conversation) http://apcentral.collegeboard.com/apc/members/exam/exam_information/231929.html

Tú:	Responde con detalles 'Respond with details'	[Tone] 20 seconds [Tone]
Sonia:	Continúa la conversación y te hace una propuesta.	Ya veo … ¿Te gustaría colaborar todas las tardes?
	'She continues the conversation and makes a proposal	'I see … would you like to help out every afternoon?'
Tú:	Responde negativamente y explica por qué. 'Respond negatively and explain why'	[Tone] 20 seconds [Tone]
Sonia:	Te hace una pregunta.	Bueno, entiendo, pero cualquier ayuda será bien recibida. ¿Y … qué más quisieras saber sobre el centro?
	'She asks you a question'	'Well, I understand, but any help would be well received. And … what else would you like to know about the center?'
Tú:	Pide más información. 'Ask for more information'	[Tone] 20 seconds [Tone]

In this open role-play task the student is asked to provide specific information for each turn in response to each prompt. Students are required to provide details, explain, agree or disagree with the interlocutor's response, and make requests. The AP role-play task measures on-line pragmatic knowledge in order to co-construct a conversation across simulated multiple turns. Since all the students receive the same stimulus, the data are comparable. This open role-play task elicits interactional data for testing and assessment purposes.

2.2.4. The oral proficiency interview role play

The oral proficiency interview (OPI) consists of a semi-structued interview that is used as a means of assessing the speaking ability of international students from non-English-speaking countries who wish to study at an English-speaking university, or the ability of employees who intend to demonstrate a sophisticated level of speaking in the English language. OPIs are largely organized as question-answer sequences in which the interviewer leads the interview by asking questions with different degrees of complexity to measure different skills: grammatical, sociolinguistic, pragmatic, discourse, and strategic ability, and the candidate provides the answers.

Some varieties of OPIs include a role-play component (e. g. the International English Language Testing System [IELTS]; Foreign Service Institute/Interagency Language Roundtable [FSI/ILR]; or the American Council for the Teaching of Foreign Languages [ACTFL]). Researchers have examined the sequential structure of the OPI with respect to the interviewer's questions and the candidate's ability to co-construct meaning at the discourse level (cf. Brown 2004; Ross and Kasper 2013, see chapters 8–13). The OPI consists of various stages in order to assess different aspects of the learner's interactional competence. For example, the IELTS interview encompasses five stages, of which the middle one is the role-play task: introduction (Phase 1), extended discourse (Phase 2), elicitation role-play task (Phase 3), speculation and attitudes (Phase 4), and conclusion (Phase 5). The role-play task is based on "information gap" type activities. The ACTFL OPI consists of four stages: warm-up, interactive process, role play, wind down. The role play is used to test interactional skills that cannot be measured through the interview. For instance, for the ACTFL OPI role play, taking place sometime in the middle of the interview, the interviewer selects a card with a role-play task to test additional aspects of the candidate's speaking ability. The interviewer shifts roles from speaking as himself/herself and indicates to the candidate that he/she will engage in a simulated role-play task in which he/she takes on a role in a hypothetical situation. The selection of the role-play task depends on the candidate's initial proficiency level identified by the interviewer (novice, intermediate, advanced, superior, distinguished). The role-play task asks the candidate to take on a role to solve a complication at the airport, apartment building, to ask for directions, to express disagreement, to complain, or to issue a request for service or information. The OPI role play measures sequential and organization skills such as the ability to take turns, to make a request and respond to the request, to come up with a solution, and finally to close the interaction appropriately. Immediately after the role play is completed, the interviewer indicates that the role play has ended and he/she shifts back to end the interview.

The OPI role play differs from the archetypal open role play in that it is embedded in the OPI and signals the candidate when the role play begins and when it ends. The OPI role play shares the following characteristics with the traditional role play: the roles adopted by the candidate are not necessarily based on previous experience; it measures different aspects of the learner's interactional competence such as turn-taking, repair, sequential organization. However, in the OPI role play the interviewer exerts more control (than the role-play conductor in the traditional open role play) during the interaction as he/she indicates the begining and end of the interaction, the selection of the topic for the situation, and the role selected for the candidate. In their discursive analysis of the OPI role play, Okada and Greer (2013) provided a detailed sequential analysis of conversational practices of the OPI role play, such as the interviewer's formulation and reformulation of the question and the use of silence to signal the candidate's course of action during the

pursuit of a response. Specifically, the OPI role-play task is used to test one aspect of the learner's speaking skill embededed in a semi-structured interview in face-to-face or telephone interaction.

Table 1 displays the main characteristics of the various types of role plays analyzed in this section.

Table 1. Varieties of role plays in cross-cultural and interlanguage pragmatics

Role play type	**Source in cross-cultural orILP**	**Pragmatic/ discourse targets**	**Characteristics**
Archetypal (open) role play	Félix-Brasdefer (2008); Gass and Houck (1999); Hasler-Barker (2013); Márquez Reiter (2000); Márquez Reiter, Reiney, and Fulcher (2005); Scarcella (1979)	Requests, refusals, apologies, compliments and compliment responses	Face-to-face simulated dyadic interactions. Elicits multi-turn conversational interactions in face-to-face (or telephone) dialogic simulations. Open-ended interacion including opening, negotiating phase, and closing sequence. Participants are asked to take on social roles that may or may not be based on previous experience.
Role-enactment approach (based on Sarbin and Jones 1955)	Trosborg (1995)	Requests, complaints, and apologies	Face-to-face dyadic simulated interactions. Participants perform a role that is part of their everyday normal life or personality. Role plays are tailor-made to the participants containing problems and characters known beforehand.
Naturalized role play	Tran (2006)	Compliment responses	Face-to-face dyadic simulated interactions with spontaneous data. Consists of distracting tasks for informants to perform while the role play is in progress without the participants being aware. Participants respond to spontaneous speech acts which are elicited without the participants being aware of the pragmatic target. Triangulates with observational and field-note data to increase data validity.

Role play type	Source in cross-cultural orILP	Pragmatic/ discourse targets	Characteristics
Simulated role-play task	Lee (2014)	Direction-giving	Face-to-face dyadic simulated interactions. Elicits interactive data in face-to-face dialogic interactions. Similar to role enactments in that they ask participants to simulate a situation based on their own roles, such as giving directions. Participants are asked to take on social roles that are familiar to them (based on previous experience).
AP role-play task	http://apcentral.collegeboard.com/apc/public/exam/exam_information/4554.html	Openings and closings in conversations, requests, agree-disagree sequences, request-response sequences, and other speech act sequences	Simulated role-play interaction used for assessment purposes. Assesses interpersonal speaking skills of high school students who intend to be placed at advanced level at US colleges and universities. Students respond to prompts to co-construct a simulated conversation.
OPI role play (Role play in oral-proficiency interviews)	Brown (2004) Oakda and Greer (2013)	Different conversational practices (repair, turn-taking, sequency organization)	Face-to-face or telephone dyadic interactive simulations. A component of the oral proficiency interview as a means of assessing various aspects of the learner's interactional competence. Question-answer sequences in which interviewer asks questions and the candidate gives answers. Interviewer has control of topics for the development of interaction.

Role play type	Source in cross-cultural orILP	Pragmatic/ discourse targets	Characteristics
Closed role-play	Hasler-Barker (2013); Félix-Brasdefer and Hasler-Barker (2015); Rintell and Mitchell (1989); Rose (2000); Schauer (2004)	Requests, compliments, apologies	Non-interactive oral data in one or two closed turns. Participants are asked to respond orally in one turn to initiating or responding acts. Other types of closed role plays vary with regard to the amount of contextual information in the written, aural, and visual stimuli. The Cartoon Oral Production Task (COPT) includes oral and visual stimuli. Each cartoon includes a brief caption to describe the scenario. After the participants are directed to the sceneario, the researcher reads a brief situation, followed by an oral response that is recorded. The Multi-media Elicitation task (MET) (Schauer 2004) is delivered through a computerised presentation format with visual (photographic images) and audio input (description of the situation).

3. Issues of validity, reliability, and analysis of the data

Role plays have been compared to other methods such as production questionnaires, multiple-choice, or questionnaires. The main issue is the degree of validity and reliability of role-play data. Validity refers to the degree to which an instrument (e. g. role plays) measures what it intends to measure, and consequently allows adequate interpretation of the results. Three types of validity are discussed in the literature: (1) content, (2) criterion-related, and (3) construct validity. Content validity refers to the degree to which the instrument measures the content area in two ways: item and sampling validity (Gay et al. 2009). Item validity refers to how well the items of the instrument measure the intended content area; for example, if the content of the situations employed in role plays is relevant for measuring the intended aspect of pragmatic competence, namely, pragmalinguistic or socioprag-

matic knowledge (cf. section 4). Sampling validity refers to the representativeness of the content of the items included in the overall instrument, such as the inclusion of different types of situations to measure performance of one or two speech acts, and in symmetrical and asymmetrical contexts. Criterion-related validity examines whether the results of a production of a test correlate with the findings obtained from another instrument that measures the same aspect of pragmatic competence, as done in Brown (2001) who used six different instruments to measure requests, refusals, and apologies. Finally, construct validity is the most difficult form of research validation, as it refers to the internal structure of the instrument and what aspect of pragmatic competence it intends to measure (e. g. production, perception, interaction). In contrast, reliability has to do with the degree to which an instrument consistently measures the intended hypothetical construct. In particular, the reliability of a group of test scores, for example, reflects the "consistency of measurement whether across time, forms, raters, items, etc" (Brown, 2008: 228).

Validity and reliability are crucial methodological concepts that every researcher needs to keep in mind during the conceptualisation of the role-play task. In their study of sequential analysis of role-play requests, Al-Gahtani and Roever observed that "role plays allow a decent degree of standardization while eliciting extended interactive data" (2012: 44). And Demeter (2007) showed that role plays represent a reliable and valid method to collect data for apologies. If the focus of the research question is to analyze interactional aspects of communicative action (e. g. sequence organization, turn-taking, overlap, repair), role plays are a better option than other non-interactive methods such as DCTs.

One of the main criticisms against the role-play method is that it gathers artificial or simulated data, as participants are asked to imagine a situation that may or may not have happened to them in real life. It has been noted that an ethnographic approach in naturalistic setting is more favorable for speech acts than elicited data (Duranti 2009; Wolfson 1989). Under this approach, data are often collected during prolonged participant observation, audio and video-recording, and field-note data. Nevertheless, the role-play method provides the researcher with interactional data that approximates natural discourse with regard to the dynamics of the interaction, such as sequence organization, turn-taking, prosodic cues (e. g. intonation, tone, stress, and rhythm), and the realization of speech acts at the discourse level (joint actions). Further, role-play data ensure comparability across different situations and degrees of formality, and allow the researcher to control for micro- (social power, distance, situation) and macro-social factors such as region, sex, age, ethnicity, and the socioeconomic level of the participants. For example, with regard to pragmatic variation, role plays are suitable for the analysis of intra-lingual pragmatic variation because they allow for the comparison of one or more speech acts across different situations and among participants from two or more varieties of the same language (Félix-Brasdefer 2009; Schneider 2010), and in cross-cultural pragmatics research contrasting the speech act realization in two

languages (Félix-Brasdefer 2008; Márquez Reiter 2000). They can also be used in inter-cultural pragmatics for testing and assessment purposes; for example, in doctor-patient scenarios between US NSs of English (monolinguals or learners) and NSs of Spanish-speaking regions (Cohen 2012). And to increase the degree of validity, other methods can be used to complement role-play data, such as likert scales or verbal reports, which provide insights to speakers' perceptions with regard to the planning, the selection of the language of thought, and delivery of the speech act. Thus, being cognizant of the artificiality of the data, the role-play method has many advantages. It is mainly used for experimental purposes where the focus is the analysis of online pragmatic knowledge, face-to-face interaction, assessment of learners' pragmatic competence, and the control of micro- and macro-social factors in comparable formal and informal situations.

4. Methodological and ethical considerations

Role-play data allow the researcher to examine two aspects of the learner's pragmatic competence (Leech 1983; Thomas 1983): (1) pragmalinguistic competence – knowledge about and performance of the conventions of language use or the linguistic resources available in a given language that convey "particular illocutions" in contextually appropriate situations (Leech 1983: 11), and (2) sociopragmatic competence – knowledge about and performance consistent with the social norms in specific situations in a given society, as well as familiarity with variables of social power and social distance. More importantly, due to their interactional nature, researchers can examine different dimensions of the learner's interactional competence, which concern their ability to use interactional resources necessary for the co-construction of meaning in joint-action in formal and non-formal settings: how learners open and close an interaction, how they negotiate meaning such as refusing a professor's advice not to take a class or complaining to the manager of a restaurant about bad customer service, how learners initiate and accomplish repair in conversation, and how they take turns and overlap in interactions with native and non-native speakers.

If the objective of the research question is a sequential analysis across multiple turns, an open role play is the preferred method. For example, Al-Gahtani and Roever (2012) took a close look at the sequential analysis of request responses among ESL learners to examine pragmatic development across four proficiency levels. A CA approach (Schegloff 2007) was used to examine the role-play interactions. Results showed that lower-level learners were less likely to project upcoming requests and pre-requests. Advanced learners produced more pre-expansions and insert-sequences, and a more sophiscated production and co-construction of the request across multiple turns. Félix-Brasdefer (2007) analyzed role-play inetractions to examine learners' ability to co-construct request sequences (pre-sequences,

insertions, and post-expansions) among FL learners of Spanish at three proficiency levels. Gass and Houck (1999) also used a discursive approach to examine the negotiation of refusal sequences among ESL learners. Hasler-Barker (2013) used open role-plays to analyze the structure of compliments and compliment responses in learner-learner and NS-NS interactions. The author showed how intermediate-level learners negotiate these speech acts. And, Félix-Brasdefer (2006) used a CA approach to teach the ability to refuse across multiple turns using role-play interactions. Learners were taught to identify speech act sequences, followed by an awareness-raising approach. Overall, Kasper and Dahl (1991) stated that open role plays "provide a much richer data source. They represent oral production, full operation of the turn-taking mechanism, impromptu planning decisions contingent on interlocutor input, and hence, negotiation of global and local goals, including "negotiation of meaning" (in the SLA sense of the term), when required" (1991: 228; original emphasis).

When designing and conducting the role-play task, the researcher should be aware of the following recommendations. With regard to the representativeness of the situations, researchers need to include sufficient contextual information: a description of the setting, the degree of social power and social distance of the interlocutors, information about the degree of imposition, and specific information about the pragmatic target, namely, asking the participant to perform a speech act (issuing a request or an invitation, agreeing or disagreeing). In this case, the role play is targeted at specific speech acts. Researchers should also make an effort to include a balanced distribution of role-play situations in formal and informal settings to analyze different aspects of the learner's pragmatic competence. In addition, role plays are widely used to elicit joint-action in cross-cultural and intercultural settings (cf. Félix-Brasdefer 2008). With regard to the administration of the role-play task, researchers can match different participants for each role-play situation, but this increases the number of the participants. For example, ten NSs with ten NNSs, each pair performing the role-play situations. In this case, each pair receives instructions prior to the interaction. A second option that is more frequent in cross-cultural and ILP research is to train an interlocutor to conduct all role-play interactions with different participants. In this case, the same interlocutor interacts with each participant in formal and informal situations. The advantage of this alternative is that it ensures comparability of the role-play samples, especially when examining pragmatic development across groups of various proficiency levels.

In addition to the researcher's own analysis, a second, trained person should code the data independently to increase its reliability (e. g. request types, openings and closings, internal modification of the request). And for a cross- and inter-gender analysis, a statistical program (e. g. SPSS) can be used to examine the data through the use of descriptive statistics and an analysis of independent (e. g. gender) and dependent variables of the study (e. g. request type, stylistic forms). For the analysis of interactional data, a qualitative method of discourse analysis is nec-

essary to capture the dynamics of the structure of joint sequences, such as applied CA (Ross and Kasper 2013).

Triangulating data from two or more sources enhances the credibility of the results and offers a broader understanding of the data from different perspectives. For example, in Félix-Brasdefer (2004, 2008) the role-play interactions were supplemented by retrospective verbal reports to examine learners' perceptions with regard to sociocultural information, directness and indirectness, and polite or impolite behavior. To capture non-verbal features of the role-play interaction, some researchers have videotaped the entire role-play interaction (Gass and Houck 1999; Scarcella 1979; Walters 1980). If the research focus is to analyze prosodic patterns of the role-play interactions, recordings should be conducted with a high-quality digital recorder and a high-fidelity microphone in a sound proof room to ensure a high quality of the recorded interactions.

Finally, due to ethical considerations and in order to protect the rights of human subjects, researchers collecting role-play data need to obtain approval from the Institutional Review Board (IRB) at their institutions (or applicable offices in each country) to collect audio- or video-recorded data. It should be noted, however, that in some countries protection of human subjects may not be available at the researcher's institution, but the researcher should seek to investigate other offices that protect the rights of participants for research purposes. Participants, including NSs and NNSs, should be informed of the general objectives of the research project and that their interactions will be recorded, and they must be assured that the data will be used confidentially. In this case, adult participants must complete a consent form to agree to participate in the research project. The consent form provides a description of the project, and gives information about the rights of the participants, risks and benefits of the project, and the participant's right to withdraw from the research project at any time. If role-play data are elicited from vulnerable subjects in research (e. g. prisoners or children), consent must be obtained from a third party. For instance, regarding minors, consent is provided by their parents or guardians. This information must be mentioned in the description of the research method of any study, and all data must be considered with anonymous subjects.

5. Conclusion

Role plays represent a reliable and appropriate method for collecting pragmatic and interactional data in cross-cultural and ILP research. They can be used to examine a variety of speech acts among NSs and NNSs in bilingual and multilingual contexts. Role-play data, if elicited with care, represent reliable and valid data (to a degree) that permit the examination of different aspects of the learner's pragmatic competence (pragmalinguistic and sociopragmatic knowledge), including interactional competence in face-to-face or telephone dyadic interactions. Role plays represent

a viable method for examining pragmatic development across learners of various proficiency levels and in different learning contexts. The choice of the type of role play (archetypal open role play, naturalized role play, simulated role-play tasks, OPI role play) depends on the researcher's ability to design a task that yields data that approximates natural discourse. The OPI role play and the AP role-play tasks are used for assessment and testing purposes to determine the learner's level of pragmatic and discourse competence. To increase the validity of role-play data, researchers should triangulate additional data from other sources, such as retrospective verbal reports, field notes, production questionnaires, and natural discourse.

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IV. Observational pragmatics

13. Introduction to part 4: Observational pragmatics

Andreas H. Jucker

1. Introduction

Parts 4 and 5 of this handbook are devoted to methods of analysis that rely on observational data, that is to say on data that have an existence outside of the research context and which have not been experimentally elicited or created by the researcher. Part 4 focuses on methods of analysis that are mainly qualitative and rely on relatively small sets of data, consisting, for instance, of transcriptions of audio- or video-recorded data, field notes of various types or small samples of written texts. Part 5, in turn, will focus on research methods that are mostly quantitative in nature and depend on larger data samples, which require computer assisted retrieval techniques.

The distinction between qualitative and quantitative research is here used mainly as a convenient structuring principle. It is not a distinction that can be applied in any categorical manner. In a general sense, qualitative approaches focus on functional aspects of linguistic entities; they focus on careful descriptions of generally small sets of data without considering numerical data, such as frequency figures or measurements (Andersen 2011: 587). Patterns and generalisations are described on a small scale. Distributional differences based on statistical information are less important. The focus is very much on the description of the details, on meanings and functions in context.

Quantitative research, on the other hand, is based on numerical data, on measurements and frequencies. Such approaches are generally based on large datasets. Patterns and generalisations are described on a large scale and often different datasets are compared in terms of the frequencies of certain entities or other measurements (see Rühlemann 2011). Quantitative research depends on countable or measurable entities, and such entities depend on the classification of entities gained through qualitative research. In this sense, quantitative research is not possible without a qualitative foundation (see also chapter 18, the introduction to section 5 of this handbook). Qualitative research, on the other hand, appears to be possible without any quantification of its categories, except that the qualitative description of categories in a set of data always makes the, to some extent, quantitative point that this category at least exists in this particular set of data.

In section 2 of this introductory chapter, I will briefly problematize the concept of "naturally occurring", which is often seen as the gold standard for observational pragmatic research. The final section will introduce the four papers of this section of the handbook. For more details on the different types of data in pragmatic

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research the reader is referred to chapter 1 and for a more detailed introduction of corpus pragmatic approaches to chapter 18, which introduces section 5 of this handbook.

2. The concept of "naturally occurring"

For many approaches in pragmatics, "naturally occurring" data seem to be some kind of gold standard. Data should be as uncontaminated by any researcher influence as possible. While it is acknowledged that this is an ideal that is hard to achieve, everything should be done to minimise the undesirable effects of researchers' impact on the data. Schegloff (1996: 468), for instance, argues that only "naturally occurring interactional environments which seem to be the natural, primordial home for language use" can serve as data for a conversation analytical research agenda. Have (2007) makes a similar point:

> The general CA recommendation for making recordings is that these should catch "natural interaction" as fully and faithfully as is practically possible. The term "natural" in this expression refers to the ideal that the interactions recorded should be "naturally occurring", that is "non-experimental", not co-produced with or provoked by the researcher. […] In other words, the ideal is to (mechanically) observe interactions as they would take place without research observation, but one can never really verify this. (Have 2007: 68)

The distinction between "naturally occurring" or "authentic" data on the one hand and "contrived" or "researcher prompted" data on the other seems to be relatively clear. It is the distinction between data that "would have occurred anyway without the intervention of the researcher" and data that have been "deliberately elicited by the researcher, by setting up conversations or speaking tasks for the purpose of analysis" (Archer, Aijmer and Wichmann 2012: 12). Potter (2002) makes the same point with his "(conceptual) dead social scientist's test", in which he asks:

> Would the data be the same, or be there at all, if the researcher got run over on the way to work? An interview would not take place without the researcher there to ask the questions; a counselling session would take place whether the researcher turns up to collect the recording or not. (Potter 2002: 541; see also Golato 2017: 21, and Golato and Golato, this volume)

He suggests that the term "natural" should be replaced by "naturalistic" because of the many ways in which data generally fall short of the ideal of being entirely natural in the strict sense (Potter 2002: 540). This would then provide a "useful contrast between data that are got up and data that are, at least ideally, not, while recognizing the limits on that distinction" (Potter 2002: 541).

However, even in data that would exist without the intervention of the researcher, there are different levels of "naturalness". The dead social scientist's

test focuses solely on the impact the researcher has on bringing about the communicative event under observation. There are three additional dimensions or scales along which speech data can be classified as being either naturally occurring or contrived; these concern the purpose of the communicative event, the level of researcher participation in the event and the manner in which it is transformed into a written form as a basis for subsequent inspection and analysis. These dimensions are partly interlinked but they cannot simply be subsumed under the dead social scientist's test.

On the dimension of the purpose of the communicative event, we can distinguish between those speech events that have a purpose outside the research context and those whose purpose is entirely research centred. The counselling session given as an example by Potter in the quotation above has a purpose in itself. Both the counsellor and the client have communicative goals that are not dictated by the research context. In a role play, at the other end of the spectrum, the interactants take part as if play acting. The communicative goals are prescribed by the researcher, and the complaints, requests or apologies acted out in these situations do not have real-world consequences. However, communicative events can also occupy some middle ground between these extremes. In Rüegg's (2014) study of restaurant interactions, for instance, the data consisted of interactions recorded in different types of restaurants in Los Angeles. These interactions were clearly staged for the purpose of the research but they had real-life consequences in that the researcher and her assistants who acted as customers were served drinks and food and were asked to pay for these services. The waiters who served the researcher and her friends arguably interacted with them as they normally interact with restaurant guests in spite of the fact that most of the recorded interactions would presumably not have taken place without the research project.

The next dimension that needs to be considered concerns the researcher's participation or non-participation in the speech event under analysis. Here the spectrum ranges from data that have been produced without any participation and perhaps even without any knowledge of the researcher. The data appear to be most "natural" if the researcher plays no part in the speech event at all. In Labov's (1972: 209) terms, "the aim of linguistic research in the community must be to find out how people talk when they are not being systematically observed, yet we can only obtain these data by systematic observation". According to Labov, this "Observer's Paradox" can be overcome in various ways, for instance by diverting an interviewee's attention away from speech, which will "allow the vernacular to emerge" (Labov 1972: 209). In spite of the success that Labov had with this method, such data would presumably still not count as entirely "natural" or even "naturalistic".

Depending on the type of data being recorded, the researcher's involvement can vary considerably. In some cases, the researcher is a silent observer who tries to behave as unobtrusively as possible, but even in this case his or her presence might affect the speech event under observation. The researcher might be involved

as one of the participants with a more or less active role in the proceedings with a correspondingly higher influence on the speech event. Or, in the case of role plays, the researcher might even play the role of a movie director who assigns roles and tasks that the participants are supposed to play act. It is difficult to decide at which exact point between the extremes the situation is no longer "natural" and becomes "contrived".

And, finally, the speech situation under observation can only be analysed if at least some aspects are recorded and made permanent. This ranges from field notes to audio and video recordings. Field notes necessarily require the presence of a researcher who observes the situation and decides on the aspects that need to be written down for subsequent analysis. In many cases, field notes have the advantage that they can be taken relatively unobtrusively sometimes even after the event. But field notes can only be extremely selective. The researchers must decide in advance what they want to focus on, and they have to be alert and quick in order not to miss relevant parts while taking notes, and it may be very difficult to remember the crucial aspects of an interaction in the necessary detail. As a result, the field notes might be idealised rather than one hundred per cent accurate.

Recordings are more comprehensive than field notes, especially in the case of video recordings. They are much richer in the details that they capture but their comprehensiveness is also deceptive. Participants in the interaction, perhaps even including the researcher as participant observer, may have background knowledge that allows them to read between the lines of what is going on in the interaction. These may be aspects that fail to show up on recordings made by the impartial technical equipment. Microphones and cameras impose certain perspectives. They highlight some aspects of what is going on and leave others in the dark, often literally.

Ethical considerations are less restrictive for field notes than for recordings. The anonymity of the participants obviously needs to be observed but informed consent is not always necessary if the researcher only takes notes and does not make any audio- or video-recordings. For such recordings informed consent has to be obtained from all participants prior to them being recorded. This requirement in effect rules out that any data can be truly "natural". "From this perspective, then, *all* data are researcher-prompted and thus contrived" (Speer 2002: 516; emphasis original). This is presumably the reason why Hambling-Jones and Merrison (2012: 1121) argue that surreptitious recordings and retrospective consent might in some situations be superior to pre-obtained consent, but it is doubtful whether the majority of ethical review committees would agree to this position, and in many countries this would be clearly illegal.

Recordings of speech data have to be transcribed to make them accessible to analysis (see Kreuz and Riordan chapter 3, this volume). However, even a very rich and detailed transcription is an idealisation and abstraction of the actual reality that it represents. It imposes the transcriber's perspective on the data and his

or her decisions about the details that are included and the details that have been omitted. "Transcription is theory. […] How we transcribe doesn't just reflect our theories of language, it also shapes them, drawing our eyes to some phenomena while leaving others in shadow" (du Bois 1991: 71). As a result, we cannot expect our transcriptions to be an unadulterated representation of reality. A transcription is necessarily a somewhat distorted – or contrived – version of the communicative reality it tries to represent.

Thus, we have to be aware of the many ways in which the pragmaticist's data fail to be truly "natural". Generally, it is more important to carefully assess the limitations of the available data and to evaluate its suitability for specific research questions, rather than to aim for an unrealistic goal (see also Jucker 2009).

3. The papers in this section

There are four papers in part 4 of this handbook. In the first paper, Meredith Marra and Mariana Lazzaro-Salazar present ethnographic methods. The term "ethnography" covers a broad range of methods but they all go back to an approach developed by cultural anthropologists. Researchers immerse themselves as much as possible in a community in order to provide detailed, "thick" descriptions of community activities. It is through this participation that the researcher gains a deeper insight into a particular culture and its communicative practices. It provides an analysis that combines an outside perspective (an etic or technical point of view) with an inside perspective (the emic perspective, the point of view of the community members themselves). Marra and Lazzaro-Salazar illustrate ethnographic methods with a discursive approach to politeness in their work on language use in a workplace context. They focus in particular on the prevalent data collection methods, field notes, observations and interviews, and on the different ways of working with such data. At the end of their contribution they also discuss several frequently discussed critiques of ethnographic studies, for instance the critique that ethnographic research can never be sufficiently objective because of the inevitable subjectivity of the data gathering techniques. Further problems are the time commitment that is necessary for data collection and the limited generalisability of the observed patterns beyond the investigated communities.

The paper by Andrea and Peter Golato deals with ethnomethodology, conversation analysis and interactional linguistics, which they describe against a historical backdrop and the seminal work of Erving Goffman, Harold Garfinkel and later Harvey Sacks. Ethnomethodology, conversation analysis and interactional linguistics share most of their underlying assumptions but there are also differences that the authors carefully tease out. Ethnomethodology, for instance, focuses more on how interactants engage in social actions through talk in interaction, while conversation analysis focuses more on the underlying order of talk itself. Both of them

adopt the perspective of the interactants and investigate how they use language to create meaning. Utterances are not seen in isolation but in the sequential context in which they occur. Conversation analysis and interactional linguistics insist on audio- and video-recorded naturally occurring data that conform to Potter's (2002) dead social scientist's test (see above), and great care is taken with the transcription process that turns the data into written representations. Golato and Golato's outline finishes with a discussion of the range of research topics that have been tackled with the methodologies of conversation analysis and interactional linguistics, a discussion of their strengths and weaknesses, as well as some brief comments on current and future applications of these methods.

Anita Fetzer covers approaches under the general heading of discourse analysis. The two main issues, according to her, are the granularity of the discourse units and the nature of their connectedness. Discourse is seen as a parts-whole configuration in which the whole is more than the sum of its parts. It is the discourse units at whatever granularity they are proposed that form the constitutive elements in the structuring and linearization of discourse. Fetzer also brings in the terms quantity and quality. However, she uses them in a slightly different manner from what has been outlined above. Here, quantity relates to the number of constitutive parts of discourse, i. e. the number of discourse units, while quality relates to the pragmatics of the discourse units, that is to say the way in which they are integrated into their context and connected with neighbouring units. Quantitative studies, therefore, tend to focus on the linear sequence of discourse units and their connectedness, while qualitative studies tend to focus on how interlocutors co-construct and negotiate discourse coherence.

The final paper in this section by Piotr Cap covers Critical Discourse Analysis (CDA). Cap uses the term Critical Discourse Analysis as a cover term for a range of different approaches that vary in their underlying notions and in their research methodology but have in common that they intend to be instrumental in bringing about social change. In this, CDA approaches differ from almost all other linguistic theories, which insist on being descriptive, impartial and detached. CDA is unashamedly partisan. It tries to uncover social injustice and to highlight how language is used to exert institutional power by the elite. Cap teases out the interconnectedness of different branches of CDA and their methodological attractors, that is to say the basic methodologies from which these branches draw their research tools and he discusses the ways in which CDA and pragmatics are related. He also sketches out a CDA model, called a legitimization-proximization model (Cap 2013), which he uses for a case study in which he analyses a speech by U.S. President George W. Bush, given only weeks before U.S. and coalition troops entered Iraq on March 19, 2003. The model helps to unravel the ways in which Bush construes and manipulates closeness and remoteness in the political sphere in order to create credibility and legitimization of the Iraq war and the subsequent anti-terrorist campaigns.

Thus, in contrast to section 3 of this handbook, which was devoted to various ways of eliciting relevant data for pragmatic research, this section focuses on approaches that deal with pre-existing data. The emphasis is squarely on observation and analysis of what is already there, be it spoken communication or written communication. All contributions in this section focus on approaches that prefer qualitative methods of analysis with an insistence on careful attention to small details and richly contextualised data samples. In this respect, they contrast significantly from the approaches reviewed in the contributions of section 5 of this handbook, which seek generalisations at a higher level and across much larger data sets.

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14. Ethnographic methods in pragmatics

Meredith Marra and Mariana Lazzaro-Salazar[1]

Abstract: Researchers within the ethnographic paradigm strive for enhanced, contextualised understandings of pragmatic phenomena as understood within the wider social system. This typically involves incorporation of both emic (participant) and etic (analysts' technical) perspectives. In this chapter we unpack some of the principles underlying the paradigm by describing the foundations of ethnography, the emergence and development of ethnographic methods within pragmatics and a range of data collection techniques and analytic approaches used in ethnographic research. By way of illustration we draw on our own experiences investigating pragmatic issues within workplace talk. In this chapter we also reflect on the strengths and weaknesses of an ethnographic approach, focusing in particular on the objectivity-subjectivity divide, the associated time commitment and the ethnographer's attitude to generalisability. We conclude by discussing the potential benefits that the approach offers for future work on pragmatic phenomena.

1. Introduction

While those working in pragmatics make use of data collected in a number of different ways (as described in the extensive range of chapters in this handbook), analysts do not always capture, or even aim to capture, the inherent "messiness" of real life interaction. For many, however, empirical evidence which supports an understanding of everyday, naturally-occurring talk is a necessary component of their work. These researchers typically aim for rich and detailed contextual information to underpin their interpretation of linguistic data. The foundation on which their approach is built is ethnography.

Ethnography has been defined as "a whole cluster of methods for gathering data, analyzing, interpreting, and writing" about the day-to-day interactions of a group of people (Davis and Henze 1998: 400). An approach developed by cultural anthropologists, the broad goal of ethnography is to understand cultural behaviour and norms, as well as the beliefs and ways of living of a target community through deep, long-term engagement. Thus, ethnographers immerse themselves in a community or culture to gain this detailed understanding. Early examples of ethnographers include Fanny Wright and Harriet Martineau, who investigated societal

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norms and everyday life in North America in the 19th century, as well as Margaret Mead and Bronisław Malinowski, who famously worked in the Pacific in the 1920s, increasing public awareness of the methodology in the process (see Griffin and Bengry-Howell 2008: 15–16). As a research practice, ethnographers engage with the target community over an extended period of time, conducting "unstructured field research" (Burgess 1982) through their participation in community life. This participation often amounts to years of involvement during which researchers learn the language and take part in social events alongside their research participants.

This participatory approach provides greater access to the participants' understanding of events. This allows the researcher to include both an etic (technical) and an emic (community member) perspective (see Boyle 1994). The addition of an emic perspective separates ethnographic approaches from those scientific approaches purporting to be objective. The reason the community view is foregrounded is to bring to the surface cultural meanings that even the most expert scientific eye may not be able to identify or understand without the help of community members. The weight given to the emic perspective constitutes the most important pillar of ethnographic research, especially its use in minimising the researcher's own external assumptions and categorization schemes, thus providing "warrants" for the interpretations of the researcher and strengthening the validity of the findings. Rather than viewing etic and emic as two distinct sources of data, however, ethnographers recognise the interplay between the two (e. g. Zhu and Bargiela-Chiappini 2013): the ethnographer works to interpret events and meanings through the eyes of the study participants, while, at the same time, making links between these interpretations and relevant social theory to assist in explaining social phenomena from a scientific point of view. In other words, as researchers within this paradigm, we strive for enhanced contextualised understandings of pragmatic phenomena understood within the wider social system, as well as an ability to incorporate both the perspective of the analyst and the reality of the participants themselves in our interpretations.

Below we describe the emergence and development of ethnographic methods within pragmatics and a range of data collection techniques and analytic approaches used by researchers who work with ethnographic data. To exemplify our description we draw on our own experiences of investigating pragmatic issues within workplace talk. We conclude by discussing the strengths and weaknesses of an ethnographic approach and the potential benefits that the approach offers for future work.

2. From ethnography to ethnographic methods

The participation involved in a pure ethnography clearly requires enormous dedication and time. This commitment can be both logistically and financially prohibitive, not to mention potentially intrusive, especially for those researchers oper-

ating outside the disciplinary traditions of anthropology. As a compromise, many researchers collect the kinds of information gained in ethnography, but without extended fieldwork. Thus, instead of two years or more in situ, analysts might spend months or carefully planned weeks with the community under investigation, often making use of the participant observation prioritised in ethnography and semi-structured fieldwork alongside some non-participant observation (for a consideration of participant and non-participant observation see section 4.2). The resulting data is more typically labelled "ethnographic", representing the flavour of ethnography and acknowledging the more limited participation involved in the data collection methods.

As a summary, Hammersley (1990: 1–2) suggests the following five features for identifying ethnographic research:

1. Behaviour is studied in everyday contexts, there are no 'unnatural'[2] or experimental circumstances imposed by the researcher.
2. Observation is the primary means of data collection, although various other techniques are also used.
3. Data collection is flexible and unstructured to avoid pre-fixed arrangements that impose categories on what people say and do.
4. The focus is normally on a single setting or group and is small scale.
5. The data is analysed by attributing meanings to the human actions described and explained.

One of the reasons this truncated approach produces feasible detail is a changing conceptualisation of what counts as a "community" as well as the ways in which we understand the relationship between a culture and the community members who contribute to this culture. In the twentieth century, studies in ethnography were guided by positivist approaches, which viewed the communities under investigation as relatively fixed cultural units, often described using static terms (see Rosaldo 1989). In line with the constructionist turn in the social sciences (see Davis and Henze 1998; de Volo and Schatz 2004), ethnographic approaches embrace the idea that culture influences the behaviour of its people and also the idea that behaviour of the people contributes to the ongoing construction and (re)negotiation of

[2] See considerations regarding the impact of the presence of the researcher on the studied community in section 7.2. Also see discussion on the "positionality" of the researcher within the studied community in Denscombe (2014). Shanmuganathan (2005: 79) also offers a rich discussion on this topic in the context of ethnographic methods of data collection, reminding ethnographers that "the very act of observation itself affects the phenomenon under study." This, Shanmuganathan (2005) explains, is what social researchers call the Observer's Paradox (Labov 1972), which involves understanding the ways in which the presence of the researcher affects the naturalness with which the very activities under study are carried out.

cultural norms. Current ethnographic views, guided by post-positivist principles, support the belief that realities are multiple, and that there are multiple sub-cultures and smaller social networks embedded in a wider cultural system.

The focus on subcultures is embraced by those who make use of a Community of Practice approach (Wenger 1998). In this framework a community is described as a group of people who come together and actively engage in mutual processes of negotiation and meaning making, and who develop shared practices, norms and repertoires which distinguish them from other communities (see Eckert and McConnell-Ginet 1992; King forthcoming). Other relevant kinds of communities (also stemming from Wenger's work) include communities of purpose, communities of alignment and communities of imagination. Each term describes an identifiable and distinct type of socially-relevant community.

As an example, we offer Lazzaro-Salazar's (2013) ethnographic work with a nursing team in a hospital in New Zealand. Here the community of nurses, "an imagined world of nurses" to use Norton's words (2001), bound by the same discipline values and practices, was found to be highly salient to the participants in their negotiation of meaning in face to face meetings. The notion of an imagined community captures people who have variable access to activities and resources for participation in the community, but share a sense of belonging (see also Anderson 1983). Lazzaro-Salazar (2016) shows how her participants display membership of the imagined professional community by drawing on values that bind nurses together, regardless of where they come from and where they work, and values which also set them apart from doctors and other health professionals. These include, among other issues, an unwavering commitment to patient care, and complaints about the arrangement of the roster and conditions on night shift. These key ideas are shared by people across geographic borders and between people who have never, and might never, interact with each other directly. This is a very different understanding of community to the village or tribe which might be the focus in a standard ethnography.

This changing conceptualisation of what counts as a community worthy of investigation has prompted researchers to re-consider ethnography in its traditional sense in favour of new methods that enable us to gain insiders' perspectives of, for instance, online communities and global communities. In these cases, researchers simply cannot physically participate in the activities because the communities are virtual or imagined. As an example, Locher (2006) investigated an internet-based community of advice seekers and givers who use an online health forum. A digital community was also the focus of Graham (2008), who analysed the discussion threads in a Christian e-community to determine the members' patterns of interaction and norms for what counted as appropriate behaviour.

A methodological distinction is thus drawn between conducting a full "ethnography" and doing "ethnographic research" (see Ramanathan and Atkinson 1999). Using an ethnographic approach means researchers endeavour to access and inter-

pret social events of complex modern communities from multiple perspectives. This involves a multiplicity of data collection techniques that allow for a holistic approach to the study of culture. In this frame researchers attend to the emic point of view, and yet sometimes do not actively participate as community members.

The role of the researcher and how they access and join their community is thus a salient issue. In traditional ethnography, the researcher enters the community as an outsider and as such makes "familiar" that which was previously unknown. A very simple example might be recognizing important distinctions made in address forms based on the relative age of the speakers, a dimension which is not consistently relevant across communities. The lens of the newcomer highlights those aspects of community behaviour which are distinctive, or at least different to the researcher's own cultural norms. Over time this status as an outsider becomes less clear-cut as the researcher becomes more integrated into the community. There is considerable debate about the merits of remaining distant or fully embracing membership of the community. As a result, the importance of the outsider-insider perspective has gained a lot of scholarly attention (see, for example, McKinley Brayboy and Deyhle 2000; Bonner and Tolhurst 2002). More recently some researchers have begun taking an ethnographic approach when investigating communities to which they are already insiders, thus requiring them to make the familiar "unfamiliar" for analytic purposes. In these cases the researcher needs to recognize and explore their own assumptions about what is considered normal for the community. Regardless of the stance one takes in this wider discussion, the researcher must remain critically reflexive of their own role in, and influence on, community practices.

A fruitful and illustrative example which demonstrates both the changing conceptualisations of community as well as the relevance of the outsider-insider and insider-outsider debate is provided by critical ethnographer Kidner. Kidner (2015) examined the language used by industry and activist groups when debating the virtue of the extraction of natural resources. As such she was working with two communities focused on the same issue but from opposing "political" perspectives. Conducting her research in New Zealand, Kidner's Canadian citizenship made her an outsider in the local industry and activist communities alike. She was, however, an insider when it came to a wider imagined community through her extensive involvement in activism in her home country. Early in her research she began her participation in the local activist community by attending a festival in a region where lignite mining was being proposed and where there was grass-roots resistance. As well as participating in the event and keeping field notes, Kidner video recorded interviews with community members, to be interpreted using multimodal analysis, and created a collection of relevant artefacts (posters, signs, advertising and protest leaflets) to support her research. On the first night of the event the organisers tasked her with the job of installing composting toilets (having used one in the past, she possessed more knowledge than the others). This activity was spotted by a journalist in the small New Zealand town where the festival took place

and she became a short term media star for her efforts. The attention required much reflection: had she become too involved to have analytical distance? Would her unexpected infamy negatively affect efforts at deep community participation? Did the expertise with which she was being attributed mark her as an authority in an unhelpful manner for her research? In fact, Kidner found that this attention resulted in her acceptance within the group as a committed, involved member and challenged the stereotypical work-shy student identity with which it was later reported she had risked being labelled. She describes her understanding of the shift in her identity in her ethnographic field notes:

> My enthusiasm for the project earned me the title of 'the toilet lady' […], and I even gave an interview about the toilets' construction to a local radio station. In a matter of days, I had become a composting toilet expert and a festival organiser: I had moved from the classic participant 'outsider' to 'insider' in a most unexpected fashion. (Kidner 2015: 66)

As noted above, while Kidner was an outsider to the industry perspective, she acknowledged her insider status within the wider activist community. To ensure an appropriate degree of analytical distance, she made efforts to make her own practices "unfamiliar" to be able to describe them for others. These practices align with the assumptions and practices that guide the ethnographic approach as outlined in the list from Hammersley (1998) reproduced above. She was using several methods of data collection to provide multiple lenses on the community norms; she created a "thick", detailed description of the community (following the original conceptualisation by Geertz 1973) and then explored the research findings to address social issues.

The reflection created unforeseen understandings including the identification of a repeated pattern in the sequential ordering of strategies used by the communities to resist opposing public arguments (namely drawing first on discourses of the environment vs. the economy, then regional identity, rights of indigenous people, and, finally, the queer community), a finding which held across the two national contexts in which she had become a community member. Intensive engagement and reflection were crucial to the success of the work.

Unsurprisingly, the affordances of the approach have not been overlooked by those working in pragmatics who increasingly look to ethnographic methods for explaining various features of interaction.

3. The growth of ethnographic studies in pragmatics

For those interested in discursive pragmatics, emphasis is placed on the environment in which the feature or phenomenon is situated. The adoption of ethnographic methods into pragmatics can be traced to the theory of communicative competence pioneered by Dell Hymes (working with other anthropologically-oriented linguists

in the 1970s) and the related framework known as "Ethnography of Speaking" (later "of Communication"). This method makes use of detailed contextual information, including physical setting and non-verbal communicative components, to determine community "rules of interaction" and "norms for interpretation". The approach arose as a scholarly reaction to the prevailing theoretical linguistic models which were based on the notion of an ideal speaker-hearer who operated in a homogeneous speech community (Chomsky 1965). Those models assume children acquire linguistic competence through an internal, mental process. Hymes (1974) argued instead that all linguistic systems are embedded within a social matrix which requires children to acquire "a system of its use" regulated by contextual factors, labelled as components of communicative events. The Hymesian approach has influenced many different areas of research and is foundational within socio-cultural approaches to linguistics in particular. The core argument, whereby contextual information is privileged in interpretation, continues to shape our understandings of meaning in interaction and is central in discursive approaches to pragmatics.

To illustrate the ways in which ethnographic methods have been applied within pragmatics specifically, we have chosen two rich research areas, namely discursive approaches to politeness and language use in the workplace context.

When Brown and Levinson ([1978] 1987) proposed "Politeness: Some Universals in Language Usage" in their seminal and highly influential monograph, they created a productive, systematic framework for an etic approach to politeness. A major criticism aimed at the work, however, was a Western bias and the lack of applicability for investigating politeness across cultures. In response, Eelen (2001) proposed the concepts of first order and second order politeness, which loosely map to emic and etic understandings respectively (but see distinctions drawn in Haugh 2012). The emphasis on the perspectives of both the analyst and the participants themselves was also core to arguments proposed by Watts (who argued for politeness1 and politeness2) and his work with Locher. In their framework for discursive politeness, Locher and Watts (2005) promote the participants' perspective on what is considered (un)marked, (non)politic and (in)appropriate. Positively marked behaviour counts as both polite and appropriate, and negatively marked behaviour (including both impolite and overly polite practices) are labelled as inappropriate.

In order to ascertain what a community deems appropriate, the analyst needs access to social norms. Restricting the focus to a particular Community of Practice (as described above) has proven fruitful for determining these negotiated norms. This has been a particularly popular method for those in pragmatics who align with the field of workplace discourse research where the establishment of group norms in workplace teams has been a regular focus (for example, Angouri 2012; Schnurr and Chan 2009; Mullany 2007; Marra 2012). As an example, Holmes and Marra (2011) compared the openings of meetings recorded by teams in New Zealand workplaces, contrasting Communities of Practice which oriented to indig-

enous Māori norms and those who recognised dominant Pākehā[3] norms. The analysis, which drew on emic understandings gathered through extensive recordings, non-participant observation, interviews, debriefs with community insiders and "member checking" (Guba and Lincoln 1989), highlighted the difference in the structure of the meetings. The more elaborate and extended structure of the Māori-aligned teams created "safe space in which cultural awareness can be mediated and discussed" (see Boxer 2003: 62). The short, to the point, openings of the other teams highlighted how much shared knowledge the teams had and suggested that the longer opening was considered unnecessarily ceremonial.

A difficult task for the researcher in this context is to keep the balance between the emic and the etic perspectives that account for their methodological and analytical design. Most, like Holmes and Marra or Kidner above, attempt to find this balance using a range of data collection methods.

4. Data collection methods

Viewing cultures holistically as complex networks, ethnographic researchers aim to access and to interpret social events from multiple perspectives. Below we introduce a number of the methods (although not an exhaustive list; for a more comprehensive consideration of data collection techniques and practical tips see Holmes 2014) which are regularly part of an ethnographic toolkit in pragmatics. The methods are ordered from those that most closely resemble "pure" ethnography to those which require more limited engagement and investment from the researcher.

4.1. Field notes

The ethnographic researcher relies heavily on field notes collected as part of the ongoing reflection which is characteristic of their work. There are countless volumes providing advice on how to produce useful and useable field notes that allow the researcher to capture thoughts, feelings and detail for later reflection (e. g. Rizzo, Corsaro and Bates 1992). Some offer ideas on how to lay out your notes in order to revisit and structure ideas from the outset (e. g. Emerson, Fretz and Shaw 2011). Others discuss software and freeware which can help organise ideas for easy retrieval (e. g. Silver and Lewins 2014). They all share an emphasis on systematicity, thoroughness and the need to be able to undertake regular and repeated reflection to establish cumulative knowledge.

[3] People of European origin (see brief consideration of the term in Schnurr, Marra and Holmes 2007)

The quote from Kidner above collected at the time of her "toilet lady" adventures offers an example of field notes. Figure 1 is another example, this time from research by Lazzaro-Salazar (2013). In this case rather than demonstrating her reflections and intuitions, the diagram provides contextual information about the layout of the room in which her workplace recordings took place. Knowing where hospital staff were located, what was in their immediate environment and who was able to overhear their conversations helped Lazzaro-Salazar interpret the recorded interactions with which she worked.

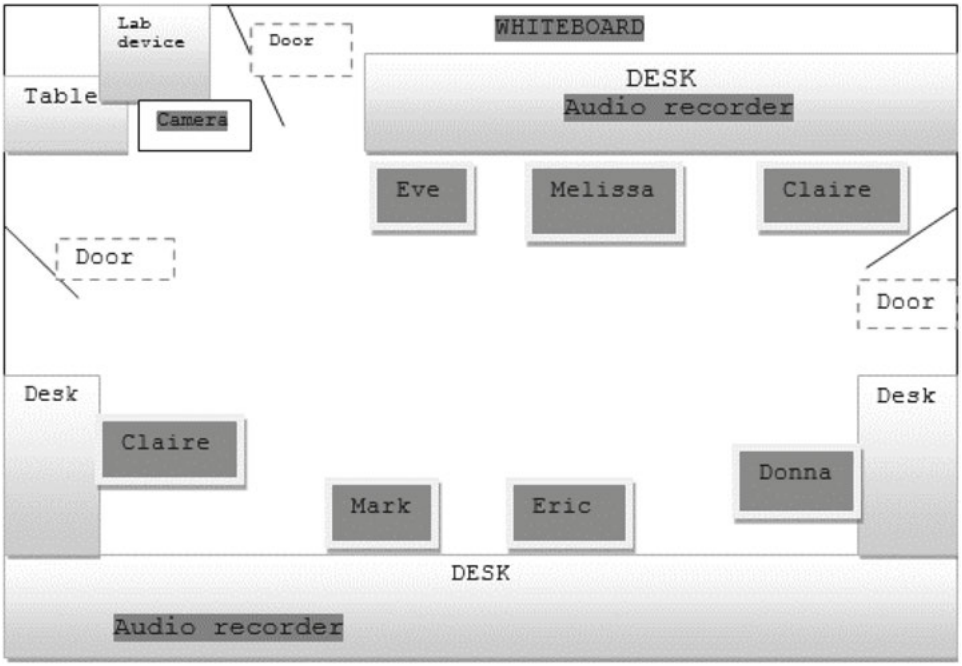

Figure 1: Diagram of room set created from field notes taken while recording data in a hospital. The details help the analyst identify speakers in multiparty recordings and also provide access to important physical features which are made salient during the recording, for example, the location of the white board.

4.2. Observations

Field notes often include unstructured observations of distinctive community behaviour as researchers witness interesting differences, but can also include more structured and deliberate procedures based on observation logs. There are various forms of observation used in ethnographic research, including both participant observation, as is standard in ethnography, as well as non-participant observation. Researchers might work alongside the community in the fields, prepare and eat

with household members and attend community events and religious ceremonies as a way of experiencing life from the insider perspective. Alternatively, they might engage more selectively in key events or activities as an outside observer. As an example, Baxter (2009) sat at the back of the room during meetings involving female leaders in business settings but did not engage in the meeting. Observing affords the researcher access to data which can be invisible to the participants themselves, and long-term observation has the potential to build trust with community members and to reduce reactions to the presence of an outsider. The observation also helps to clarify the kinds of questions that a researcher might want to ask (themselves or a participant) to check early intuitions and to gain confidence in any interpretations (see Adato 2008).

In her investigations of the role of humour in organisations, Plester (2015) worked within a number of organisations for several months. Her research design included significant periods of participant observation in order to understand the humour which she acknowledges was not funny at all to her at the outset. Only by being the butt of the joke and by participating in the regular playing of pranks did she get a real sense of what it meant to be an accepted member of the team and how not to take offence at things that at first seemed very cruel to her. Fletcher (2011) also chose to participate in the organisation with whom she was working by spending one day a week sitting at a desk in the large open plan office throughout the duration of her doctoral work. For Fletcher it was important that she was not only physically present at the IT company, but also that she had access to the company-wide email chain for notices. She found this data invaluable for finding out information about what was going on as well as identifying ways of expressing this information (e. g. going for a haircut was not only something that was worth telling colleagues about, but could also provide a chance to exhibit your wit and outdo the announcements of others).

In the cross-cultural research aimed at describing effective leadership patterns in Māori and Pākehā organisations in New Zealand mentioned above, the Wellington Language in the Workplace team spent several months working with members of a Māori organisation who volunteered to record their everyday interactions (see Holmes, Marra and Vine 2011). As part of the recording process, the team (which comprised Pākehā academics who began from an etic perspective and Māori research assistants who acted as a bridge to emic understandings) spent time in the organisations, setting up cameras for recording larger meetings, having informal debriefing chats with the participants and engaging in other non-participant observations to gather as much contextual information as possible. As part of this practice all research team members kept detailed notes to provide a thick description (see Figure 2). The Figure shows that separating field notes from observations is not always as clear cut as descriptions might suggest, as well as the value of revisiting ideas (or in this case collaborating by combining ideas). So while the "Māori research assistants" note that the reception chooses to book their taxi through a

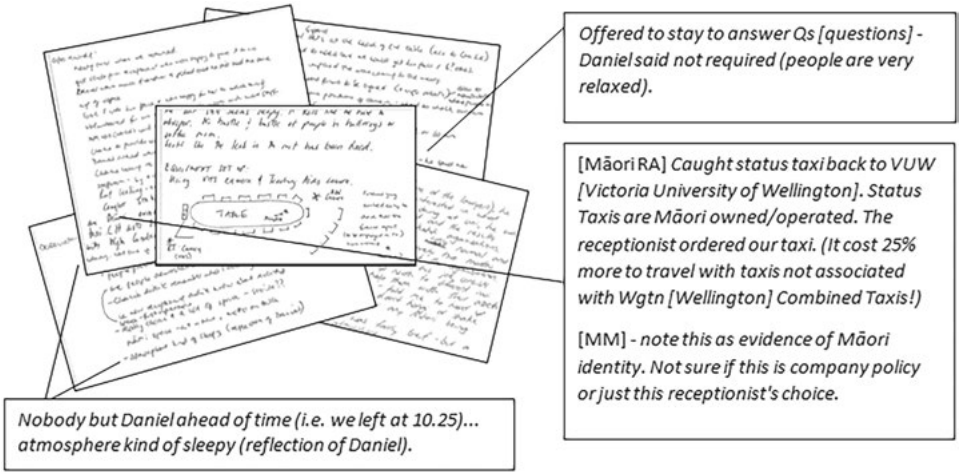

Figure 2: Handwritten observation notes made on site by a team of researchers working together. Notes include details of equipment set up, ethical procedures, observations and hypotheses, as well as interaction between team members to support or reject interpretations.

small, Māori-operated company, "Meredith" hypothesizes about a possible reason for the choice made, that is to say, stated policy or an identity move.

4.3. Interviews

Interviewing participants is a much more direct source of information than the observations and reflections noted above, and perhaps also a more familiar data collection technique for most researchers. While quantitative (and positivist) researchers might prefer a more structured interview to gather the same information from a number of participants (Johnstone 2007), those working with ethnographic methods often use semi-structured interviews which allow for more open lines of questioning and flexibility in the direction of the interview based on participants' responses and interests. The interviewers typically have a set of pre-prepared questions to draw on as necessary or a checklist of topics to be covered which is "designed to provide room for the exploration of emergent topics and for follow-up questioning" (Adato 2008: 226).

The researcher's interviewing techniques play a prominent role in the ethnographic interview. For instance, an important factor is whether the interviewer asks the questions as a community member or as an outsider. Are the questions biased or misleading? Are they pushing the interviewee towards a preconceived choice? More often than not, interviews in ethnographic studies serve the purpose of validating the researcher's interpretations or act as a way of gaining a deeper insight

into aspects of the social phenomena observed and for which they need more information. Hammersley and Atkinson (1996: 151) comment that "all interviews, like any other kind of social interaction, are structured by both researcher and informant". This reflects a constructionist perspective on all interaction and, like other aspects of ethnographic research, emphasizes the complexity and sophistication of meaning making in interaction.

Interviews may be conducted with individuals or groups. The group interview (and the related but distinct method of focus groups) has typically been used to gather macro-group perceptions by workplace discourse researchers interested in cross-cultural interaction. For example, Kingsley (2009) conducted focus groups with employees in a range of banks in Luxembourg, a country known as an important location for international financial institutions. Security and confidentiality issues prevented her from using participant observations and recordings of naturally-occurring talk to understand how multiple languages were used by the employees and how their use was interpreted by colleagues. The groups who discussed this issue came up with norms about their practices which she was then able to compare with surveys and with the discussions which took place with other groups to determine what the use of various languages (other than the prescribed working language) seemed to signify, namely, solidarity, customer focus and linguistic proficiency.

Murata (2011) also ran focus groups and group interviews to explore the use of small talk in New Zealand and Japanese corporations, supplementing the audio and video recordings she was able to capture. In her case the focus was politeness and appropriacy through the lens of relational practice. She played samples of interactions from New Zealand meetings to groups of Japanese business people and asked them to rate the extracts on a number of relevant pragmatic scales. For confidentiality reasons, the extracts were rerecorded by actors, but they were produced to retain as many of the interactional features of the naturally-occurring originals as possible. The groups had strong and replicated impressions about the role of silence, the role of laughter and the importance of formality which were very different to the New Zealand participants. Murata combined audio and video recordings with observations and interviews to gain as rich a picture as possible. As noted earlier, those using ethnographic approaches typically make use of multiple methods to facilitate thorough understanding of the community and their pragmatic practices.

The value of ethnographic methods is the attention to detail. As will be clear, an ethnographic approach has the potential to generate an enormous amount of useful data. Managing the data and identifying what is most relevant and useable can be a daunting task for the experienced and inexperienced analyst alike.

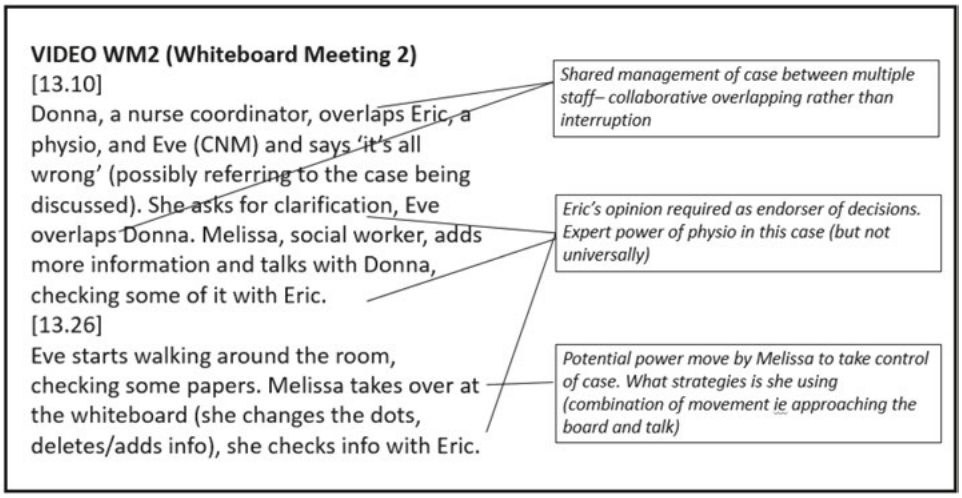

Figure 3: Illustration of data coding. The left column has timestamps to indicate place in the recording and descriptions of the interaction. The right hand boxes are more processed themes that join together related pieces of data.

5. Working with ethnographic data

The volume of data collected via the methods described above necessitates systematic means of processing and categorising, from labelling recordings, to the thorny issue of choosing a transcription system (see Ochs 1979), as well as making connections across multiple data sources. Coding and finding themes helps sort data in ways which begin to reveal and provide evidence for the analyst's insights. Figure 3 is an example of this coding.

Coding may be undertaken by hand, for example, with highlighting pens, using standard software such as MSWord or spreadsheets such as Excel, or within specially-designed programmes such as NVivo. These programmes are designed to combine and link transcripts, coding and notes, for instance, and most researchers working with ethnographic data will make use of the affordance of the software.

In pragmatics, our focus is typically micro-level detail which goes beyond the themes identified via coding. Below we include two illustrations of the way in which ethnographic data can be used to support the interpretation of interactional data, namely data collected (1) as indirect information gathered through observations and (2) by asking direct questions of the participants as key informants on their own interaction and meaning.

5.1. Gathering of indirect information

During data collection we keep notes about our impressions, without knowing which information is going to be useful to us later. Below we provide an example, again from the Māori/Pākehā research project on effective and successful leadership conducted by Holmes, Marra and Vine (2011). The recording which is represented in the transcript was captured at the meeting being recorded at the time that the observation notes reproduced in Figure 2 were made. In the extract, the meeting participants make comments on the recording process and react to the video cameras which had been placed in the corner of their meeting room for the first time.

(1) Being recorded
Context: First recorded meeting at Kiwi Consultations, a Māori organisation. This is a company-wide meeting, where Hari and Mere are management team members and Maureen is the Executive Assistant to the company's Chief Executive Officer (CEO).[4]

1.	Hari:	they don't want to see the back of your head
2.	Mere:	well they're gonna see the back of my head ++
3.		not gonna see my face ++
4.	Hari:	(spose) + they're getting your best side
5.	Mere:	that's right
6.	Hari:	your back side
7.	Mere:	(you're lucky you're over there brother)
		[a couple of quiet comments – not transcribed]
8.	Mere:	who's gonna be filming
9.	Hari:	oh john campbell's here from t v three news [laughter]
10.	Mere:	(funny boy aren't you)
11.	Maureen:	she's gonna slap you [laughs] [laughter]
12.	Mere:	[quietly]: bloody shit: [laughter]
13.	Jen:	I hope that's on camera

Throughout the extract there is evidence of antagonistic (from an outside perspective) but good natured ribbing of various participants: Hari teases that the back of Mere's head is more attractive than her face ([*her*] *best side),* and her response is a mock-threat of violence (line 7); a strategy which is endorsed through repetition by Maureen later in the interaction (line 11) and is met with laughter from the team, suggesting that this behaviour is humorous and welcome. When Mere wants to know who is responsible for the recording, her colleagues (who the research

[4] Transcription conventions
+ untimed pause of less than one second
(unclear) unclear utterance/transcriber's best guess at an unclear utterance
[info]: : editorial and paralinguistic information. Colons indicate start and end.
… section of transcript omitted
All names are pseudonyms.

team had met the day before the meeting as indicated in the notes in Figure 2) suggest a popular national news channel rather than giving her the real answer. Her understanding of the team norms and the laughter means she knows not to believe them.

While there is much more richness than this brief explanation allows, we highlight in particular the ethnographic information which helps support this interpretation. Naturally-occurring recordings were made in this organisation over a number of months, and the teasing and swearing were regular features of the interaction. In conversation with the CEO we learnt that he actively aimed to make the workplace casual (also commenting that sometimes things became too casual). The use of the term *brother* to refer to a teammate indexes both informal conversation as well as the Māori ethnicity with which this organisation aligns both officially and in a number of the everyday practices. In the observation notes in Figure 2 (above) we comment even in the earliest stages of data collection about the strong cultural identity within the workplace and the "sleepiness" (later refined to "informal and casual tone" in contrast to the more corporate feel of a similar organisation with a different ethnic alignment).

This team closely aligns with a minority group within New Zealand. A majority group understanding of the practices might suggest that the team is off topic, not interested in business issues, playing around rather than working hard, violent, lacking cohesion and/or unproductive. The information gathered during data collection instead suggests they are tight-knit, productive, collaborative and successful.

5.2. Information from key participants

The next example demonstrates the value of information collected during interviews with key participants. In the recording, a group of nurses and their manager are discussing the practice of carrying the ward's portable phones while doing their medication rounds. Lisa, a nurse coordinator, has explained that in her view this practice is inappropriate and rude. Mandy supports Lisa's opinion on this matter.

(2) Releasing time to care[5]
Context: Regular monthly meeting for nurses in a public hospital.

1. Mandy: [talking to Lisa]: you're right:
2. I mean I wouldn't answer the phone
3. if it was in my pocket …
4. I mean if you're toileting a patient
5. the last thing you do is go
6. hello [laughs] …

[5] This example also appears in Lazzaro-Salazar (2016), where the focus is on the realization of the nursing culture through discourse.

7. this is all about releasing time [louder]: to care: …
8. so you're not going to be disturbing your care with
9. with phone calls

In support of Lisa's arguments for not answering the phone when with patients (lines 1–2), Mandy puts herself in Lisa's shoes (lines 3), and gives an example of how answering the phone would jeopardise their nursing practice (lines 4–6). Mandy further supports her stance when she emphasises that this is all about "releasing time to care" in line 7, and reinforces this idea when she explains that phone calls "disturb" their care in line 8, summarizing the main point of the argument.

At first sight the analysis of Mandy's reflection seems to be very straightforward and simple, at least at the content level. However, the ethnographic data collected later in the study revealed that her words in line 7 provide added depth to the reflection of whether nurses should answer the phone when doing their rounds. For a lay audience, which included the researcher who is not a healthcare worker herself, the phrase "releasing time to care" seems self-explanatory, pointing at prioritising caring duties over other tasks in the ward. Though this is partly true, during an interview with the charge nurse manager of the ward some months after this meeting was recorded, she explained that the phrase "releasing time to care" actually embodied a trust-wide nursing programme with the full title "Releasing Time to Care – the Productive Ward". This programme is part of the healthcare reform undertaken in the UK in 2007 with the aim of increasing staff and patient satisfaction by releasing nurse time from "wasteful" activity (Wilson 2009) while focusing on "improving ward processes and environments to help nurses and therapists spend more time on patient care thereby improving safety and efficiency" (National Health Service, 2006–2013). In light of this information, Mandy's reflection may work to remind the other nurses present at the meeting not only that the strongest professional commitment they have is to provide good quality care but also that decisions like Lisa's support the implementation of current international nursing programmes which regulate their professional practices. This allows Mandy to construct her professional identity not only at a local level of nursing practice (as was first considered by the analyst) but also at a much wider disciplinary level (as the ethnographic data collected in the interview revealed) (see further discussion of identity considerations in this extract in Lazzaro-Salazar 2016).

These are just two short examples, which are explored very briefly, but which demonstrate the added depth of understanding that we are able to gain from the ethnographic information gathered as part of the data collection.

6. Criticism of ethnographic approaches

It is important to recognise that while the ethnographic approach offers many advantages to those interested in pragmatic phenomena as described above, there are also areas of potential disadvantage which need to be acknowledged.

6.1. Objectivity and subjectivity

One of the frequently discussed "critiques" of ethnographic studies is that objectivity is never attained because the researcher's bias is likely to influence their interpretations of the phenomena studied. Those using ethnographic approaches recognise this subjective nature. Employing multiple methods of data collection and analysis can be seen as one attempt to minimise possible shortcomings. But in other ways ethnographic researchers embrace the subjectivity, emphasising engagement as opposed to the detachment which is often the perceived goal of "objective" research. Taking an ethnographic approach means immersing yourself with your community as much as you can in order to provide detailed, "thick" descriptions of community activities. We would argue that the complexity of understanding required for interpretation can only be gained through these iterative processes, that is to say, the "sifting and sorting through pieces of data to detect and interpret thematic categorisations, search for inconsistencies and contradictions, and generate conclusions about what is happening and why" (Thorne 2000: 69). The result is richer understandings of social phenomena and appropriate warrants to enhance the validity of our findings. Ethnographic researchers actively prioritise depth of understanding over breadth.

6.2. Time commitment

As noted above, this depth of understanding takes considerable time. Those who enter communities as outsiders need time to discover the social categories that matter and how they structure the ways that people use language. Detractors would question if the result is really worth the time invested. A counter argument from ethnographic researchers is that this time allows for initial misunderstandings to be reconciled and for blinkered views to be overcome: "Field researchers must have ample opportunity to develop relationships, to establish an identity (membership status), and to acquire an appreciation for cultural norms and the interactive and cognitive style and abilities of the individual participants" (Rizzo, Corsaro and Bates 1992: 105). We must also be aware that our first impressions and initial understandings are not always the best. Immersion in communities provides a pathway to allow us to develop trust and also to test for misinformation or misunderstandings. We must always recognise that there are no "facts" or absolute "truth" in interpretive analysis, but rather we knowingly provide our best understanding based on the data we have available.

6.3. Finding universals

Aiming for depth of understanding means giving up the breadth which is achievable in other approaches. This breadth typically serves the purpose of affording comparisons and identifying generalizable patterns. This goal aligns with a positivist approach which accepts fixed, essentialist groupings and stable entities, but is far less appealing for those who question the bluntness of these categories. Nevertheless, some ethnographic researchers have taken on the challenge to form generalisations based on the outcomes of studies which address issues of a similar nature in different contexts. The validity of this generalisability has created a divide.

On the one hand, some ethnographers and ethnographic researchers question the extent to which findings of an ethnographic study can be generalized when the assumptions and interpretations of events and discourses are inevitably linked to the social context in which they occur (de Volo and Schatz 2004). Advocates of this view explain there is an issue of "sameness" in ethnographic research since we cannot assume that social phenomena are perceived in the same way by all participants and by different individuals across communities. Moreover, along with cultural variation within and across communities, "ethnographers also have to assume cultural change [as] no living culture ever stands still, and the forms and processes of cultural invention are constantly in flux […]. Pragmatic strategies and their meanings thus are subject to these shifting cultural tides, and studies must acknowledge that findings may be true for a certain group today, but not necessarily tomorrow" (Davis and Henze 1998: 403). Adopting this perspective, Ramanathan and Atkinson (1999) argue that ethnographic research can only understand the particular (that is to say, "particularizability") in a given special and temporal context.

The scholars who stand at the opposite end of this divide believe that ethnography is by its very nature comparative; although groups and cultures cannot be compared in every single detail, they can be compared at a broader level. As de Volo and Schatz (2004: 270) explain, "ethnography is readily employed to test hypotheses to determine whether and how well general theory applies to a specific case". This means that "rather than comparing pre-determined pragmatic categories across languages" the ethnographic approach is aiming "to determine culture-specific categories" which can then be compared across language communities (Davis and Henze 1998: 403). Nevertheless, providing a thick description of the community under investigation is vital in helping to determine whether transfer is possible.

Elaborating on this notion, the ethnographic approach has important contributions to make to our theorising in pragmatics through analytic generalisability. Here our investigations of communities can support the development of dynamic theoretical models by finding categories and dimensions which are relevant across cultural groups and which demonstrate "the multiple possible outcomes or relationships that exist among factors" (Duff 2006: 50). Thus rather than searching for

abstract statements of law, we could be emphasising "naturalistic generalisation" (O'Reilly 2009) to guide real world actions with more subtlety and flexibility.

In sum, it seems that the issues which are declared weaknesses by others (subjectivity, the time commitment and lack of generalisability) are some of the core strengths for those committed to ethnographic approaches. As ethnographic practices will remain in the field for some time, it is worth considering where these methods might take us in the pragmatics research of the future.

7. Future directions

7.1. New kinds of communities

As noted above, those taking ethnographic approaches in pragmatics are already recognising the changing nature of our understandings of "community" and "culture". This also signifies a shift from a focus on a single speech act, marker or perhaps style of discourse, to an approach where community and culture are seen as the primary focus of analysis. Here the contribution to pragmatics must surely be uncovering the meaning system that underlies the pragmatic features. Recognising that the community has a major impact on the way in which meaning is negotiated between participants places the community in a more central position than earlier investigations in pragmatics. We should therefore expect more research which considers different conceptualisations of community, also reflecting changes to the ways in which we organise ourselves in society. While online communities have already begun to feature, there are surely many more digital and virtual communities which deserve attention. And social networks (in the more traditional sense) deserve greater attention as the smaller sub-cultures with which we identify in our ongoing negotiations of self. The notion of community and culture are in flux and as new understandings emerge, so too will our understandings of related pragmatic features.

7.2. Researching "with" rather than "on" participants

In terms of the data collection methods to be applied, there needs to be greater awareness of our relationships with participants. We anticipate increasing attention to the ethics of our research methods. Our own research practices prioritise researching "with" rather than research "on" participants (see Cameron et al. 1992), that is, involving the participants in research design decisions, as well as data collection and interpretation processes (see also Roberts 2003; Sarangi 2006), including providing regular feedback. Doing ethnographic research in this way involves the development of an ongoing social relationship between the researcher(s) and the participants.

The result is a different understanding of the role of the researcher. Most recent ethnographic research approaching cultural phenomena in the workplace adopts a

post-modern and socio-constructionist perspective. Within this paradigm we recognise our researcher bias and acknowledge our position within the studied community (see Denscombe 2014). As Johnstone (2007: 112–113) explains, "those taking a postmodern or post postmodern approach will accept that they are themselves very much a part of the social world they are studying, that it is therefore futile to try to eliminate the effects of themselves as researchers, and that reflexivity is the process through which they will seek to understand these effects". Rather than reacting and providing counter arguments to positivists and those who search for objective truth, it is time for pragmatic researchers using ethnographic methods to embrace the subjective nature of our work. Our methods reward us with complexity and sophistication and also afford the ethical advantage of involving participants as co-researchers in the process (see Angouri 2012).

At the start of this chapter we commented that we needed ethnographic approaches to give us access to the "messiness" of real life interaction. Harnessing this mess through new conceptualisations of communities as well as by working with our participants as collaborators in our quest to discover their realities offers us important opportunities for new and more sophisticated understandings of how meaning is negotiated in everyday practices.

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15. Ethnomethodology and conversation analysis

Andrea Golato and Peter Golato

Abstract: In this chapter we provide an overview of ethnomethodology (EM) and conversation analysis (CA). We first provide a historical backdrop of sociology within which EM emerged. This is followed by a brief discussion of EM's methodological underpinnings. We then describe how CA developed out of EM together with CA's main tenets and provide an example of how to conduct a CA analysis. Since interactional linguists have adopted CA methodology, the chapter also provides a brief introduction to this particular approach to the study of language. Next, we discuss the data typically used in CA and interactional linguistics (IL), after which we discuss the research topics in both fields, the advantages and disadvantages of the different methodologies, and their applications. Lastly, we provide a brief outlook on the directions that the field might take in the future.

1. Historical backdrop

In Europe, Émile Durkheim established the first academic department of sociology at the University of Bordeaux, France, in 1895. Durkheim's work and that of his students was largely concerned with understanding social facts, which were understood to be societal norms and constraints upon individual behavior that existed external to and independently of individual societal members. As a consequence of their theorized nature, Durkheim and others working in his tradition held that social facts were amenable to quantitative study (see e. g. Durkheim 1897). In the US, beginning with the establishment of the first department of sociology at the University of Chicago in 1892, sociological research was influenced primarily by the work of George Herbert Mead and his followers, most notably Herbert Blumer, and by the development of symbolic interactionism. This was a perspective according to which societal members' understandings of given events, actions, or behaviors are necessarily subjective, i. e. are invariably a product of members' interpretations of events, actions, or behaviors rather than of any objective truth about them, and according to which members construct the societies in which they live (see e. g. Blumer 1969). During the 1930s, Talcott Parsons also adopted this perspective, and additionally developed two influential notions. The first, structural functionalism, held that society's order and overall structure is a function of how its individual institutions interact with each other. The second notion, action theory, held that social actions are the product of goal-seeking individuals who operate according to internal and external constraints including their own evaluations of how a goal

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might best be achieved, and any goal- or goal-seeking-related societal norms and values (see e. g. Parsons 1937).

Amidst this theoretical backdrop, with its primary interest in the study of macro-level societal institutions, constraints, norms, and values within which members operate, the work of both Erving Goffman and Harold Garfinkel gradually led to an additional interest in more closely studying the *in situ* interactions of societal members from the perspective of members themselves. For instance, Goffman's concept of face, that is, the positive self-image that societal members try to project to and maintain with others, and his dramaturgical analysis, according to which members actively seek to manage their everyday interactions as a function of particular participants and settings, were both part of his view that interaction was itself a social institution with its own structure and orderliness, which he termed its interactional order. Since there is orderliness and structure in interaction and since interaction underlies all other social institutions, it follows that interaction is a necessary object of inquiry in its own right (see e. g. Goffman 1959).

Similar to Goffman, Garfinkel also focused on the study of social interaction as a means of understanding social order. However, while Goffman's work was concerned with how members seek to represent themselves and to understand others' self-presentations in the course of social interaction, Garfinkel's work sought to illuminate the relation between social interaction and the origin and structure of social order itself.

From written reports of everyday, two-party conversations in which each participant had annotated what was said with what they had thought was being talked about, Garfinkel identified several general properties that seemed to underlie participants' mutual understanding during such conversations. These general, underlying properties included an expectation of mutual understanding, an acceptance of widespread indexicality (i. e. context-dependent reference) and vagueness, and an awareness that utterance meaning may depend upon what was previously said and may later change depending upon what will be said. Garfinkel posited that these properties "… furnish a background of seen but unnoticed features of common discourse whereby actual utterances are recognized as events of common, reasonable, understandable, plain talk" (Garfinkel 1967: 41). Working from the perspective that these seen but unnoticed background features would only be visible to someone who was either a stranger to, or had become estranged from, everyday social experience, Garfinkel further posited that an absence of these properties in an interaction would lead to problems which participants would immediately seek to rectify. One way in which Garfinkel offered support for his claims was through breaching experiments, i. e. demonstrations during which his students intentionally violated social conventions of various kinds (e. g. seeking clarifications about statements for which a clarification would normally be neither warranted nor expected, behaving as if one's family members were strangers, moving one's face close to that of a coparticipant's during face-to-face interaction, etc.) and then noted the

reactions to the violated conventions. These demonstrations were intended by Garfinkel to involve deviations from the familiar, seen but unseen features of everyday discourse, and thereby cause the unsuspecting "victims" to experience feelings of estrangement from ordinary social experiences. The range of responses to the violated social conventions included shock, confusion, and even anger as interactants tried to make sense of their familiar-yet-unfamiliar social circumstances. As Garfinkel's breaching demonstrations revealed, society members seemed to use everyday, common-sense reasoning in seeking to restore order to and/or otherwise "make sense" of these intentionally derailed interactions. For Garfinkel, therefore, the study of social facts and social order amounted to the study of how, through common-sense reasoning within ordinary conversation, members produce and recognize everyday social actions. Accordingly, he proposed the term ethnomethodology as a way of referring to "the investigation of the rational properties of indexical expressions and other practical actions as contingent ongoing accomplishments of organized practices of everyday life" (Garfinkel 1967: 11). Very briefly stated, EM is the study of members' methods for collaboratively producing and understanding recognizable social actions.

Through their respective professional interests in ordinary conversation, both Goffman's and Garfinkel's work helped set the stage for later researchers whose interests would more closely concern the mechanics of conversation itself. For instance, in his earliest published work Harvey Sacks (1963) adopted an ethnomethodological perspective when proposing that sociologists should not concern themselves with noting, clarifying, and/or evaluating members' descriptions of their social worlds, but rather should seek to describe the everyday, common-sense ways in which members had produced them such that they were understood by other members to be descriptions of social worlds (Sacks 1963: 7). In what appeared to be an extension of what was then Garfinkel's EM, part of Sacks' proposed program also involved a more rigorous description of the language that members used, though he did not advocate a particular analytical framework for doing this (Sacks 1963: 4). In another apparent extension of EM as it was then practiced, Sacks tentatively proposed the criterion of "recognition" for determining whether a given utterance constituted an instance of a description of a social world (Sacks 1963: 4). The essence of both of these early ideas of Sacks', together with his observation that there appears to be "order at all points" within any level of social order (Sacks 1992: 594), would undergo subsequent development and figure prominently in his later work and in the work of others within what would become CA. While EM had been broadly concerned with members' common-sense reasoning as manifested through talk in the production and recognition of social actions, early conversation analytic studies focused more on identifying the underlying order of talk itself (see e. g. Schegloff and Sacks 1973; Sacks, Schegloff, and Jefferson 1974).

CA constitutes an empirical, qualitative approach to the study of talk-in-interaction. Specifically, CA research views talk-in-interaction as the primordial site of

social action (Schegloff 1996: 468). The goal is to discover practices of talk, i. e. particular turn and sequence designs, and the social actions which these practices are used to accomplish. It is one of the insights of CA that much of what we do in our everyday life is accomplished through talk (Drew and Heritage 2006), be it raising children, conducting work, making friends, fighting with relatives, teaching and learning, etc. In other words, when we use language, we are not just transmitting or exchanging information, but we are simultaneously accomplishing other actions, referring to people, objects and thoughts, negotiating our social relationships and identities, etc. Moreover, we do this in an orderly fashion and in concert with the actions, stances, and beliefs of our conversational partner(s). It is through the back and forth of interaction that we organize our actions and make sense of the world around us. Additionally, CA believes that because interactants must (and can) make sense of the utterances of their coparticipants on a moment-by-moment basis and then incorporate that understanding into their own utterances, researchers can use these very same utterances and behaviors as resources in the analysis of social action.

Thus, in line with the ethnomethodological roots of CA, researchers approach their data from a member's perspective. In other words, they never look at an individual utterance in isolation but instead determine how members of the conversation orient to the utterance. The underlying assumption is that "… no empirically occurring utterance ever occurs outside, or external to, some specific sequence" (Heritage and Atkinson 1984: 6). For this reason, utterances are always analyzed as actions which are placed in specific sequential contexts (Schegloff 1988, 2007). Likewise, context is not viewed as an independent entity which influences participants, but is instead considered to be locally managed and co-produced *in situ* by the participants of the interaction (Auer and Di Luzio 1992; Duranti and Goodwin 1992; Schegloff 1992). The mechanism and advantages of this approach can be demonstrated through the following example sentences uttered by members of a string quartet during one of their practice sessions:

(1) *That was great.*
(2) *Try not to retard.*
(3) *Oh, I'm sorry.*

Viewed in isolation, utterance (1) is likely to be interpreted as a general assessment or compliment, utterance (2) as criticism or admonishment, and utterance (3) as an apology. However, when these utterances are viewed in the sequential context in which they originally occurred, a slightly different picture emerges:

(4) [Quartet Material, 4/12/94] (Golato 2005: 89, with permission from E. Schegloff)

```
1   Mik: okay, (0.6) (hit it)
2        ((music 10.0))----------
3   Bob: [That's the place,
4        [--------

5   Bob: (Mike)/(now), that's beautiful sound
6   Bob: but, (.) try not to retard.=
7   Mar: =he didn't.
8        (0.2)
9   Bob: °he didn't?°=
10  Mar: =that was gr(h)(h)eat=
11  Bob: =oh I'm sorry
12       (0.5)
```

In line 1, Mike is giving the others the signal to start playing. After about ten seconds of music, Bob interrupts the play by criticizing and correcting Mike in lines 3–6. Before Mike can respond, Marge overtly disagrees with Bob's statement. After a short silence, Bob questions and challenges this counter-opinion (line 9). Marge responds with a *that was gr(h)(h)eat* while looking back and forth from Mike and Bob (not shown in this transcript). This utterance is one that we have looked at before in isolation. It can be argued that with this turn, Marge is complimenting Mike and building solidarity with him while simultaneously disaffiliating with Bob. However, by virtue of its position in the conversation, i. e. by being placed in an environment in which it contradicts the opinion of a coparticipant, the turn does more than merely compliment: it serves to reproach and criticize Bob. That this is the case can be demonstrated by the reactions of the coparticipants: in English, complimenting first pair parts normally generate a responding second pair part in the form of an acceptance, rejection, deflection, or other reaction from the compliment recipient (Pomerantz 1978). Note that here, however, Mike does not respond at all. Instead, Bob responds with an apology (line 11). Mike's behavior indicates that the function of the turn in line 10 is not primarily to compliment, while Bob's turn in line 11 indicates that he perceives the turn as a reproach or criticism which results in him apologizing for his prior behavior.

The paragraph above gives a brief illustration of a CA-style sequential analysis. Sequences, which are CA's primary unit of analysis, are "courses of actions implemented through talk" (Schegloff 2007: 3). The underlying idea is that turns-of-talk that are positioned next to each other have "some organization" between them (Sacks [1973] 1987: 54). Specifically, interlocutors typically hear a given turn as directed to a prior turn. Thus, with each utterance, speakers display to their interlocutors not only that they attended to the prior utterance(s), but also how they understood it and how they orient to the actions accomplished by that prior utterance (Schegloff 1984: 37). As a result, each turn is oriented to and shaped by

what was said before. Consequently, prior speakers can use the subsequent talk to determine if and how their talk was understood. Similarly, an analyst can look at the talk of a subsequent speaker to see what they perceived the action and meaning of a prior turn to be. This is a procedure that Hutchby and Woffitt have labelled "next-turn proof procedure" (Hutchby and Wooffitt 2008: 15). It is this next-turn proof procedure that constitutes the ethnomethodological approach of CA.

When analyzing a particular action or specific linguistic feature, analysts compile a large collection of single cases and work out the patterns that can be observed in the collection. As Heritage (1988: 131) observes "[a]t the core of this task is the demonstration that these regularities are methodically produced and oriented to by the participants as normative organizations of action." Contrary to other methodologies, no instance can be treated as an exception in the traditional sense, and be cast aside and disregarded in the analysis because it does not conform to the rules that the other examples in the collection have been observed to follow. Instead, researchers perform a so-called deviant case analysis; that is, they try to show how participants orient to the behavior as being different from the norm (Heritage 1988) and provide contextual explanations for the observed difference (for an example, see Egbert 1996).

IL builds upon the work of CA. As noted above, CA is mostly interested in describing social actions and the practices involved in accomplishing them. In CA analyses, linguistic structures are considered to be one of several resources available to interactants for accomplishing social actions. In IL, however, CA's figure and ground are reversed; that is, in IL the focus is on the specific functions of lexical, semantic, syntactic, phonetic, prosodic, and stylistic structures/resources and the roles that they play in interaction. While Chomskyan or Saussurian linguists study linguistic structures in isolated and often invented sentences, IL researchers analyze such structures as they are used in naturally occurring interaction. Put differently, IL "maintains that linguistic analysis should acknowledge the fact that language is used in and for particular tasks and purposes of interaction, and that, as a consequence, linguistic phenomena need to be analyzed with regard to the conversational actions they are deployed for and the sequences they are embedded in" (Kern and Selting 2013: 1012). Here then, linguistic phenomena are viewed as both shaping, and being shaped by, interaction. Moreover "the linguistic shaping of an utterance is intertwined with the changing relationships among participants over interactional time" (Schegloff, Ochs and Thompson 1996: 44). Interactional linguists either start out with a linguistic structure (e. g. a particular particle or response token) and investigate its function or meaning in interaction, or alternatively they investigate a particular social action (e. g. a compliment) and analyze which linguistic features are regularly employed in order to accomplish this action (Kern and Selting 2013).

In terms of its methodology, IL uses the same sequential analysis as used by conversation analysts. That is, IL researchers show that the specific linguistic phe-

nomenon under investigation is oriented to by the participants in the interaction as having a specific interactional function. Additional evidence comes from other regularly occurring linguistic elements in the same turn and from comparisons of the phenomenon under investigation with similar/related phenomena in the same or in other languages. A prime example of research in the IL tradition is Fox and Thompson's (2010) work on responses to *wh*-questions in American English. They noted that *wh*-questions used as specifying questions (i. e. as questions seeking particular pieces of information that have nothing to do with problems of hearing or understanding) can receive either phrasal or clausal answers as displayed in examples (5) and (6) below:

(5): Boise (adapted from Fox and Thompson 2010: 140)

```
   1   Terry:    (Well) her sister's paying for it. yes.
   2   Maureen:  >Where does< her sister live.
=> 3   Terry:    Boise Idaho.
   4   Maureen: (H)ho ↑ta:lk[awa:::y.
   5   Abbie:               [her sister ne:ver calls.
```

(6): Game night (adapted from Fox and Thompson 2010: 146)

```
   1   Terry:   WE'RE JUST TALKING ABOUT HER ARTI:STIC YOUNG
                SO:N.
   2            (.)
   3   Pam:     Oh that's ri:(h)ght.
   4            (.)
   5   Maureen: Ye:ah. Whatsuhm (0.3) Whose turn [is it.
   6   Terry:                                 [somebody wants
                                              to bu:y
   7            that[:,
=> 8   Abbie:        [It's yours.
   9            (0.4)
   10  Terry:   Yeah, you and Pa:m, (.) huh [huh
   11  Maureen:                             [O::h. Is it me:
                                            dra:wing?
```

The question in example 5, line 2 receives a phrasal response in line 3, while the question in example 6, line 5 receives a clausal response in line 8. Fox and Thompson found that the choice of answer format is systematic and is associated with a specific interactional meaning. Specifically, they show that phrasal responses simply answer the question that was posed, while clausal answers indicate that either the question itself or the sequence in which it is placed are problematic. This can be illustrated using the data examples above. In example (5), Terry is explaining why their hostess is not cutting an ongoing phone call short. The question in line 2 seeks more information about a person mentioned in line 1. In other words, the question is topically related to the immediately prior talk. This question receives

a phrasal response that provides the sought-after information. Syntactically, the answer is built symbiotically on the prior talk and it is produced without delay and causes no interactional problems. In contrast, in example (6), the question in line 5 is not topically related to the prior talk at all and thus does not develop the ongoing sequence further. Fox and Thompson note that questions of this type regularly receive a clausal response. Sequentially, however, there is more going on: in the example above, the interactants have gathered to play board games and to socialize. At the beginning of the transcript, they have temporarily abandoned the game and are involved in a discussion. The turn in line 5, then, does more than simply ask a specifying question (the speaker does not just want to know whose turn it is); the question also serves as a prompt for the other interactants to return to the game. However, it turns out that the person who asked the question is in fact the player who is up next. Fox and Thompson argue that the clausal response treats the question as problematic both because of its non-topical relatedness to the prior talk, and because it is inapposite (i. e. it goes counter to the default assumption that those wanting to return to a game know whose turn it is). Further evidence for the problematic nature of the question lies in the ongoing discussion about whose turn it is. Fox and Thompson note that systematically, *wh*-questions receiving a phrasal response have in fact asked a specifying question, and in each case receive exactly the sought-after information through the phrasal answer. In contrast, *wh*-questions receiving a clausal response typically do more than merely ask a question. More specifically, the clausal answer and the ensuing talk treat the prior question (and its associated action) as problematic.

Fox and Thompson reached these findings using the following approach: After first noticing in their data that *wh*-questions can either receive a phrasal or a clausal response, they searched a corpus of approximately 500 minutes of recorded, naturally-occurring conversation for instances of *wh*-questions. They then conducted a sequential CA analysis of each instance, noting systematic features that hold across the selection. They further conducted an analysis of the turn design of both phrasal and clausal responses. In so doing, they noticed that many of the phrasal responses were produced immediately and without delay, whereas *all* clausal responses were delayed. Moreover, they also noted that phrasal responses were more frequent and thus the more typical or unproblematic response type. These two observations further supported their analysis of clausal responses as being a device for dealing with sequential troubles.

More detailed discussions of the conceptual framework of IL along with early examples of empirical work in this tradition can be found in Couper-Kuhlen and Selting (1996), Ford and Wagner (1996), and Ochs et al. (1996).

2. Data

Given that both CA and IL are interested in how speakers use language to create meaning and/or how certain actions are organized in their natural setting, the data used for analysis need to correspond as closely as possible to the "naturally occurring interactional environments which seem to be the natural, primordial home for language use" (Schegloff 1996: 468). Moreover, it is necessary to be able to repeatedly inspect the same data set. For these reasons, CA and IL researchers audio- and video-record naturally occurring, non-elicited data in a variety of different settings. In order to clarify what naturally occurring data are, Potter (2002, 2009) suggests what he terms the "(conceptual) dead social scientist's test: would the data be the same, or be there at all, if the researcher got run over on the way to work? An interview would not take place without the researcher there to ask the questions; a counseling session would take place whether the researcher turns up to collect the recording or not" (Potter 2002: 541). In addition, researchers try to collect the data in a form that gives them the same access to all the information that the interactants had. In other words, if interactants are talking to each other on the phone, the data are audio-recorded; however, if interactants are engaged in face-to-face interaction, the data are recorded with at least one camera. For a more detailed discussion regarding data units and data collection, see chapters 1 and 2 of this volume.

In a next step, CA and IL researchers transcribe the data in great detail, including not only the words uttered, but also all hesitations, laughter, in- and out-breaths and, when relevant to the analysis, embodied behaviors and prosody. In other words, "no order of detail is dismissed *a priori*, as disorderly, accidental or irrelevant" (Heritage 1984: 241). Most CA and IL researchers employ the transcription conventions developed by Gail Jefferson, as described in Atkinson and Heritage (1984: ix-xvi). However, it should be noted that several interactional linguists in German-speaking countries employ GAT 2 (Selting et al. 2009). Examples (7) and (8) below show the same stretch of talk transcribed using Jeffersonian transcription conventions and GAT 2 conventions, respectively.

(7) Jeffersonian Transcription

```
1  O: der ludwich schreibt da doch immer so glossen
      you know ludwich always writes stories

2  O: in der zeitung,=das kenns- kanns dich vielleicht erinnern?
      in the newspaper, you know- perhaps you remember that?

3  M: [wa-
      [wha-
      [
4  O: [mainzer anzeiger.
      [((name of newspaper.))
```

```
=> 5  M: was fürn lu:dwig.
        what lu:dwig.

   6  O: der joe ludwig da,    w[eisste der-]
        the joe ludwig there, y[ou know the]
                               [           ]
   7  M:                      [ach so.    ]
                              [i see.     ]

   8  M: der [fasnachter.     ] ja.
        the [mardi gras fool.]
            [                ]
   9  O:    [fasnachter.     ]
            [mardi gras fool.]

   9  O: und da    steht heut  die  woch inner zeitung    da
        un  there is    today this week in the newspaper there
```

(8) GAT 2 Transcription

```
   1  O: der ludwig SCHREIbt da doch immer so glossen in der
        zeitung,=
   2     =das kenns-
   3     kanns dich vielleicht erINnern?
   4  M: [wa-
   5  O: [MAInzer anzeiger.
=> 6  M: WAS für_n lu:dwig.
   7  O: der JOE ludwig da,=w[Eisste der- ]
   8  M:                     [achSO.      ]
   9  M: der [FASnachter.] ja.
   10 O:    [fasnachter.]
   11 O: und da steht heut die woch inner zeitung da
```

In both transcription systems, a true type font (typically Courier or Courier New) is used in order to be able to line up utterances exactly with each other. This is particularly useful for rendering talk that is produced in overlap, such as lines 3 and 4 in example 7 and lines 4 and 5 in example 8. In both transcription notations, the beginning and end of the overlap are marked with square brackets [ ]. In both systems, periods, commas and question marks do not function as punctuation marks but instead serve to notate intonation: a period indicates falling intonation, while a comma indicates continuing intonation and a question mark indicates rising (or questioning) intonation. When speakers cut themselves off, this is indicated with a hyphen (*das kenns-* line 2 in both examples), while talk that is latched (i. e. without a beat of silence between utterances) is connected with = (see line 2 of both transcripts). In both transcription notations, silences are timed, with micro silences rendered as (.) while longer silences provide the length of silence in tenths of seconds (e. g. (0.2); no example given). In both transcription systems, all talk is ren-

dered in lower case, as upper case is reserved for utterances that are produced with greater amplitude in the Jeffersonian system, or that mark sentence stress in GAT 2 (note that the Jeffersonian system does not mark regular sentence stress, but only marks utterances that are unusually stressed or lengthened. This is then marked by underlining the stressed part of the utterance, see *schreibt* 'writes' in line 1 of example 7). In both transcription systems, elements that are unusually lengthened are marked by a colon (see the *u* in the name *Ludwig* in line 5). The GAT 2 system differs from the Jeffersonian system in terms of line numbering conventions. In the Jeffersonian system, each segment of a turn at talk receives a numbered line in the transcript. In the GAT 2 system, if a segment cannot be rendered in one line, it is continued in the next line but does not receive a number (observe how the first two lines of the Jeffersonian transcript are rendered in the GAT 2 transcript). Moreover, since both primary and secondary sentence accents are rendered in GAT 2 and since the system has more notational features for other intonational features (not displayed above), the GAT 2 system allows for a more fine-grained representation of prosodic features. For more detailed discussions of each system, see Atkinson and Heritage (1984: ix–xvi), Selting et al. (2009), and chapter 3 of this volume.

3. Research topics

As mentioned above, the research questions in IL and CA center on either the function of particular linguistic features and embodied conduct in talk-in-interaction, or the systematic organization of social actions. Given our page constraints, it will not be possible to provide an exhaustive overview of all research topics in IL and CA. Instead, we present some of the most salient topics and include some representative studies. However, the IL/CA research community maintains a comprehensive and current bibliographic database which can be sorted by author, topic, type and year of publication, and which the interested reader can access at http://emcawiki.net/EMCA_bibliography_database.

As previously noted, in IL grammatical and other linguistic features are viewed as adapted to and shaped by conversation (Ford, Fox and Thompson 2003). For instance, some of the first studies in IL considered the impact of prosody on turn-taking (French and Local 1983; Local, Wells and Sebba 1985; Local, Kelly and Wells 1986). These earlier studies were mostly undertaken by British scholars working on English. Since then, however, the scope of the research has broadened to include other languages and other interactional environments (e. g. Selting 1988, 1992, 1995; Couper-Kuhlen and Ford 2004; Barth-Weingarten, Dehé and Wichmann 2009; Barth-Weingarten and Szczepek Reed 2014).

In terms of grammar, a large variety of features have been studied. Earlier research focused on sentence construction (Goodwin 1981, 1984, 1995), anaphora

(Fox 1987, 1996), and adverbial clauses (Ford 1993). In these studies, researchers pointed out that these are concepts that are locally and interactionally managed. That is, structures used by speakers (1) depended on the knowledge of coparticipants, (2) were influenced by their input and (3) depended on their placement within the overall structure of the interaction. Over the years, the research in IL has been broadened to include work on question design (e. g. Selting 1992; Koshik 2005; Sidnell 2010), response particles (e. g. Heritage 1998; Sorjonen 2001; Heritage 2002; Betz and Golato 2008; Golato and Betz 2008; Golato 2010, 2012); discourse markers (e. g. Günthner 1999; Barske and Golato 2010; Keevallik 2010a, 2010b), and tag questions (e. g. Jefferson 1973, 1980; Holmes 1982; Harren 2001; Hepburn and Potter 2009; Enfield, Brown and de Ruiter 2012; D. Drake and V. Drake 2015; V. Drake 2015).

In CA, the first two seminal papers focused on turn-taking (Sacks, Schegloff and Jefferson 1974) and on self-repair (Schegloff, Jefferson and Sacks 1977). Sacks et al. (1974) firmly established that there is a regularity in how participation in conversation is organized. Turns at talk consist of turn constructional units (TCUs) which are utterances that are syntactically, prosodically, and pragmatically complete. At the end of a given TCU, speaker change becomes relevant. Either the current speaker can select to go on, or they can select another speaker, or another speaker can self-select. These (normative) rules keep overlaps and silences brief and also account for why speakers' turns at talk have different lengths. In general, the article showed that turn-taking is locally and interactionally managed. Given its vital role in turn-taking, it is not surprising that as a construct, the TCU has been extensively explored in later research (e. g. Ford, Fox and Thompson 1996; Selting 1998; Szczepek Reed and Raymond 2013). In addition, researchers have studied collaborative completions of turns (e. g. Lerner 1991), pivot constructions (e. g. Scheutz 2005; Betz 2008; Clayman and Raymond 2015), interruptions (French and Local 1983; Schegloff 1987; Drummond 1989), silences (e. g. Jefferson 1989; Roberts, Francis and Morgan 2006; Hoey 2015), and the role of embodied behavior (e. g. Streeck 1993, 1994; Mondada 2007), as well as the overall turn-taking system in other speech exchange systems (e. g. Greatbatch 1988; Egbert 1997; Mondada 2015).

Another topic that has received continued attention is repair, collectively understood as the mechanisms available to interactants when dealing with problems in speaking, hearing and understanding. When initiating repair, speakers stop the ongoing action to deal with the problem before continuing on with the prior action; in such instances, self-repair is preferred over other-initiated repair (Schegloff et al. 1977). Research has been conducted on self- and other-initiated repair as well as on individual repair initiators in a given language and across languages, various functions of repair, the intersection of repair and phonetics, the intersection of repair and embodied action, and repair in a variety of speech exchange systems. Given the vast amount of research on this topic, the reader is referred to several

overview articles (Kitzinger 2012; Fox 2013; Fox, Benjamin and Mazeland 2013; Mazeland and Benjamin 2013) and a recent collection (Hayashi, Raymond and Sidnell 2013).

As mentioned above, one of the main contributions of CA is its practice of analyzing talk as sequences of action and of viewing sequence organization as the main structural feature of talk (Schegloff 1990, 2007). A variety of actions have been investigated, for instance how interactants refer to persons and things. The choice of reference forms has been shown to depend both on recipient design (i. e. speakers orient to the knowledge that they presume the recipient(s) to have about the referent) and on where in the course of an action a referring expression is placed (e. g. Sacks and Schegloff 1979; Auer 1984; Fox 1987; Ford and Fox 1996; Fox 1996; Lerner 1996; Enfield and Stivers 2007; Egbert, Golato and Robinson 2009; Enfield 2012; Kitzinger, Shaw and Toerien 2012; Lerner et al. 2012; Mondada 2014). Other actions that have received much attention across languages include requests (e. g. Davidson 1984; Taleghani-Nikazm 2002b, 2005, 2006; Curl and Drew 2008; Taleghani-Nikazm and Huth 2010; Drew and Couper-Kuhlen 2014; Kendrick and Drew 2016) and both assessments and compliments (e. g. Pomerantz 1978; Auer and Uhmann 1982; Pomerantz 1984; Goodwin and Goodwin 1987, 1992; Antaki 2002; Golato 2005; Peräkylä and Ruusuvuori 2006; Lindström and Mondada 2009; Mondada 2009; Golato 2011).

4. Strengths and weaknesses

The strengths and weaknesses of a particular research methodology always have to be considered in relation to the types of research questions one wants to answer. If one is interested in actual language use rather than in intuition or beliefs about language, CA's and IL's obvious strengths lie in their focus on naturally occurring data and their ethnomethodological approach. At the core of each analysis is not the researcher's interpretation regarding the possible function of a linguistic structure, body movement, or facial expression in the interaction, but rather the coparticipant's orientation to the phenomenon in question. As demonstrated above, these orientations are visible from the surrounding turns. Given that research articles always contain ample examples of the phenomenon under investigation and given that these examples are in the form of transcripts of the entire surrounding sequence (rather than just the isolated target phenomenon), it is possible for readers to verify the line of argumentation for themselves. In other words, the approach of having to make a case from an emic perspective, in combination with the requirement to account for deviant cases (see above), makes for a solid analytical approach that leaves virtually no room for ambiguities with regard to the function of a given turn. When studying grammatical features that occur turn-internally, it can be challenging to show the interactants' orientation to the phenomenon under

investigation; turn-initial or turn-final positions typically carry more of a speaker's stance to surrounding turns.[1]

Obviously, the strength of an argument in CA or IL terms lies in large part on the quality and amount of data collected. It has been pointed out that the recording equipment can influence the individuals being recorded (Kasper 2000). However, it should be noted that a detailed sequential analysis will make such an orientation apparent. Moreover, depending on the frequency of occurrence of the type of action or linguistic feature under investigation, it can be rather painstaking to assemble a large enough corpus (Kasper 2000). And lastly, transcribing data requires training, is time-consuming, and can itself influence the analysis (e. g. Wagner 2013; Auer 2014; Bolden 2015; Ogden 2015; Egbert, Yufu and Hirataka 2016). In this sense, transcribing data is already a form of interpreting them. However, it should be noted that this last issue is common to all research methodologies that investigate language use. CA and IL have also been criticized because they do not allow for the incorporation of external variables such as the gender or socio-economic status of the speaker (Yuan 2001); in line with their ethnomethodological approach, in CA and IL such variables are only discussed if they are recognizably relevant to the members of the conversation.

5. Application

Since the late 1970s, CA and IL researchers have also been investigating non-ordinary, i. e. institutional, talk such as news interviews, courtroom interaction, medical encounters, classroom discourse, etc. One of the first such works is Atkinson and Drew's analysis of courtroom interaction (Atkinson and Drew 1979). As Heritage (2013: 3–4) explains, in institutional settings, participants have institution-relevant roles (e. g. doctor-patient) and related interactional goals, are subject to institution-specific restrictions as to what a permissible contribution entails (e. g. doctors do not commiserate with patients by providing stories of their own ailments); and are subject to specific processes and inferential frameworks. In these settings, turn-taking, repair, preference organization, sequence organization, etc. are still at work, but one can notice departures from what can be observed in ordinary conversation. For instance, in classroom settings, a question-answer sequence is typi-

[1] Sometimes, it can even be difficult to show an orientation to elements in turn-initial position. For instance, together with other researchers, we were trying to explain how German declarative utterances with the verb in initial position differed in function from those in which the verb was in second position. This was impossible to do with a straight sequential analysis, as interactants did not display an orientation to the positioning of the verb.

cally followed by a third turn that contains an evaluation. This is the case because teachers ask known-answer questions (these are so-called "display questions") and then evaluate the (linguistic or content) accuracy of the response provided by the student (McHoul 1978; Mehan 1985). It is a basic tenet in CA that the institutional context of an interaction is talked-into-being (Heritage 1989), meaning that the participants to the interaction create and uphold the institutional frame through their own contributions. For conceptual articles on the difference between everyday and institutional talk-in-interaction and how to analyze interaction in institutional contexts, see for instance Heritage (2005, 2013) or Mondada (2012). Several review articles and books provide an overview of research on medical interaction (e. g. Gill and Roberts 2012; Koenig and Robinson 2014), institutional meetings (e. g. Asmuß and Svennevig 2009; Svennevig 2012), classroom interaction (e. g. Seedhouse 2005; Markee 2015), news interviews (Clayman 2012), and courtroom interaction (e. g. Komter 2012).

CA and IL have also been applied to the study of second language acquisition (SLA). Firth and Wagner (1997, 1998, 2007) were the first to criticize prior SLA research for adopting an almost exclusively cognitive perspective. They called for studies conducted from an emic perspective, in which language learning was viewed as a socially distributed phenomenon/accomplishment. Since the publication of the special issue in which Firth and Wagner's work appeared, CA-for-SLA has developed as a promising approach to studying language acquisition (e. g. Markee 2000; Taleghani-Nikazm and Huth 2010; Hellermann 2012).

6. Prospects for future research

Both IL and CA have seen a tremendous amount of growth in the last decades in terms of the number of researchers using these approaches, the number of studies published, and the areas covered. At the same time, the approaches themselves have remained remarkably consistent. We would expect these trends to continue.

In recent years, there has been a growing trend to include more comparative work in the study of both actions and linguistic features. While work on languages other than English has frequently made comparisons with prior work conducted on English, more contrastive studies now exist between two non-English languages (e. g. Taleghani-Nikazm 2002a; Betz 2008; A. Golato and P. Golato 2015), in addition to work that compares a group of features, such as turn initial particles, across a variety of languages (e. g. Sorjonen and Heritage in press) and to work that investigates a specific practice or linguistic feature across many different languages (e. g. Fox et al. 2009; Enfield et al. 2013; Dingemanse and Enfield 2015; Auer and Maschler 2016). Again, as more becomes known about individual languages, we expect more studies to adopt a comparative perspective and discuss language typology and universals.

In addition, we anticipate further pedagogical applications of IL and CA research. A number of theoretical papers (e. g. Wong 2002; Huth and Taleghani-Nikazm 2006; Huth 2007; Barraja-Rohan 2011; Betz and Huth 2014) demonstrate how findings from IL and CA can be applied to the teaching of foreign languages and to the development of teaching materials for English (Barraja-Rohan and Pritchard 1997) and German (e. g. Burkert and Roitsch 2014; Huth 2014; D. Drake and V. Drake 2015; Taleghani-Nikazm and Golato 2016). Similar pedagogical materials exist for the training of medical staff (e. g. Heritage 2009), and for CA workshops and seminars (Robinson and Heritage 2014). A small body of work also exists that applies CA and IL research findings to improve interaction in other domains, and there is work that combines CA with other research traditions (for review articles and empirical research, see Antaki 2011, 2014).

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16. Discourse analysis

Anita Fetzer

Abstract: This chapter examines methods of discourse analysis, considering in particular the structuring of discourse with respect to the fundamental questions of granularity and of the nature of the connectedness between the constitutive parts of discourse and its delimiting frames of reference. It addresses core concepts, such as micro, meso and macro units of investigation, their concatenation and linearization, and their statuses as carriers of content, force and discursive glue. It highlights the interdependence of the conceptualization of discourse units and appropriate methods for discourse analysis, such as quantitative and qualitative, and bottom-up and top-down approaches. The dynamics of discourse – as both process and product – requires discourse units to be relational, relating its constitutive units with language users, discourse coherence, discourse common ground and context as well as with discourse-as-whole.

1. Introduction

Discourse is a multifaceted and multilayered, and generally also a multi-modal construct, which has not only been analyzed in the arts and humanities, but also in the social sciences, in artificial intelligence and in information technology, to name but the most prominent paradigms. The research community is heterogeneous and utilizes varying, but not mutually exclusive perspectives and methodologies, which address discourse from quantitative and qualitative perspectives. An analysis of discourse needs to address two fundamental issues: (1) what is discourse, or rather which necessary conditions need to obtain for a "stretch of language (use)" to count as discourse? And (2) the question of granularity: what is the micro unit of investigation? Is there a macro unit of investigation and are there in-between units? And which necessary conditions need to be fulfilled for a linguistic unit to count as a discourse unit? While there is general agreement about a quantity-anchored conception of discourse as "language patterns above the sentence" (Widdowson 2004: 3), the question of granularity as regards the basic unit of investigation of the constitutive parts of discourse remains controversial and depends strongly on the respective research paradigm, and on its goals and methodology. This holds for the discourse unit as well as for its delimiting frame, which spans from some kind of concatenated sequence of discourse units to discourse genre. Classical discourse units are propositions and illocutionary acts in formal theories of discourse, clause, sentence, utterance in linguistics-based discourse analysis and text linguistics, turn

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and turn-constructional unit in conversation analysis and interactional linguistics, and speech act, conversational contribution, discursive contribution, and pract and pragmeme (Mey 2001) in discourse pragmatics, which will be elaborated on in section 2.2.2. But it is not only the form of the discourse unit, which contributes to the complexity of discourse analysis. There are further, complicating issues: on the one hand discourse refers to a theoretical construct and to its actual linguistic realization in context, and on the other hand discourse is both product, that is a delimited and static unit of concatenated discourse units, and process, that is the dynamic linearization and sequential organization of discourse units which constitute discourse-as-a-whole. Because of its dual status as product and process, discourse can be approached from top-down and bottom-up perspectives, considering the structuring of discourse-as-a-whole starting from the whole product and thus top-down, or from one discourse unit and thus bottom-up, considering its concatenation and sequential organization in order to construct larger units and constitute discourse-as-a-whole.

Approaching discourse analysis from a granularity-based perspective focusing on form presupposes that discourse is structured, and that its structure is the result of concatenated and linearized discourse units. It is that patterned concatenation and linearization, which constitutes discourse and which allows for its delimitation and framing, distinguishing it from its embedding social context (cf. Fetzer 2012). However, discourse is more than just some concatenated, linearized and delimited unit: interlocutors produce discourse with a certain goal and communicative intention, and they address other interlocutors with that discourse in order to make manifest their communicative intention and achieve their communicative goal(s). Discourse is used strategically in context, and the concatenation and linearization of its constitutive parts are planned (more or less consciously) and executed (more or less consciously) by interlocutors, who may realize their discourse in spoken, written, written-to-be-spoken modes, or in other modalities. The discourse-as-product outlook concentrates on discourse-as-a-whole, while the discourse-as-process perspective accounts for the production and interpretation of discourse units as parts of a linearized and sequentially organized whole. Here, discourse is an online production and conceived of as co-constructed, as is the case with spoken dyadic and multi-party discourse and its digitally produced counterparts; this will be elaborated on in section 2.

The goal of this chapter is to examine methods of discourse analysis, considering in particular the structuring of discourse. The focus is on qualitative methodological approaches, in particular empirical frameworks. The following section "Discourse: quantity meets quality" addresses the question of granularity and its implications for the analysis of discourse from qualitative methodological perspectives. It compares different approaches to discourse units and relates them to carriers of discursive glue, that is coherence strands, discourse relations and discourse connectives, which contribute to the participants' construal of discourse coherence.

The section also addresses the dynamics of discourse from bottom-up and top-down perspectives, paying particular attention to discursive online production and discursive online interpretation. Section 3 "Discourse as communicative action" addresses the question of whether discourse describes the world in terms of true or false, or whether it constitutes communicative action, and whether discourse can be assigned the status of a macro speech act concatenated of micro speech acts, with the illocutionary speech act type of expositive as discursive joint and carrier of discursive glue. A conclusion summarizes the results of the discussion and provides an outlook on further research.

2. Discourse: Quantity meets quality

Discourse analysis is fundamentally concerned with the investigation of the nature of the connectedness between parts and wholes, and for this reason methods of discourse analysis need to account for discourse as a relational construct, relating its constitutive parts locally at the level of adjacent positioning and linearization, relating them not-so-locally at the level of sequence or episode, and relating them globally with regard to the nature of their connectedness with the discourse-as-a-whole, i. e. discourse genre.[1] Discourse is thus both quantity and quality: quantity captured by the number of its constitutive parts, its discourse units, and quality, captured by the pragmatics of discourse units in context, and by the nature of their connectedness. That is why any analysis of discourse needs to address both granularity and discursive glue, that is the linguistic material, which contributes to making discourse units cohere.

Linguistics-based methods of discourse analysis have focused on the structure of discourse and thus on granularity, for instance Segmented Discourse Representation Theory (Asher and Lascarides 2003) and Rhetorical Structure Theory (Mann and Thompson 1988), and also on discursive glue captured by discourse (or coherence) relations. Frequently, they have considered idealized, prototypical scenarios (but see contributions to Gruber and Redeker 2014). Contrastive methods of discourse analysis have concentrated on the linguistic representation of discourse relations based on quantitative and qualitative investigations of parallel corpora, generally comprising translations of literary or institutional texts. They do not only allow for the examination of language-preferential realizations of discourse units and of some of its constitutive constructions across languages, but also for

[1] In this chapter discourse genre is used as an umbrella term for delimiting frames of reference, for instance activity type (Levinson 1979), communicative genre (Sarangi 2000), local and global communicative project (Linell 1998), to name but the most prominent ones; it is functionally synonymous with discourse-as-a-whole.

differences between spoken and written modes, and between selected data sets of particular discourse genres (e. g. Fetzer and Speyer 2012; Speyer and Fetzer 2014), accounting for local constraints, such as adjacency, and more global constraints, such as the delimiting frame of discourse genre.

The following section examines the implications of granularity on the analysis of discourse units and their size, considering their embeddedness in discourse as well as possible forms and boundaries. After that, the qualitative aspects of discourse units surfacing in the structuring of discourse are going to be analyzed.

2.1. Quantity and granularity

Functional and formal approaches to the analysis of discourse have utilized various discourse units, spanning from clause, sentence and utterance to proposition, illocutionary act, conversational contribution and turn. However, their application within the different research paradigms has not always been consistent. In linguistics-based analyses, discourse units are generally seen as functionally equivalent to grammar-based terms of sentence or clause, and sometimes discourse units are referred to with the usage-based term of utterance, as is the case in text linguistics (e. g. De Beaugrande and Dressler 1981; Fabricius-Hansen and Ramm 2008) and in the functional-grammar-anchored paradigms (e. g. Dik 1997; Givón 1993; Halliday 1994; Heine, Kaltenböck, Kuteva and Long 2013; Hengeveld and Mackenzie 2008). The formal paradigm utilizes proposition and/or illocutionary act, but also utterance in their analyses of both fabricated and non-fabricated data. The functional paradigm employs speech act, turn, conversational contribution, discursive contribution, pract and pragmeme, but also utterance. Utterance is thus the most frequent term, but this does not mean that the different paradigms share a common definition of utterance, which has been used to refer to written discourse as well as spoken discourse, and the grammars of the two modes are different, as has been proposed by Biber (1988), Chafe (1994) or Biber et al. (1999), for instance. Ethnomethodological approaches and interactional linguistics base their investigations on the discourse unit of turn, which may be segmented into the constitutive part of turn-constructional unit (e. g. Schegloff 2007); sometimes conversation analysis and interactional linguistics also use utterance, clause or sentence in their analyses (cf. also Golato and Golato, this volume).

The question of granularity regarding the minimal unit of investigation has been addressed comprehensively. However, the analysis of discourse also needs to account for its status as a parts-whole configuration, in which the whole is more than just a somewhat delimited sequence of minimal discourse units, which is implicit in the rather general definition of discourse as "language patterns above the sentence" referred to in the introduction. Widdowson's very general definition has been taken up by a number of researchers, supporting its line of argumentation, but also qualifying it. Fabricius-Hansen and Ramm (2008) address the question of

granularity explicitly for their delimiting frame of text. By accommodating a larger discourse unit, they refine the definition of the discourse unit "sentence":

i. A *text* [original emphasis] consists of a finite number of sentences in succession, with one-sentence texts as a marked category.
ii. A sequence of syntactically independent clauses separated by commas is not a sentence sequence but constitutes a single (complex) sentence, if properly demarcated.
iii. If *clause combining* [original emphasis] […], or *clause linkage* [original emphasis] […], is to be understood as connecting clauses rather than sentences […] it must be confined to the sentence level. That is, simple juxtaposition of syntactically independent clauses separated by comma, without overt coordination, represents a special case of (paratactic) clause linkage. Corresponding full-stop sentences, on the other hand, are, strictly speaking, not related by any kind of clause combining; they simply succeed each other (Fabricius-Hansen and Ramm 2008: 4–5).

It is not only the question of granularity, which is relevant to methods of discourse analysis and thus to a felicitous examination of discourse, but also the hierarchical and non-hierarchical structuring of discourse, as is put forward by Berens, Fabricius-Hansen and Solfjeld (2012: 198): "It is generally acknowledged that texts are (more or less) hierarchically structured by way of the *discourse relations* [original emphasis] holding between neighboring discourse units, that is sentences or sentence sequences." Discourse relations do not only hold between neighboring discourse units, but may also be positioned non-adjacently and span across discourse units, as has been shown by Fetzer and Speyer (2012) and Speyer and Fetzer (2014). The argument that texts are hierarchically structured leads Berens, Fabricius-Hansen and Solfjeld to the conclusion that discourse structure may be conceptualized analogously to syntactic structure: "we assume that syntax is a means of building not only semantic units but also discourse units – and that the latter need not be semantic units at the outset" (Berens, Fabricius-Hansen and Solfjeld 2012: 200). Arguing for discourse syntax allows them to offer a framework which may capture the structuring and linearization of discourse.

The analysis of discourse thus needs to account for both quantity and quality. So far, the sentence has counted as a prime candidate for the discourse unit, as put forward by Widdowson (2004) and Fabricius-Hansen and Ramm (2008), for instance. In functional grammars of English, however, the sentence is not seen as a grammatical unit but rather as an information-based, orthographic unit (Givón 1993; Halliday 1994). To account for the discursive nature of language use, Dik's functional discourse grammar and Halliday's systemic functional grammar differentiate between "core-clausal domains" and "extra-clausal domains". The core-clausal domains contain experiential and ideational (or semantic) meaning in systemic functional grammar, and topic and eventualities in functional discourse grammar,

while the extra-clausal domains contain textual and interpersonal themes (or: discourse-pragmatic meaning) in systemic functional grammar, and extra-clausal constituents in functional discourse grammar. Extra-clausal constituents comprise parentheticals, adverbials of time and place or discourse connectives, for instance, and their discursive functions are interaction management, discourse organization and discourse execution, attitude specification, and formulation of content, as well as the metacommunicative function of commenting on clause content. Extra-clausal constituents are defined relative to the clause: they may be absolute (or free-standing), pre-clausal constituents, that is interpersonal and textual themes realized in the theme zone as well as non-congruently configurated theme zones, post-clausal constituents, viz. tails and tags, and mobile clause-internal constituents, such as parentheticals. Because of their distribution and form, extra-clausal constituents fulfill an important function in boundary marking, which connects them closely with the theme zone in systemic functional grammar. Moreover, their discursive function makes them a prime candidate for encoding and signaling discourse-pragmatic meaning regarding the nature of the connectedness between discourse units, including attitudinal specification.

The functional paradigm thus emphasizes the impact of context on the structuring and linguistic realization of discourse. Widdowson himself qualifies his quantitative definition discussed above, pointing out that the quantity-based definition "would seem to imply that discourse is sentence writ large: quantitatively different but qualitatively the same phenomenon. It would follow, too, of course, that you cannot have discourse *below* [original emphasis] the sentence" (Widdowson 2004: 3). Widdowson draws our attention to yet another fallacy in the purely quantity-based definition: if "the difference between sentence and discourse is not a matter of kind but only of degree, then they are presumably assumed to signal the same kind of meaning. If sentence meaning is intrinsically encoded, that is to say, a semantic property of the language itself, then so is discourse meaning" (2004: 3).

Functional-grammar-based analyses, and ethnographic and ethnomethodological analyses also address granularity above the basic (or micro) discourse unit and postulate in-between units, for instance sequences and episodes. In spite of these divergent, but not necessarily mutually exclusive conceptualizations of discourse units, all approaches share – more or less explicitly – the premise that discourse is a parts-whole configuration in which the whole is more than the sum of its constitutive parts (cf. Fetzer 2013), thus referring to the structuring of discourse as regards discursive form captured by sequentiality and linearization, discursive content captured by discourse pragmatics and discourse semantics, and discursive glue captured by the nature of the connectedness between discursive forms and their impact of discourse-as-a-whole.

Text linguistics (e. g. De Beaugrande and Dressler 1981) also addresses the question of granularity. The syntactic unit of sentence counts as its micro discourse unit and the macro unit is a text-type, which is classified according to discourse

domains and discourse functions. In functional discourse grammar (e. g. Givón 1993; Halliday 1994; Martin and Rose 2008) the syntactic unit of clause is the micro unit of investigation and discourse is delimited and framed by episode and by larger-scale genre, for instance. Discourse semantics considers the semantic unit of proposition as its micro unit of analysis, while a concatenated sequence of propositions is seen as a delimiting frame. More dynamic models also integrate illocutionary force (e. g. Asher and Lascarides 2003; Moeschler 2002; Roulet 1991, 2006) and use speech act (or illocutionary act), proposition and utterance as their unit of analysis as well as larger units composed of concatenated micro units as delimiting frames. Ethnomethodological conversation analysis uses the unit of turn, which is composed of smaller turn-constructional units, and the larger-scale unit of sequence. Usage-based frameworks employ the unit of utterance and generally do not explicitly discuss possible delimiting frames. Discourse pragmatics utilizes various units, such as utterance, discursive contribution or move. To account for the duality of form and function, methods in pragmatic theories of discourse base their analyses on discourse units as carriers of content and force while at the same time allowing for the accommodation of the dynamics of discourse and thus for varying quantities, i. e. discourse connective, discursive contribution, paragraph(s) or sequence(s). What is more, their discourse unit not only accommodates the duality of form and function, but also their instantiations in discursive and sociocultural contexts.

From a more holistic perspective, granularity goes beyond discursive form and discursive function expanding the concept to "the granularity of language user", that is do speaker/producer and addressee/interpreter constitute one discursive unit each, or is the dyad the micro unit of the participation framework? If discourse is conceived of as co-constructed, then it is not individual speakers and individual addressees who produce and interpret discourse units in individual acts of production and interpretation, but rather the dyad who jointly constructs the discourse unit and negotiates its communicative value. This has been put forward by Arundale and Good (2002), for instance. They take the dyad as the micro unit of analysis for studying talk-in-interaction and base their argument on the premise that using language is fundamentally a conjoint activity, involving the continuing co-constructing of a stream of talk and its local and not-so-local meanings. They demonstrate that participants' cognitive processes involve both anticipatory planning and, at the same time, retrospective interpretation of what has just happened. Fetzer (2004) takes the argument further and differentiates between individual presuppositions and collective co-suppositions as well as between individual dialogue common ground and collective dialogue common ground (cf. section 2.2.1). A dyad-based analysis of discourse is also found in the Birmingham-type of discourse analysis with exchange containing an initiating move and a response as its basic unit of investigation (cf. Sinclair and Coulthard 1975), which in the context of classroom talk is expanded to a triadic sequence of initiating move, responsive move and

follow-up move. Going beyond strict adjacency, follow-ups have been reconceptualized beyond structural adjacency, spanning across a triadic sequence to account for the sequential organization of discourse and across discourses (cf. Weizman and Fetzer 2015).

In the previous sections it has already surfaced that there is no general agreement in the heterogeneous discourse community about a definition of discourse, except for the quantity-anchored "language patterns above the sentence". This is also true for the question of granularity, in particular for the basic unit of investigation, which may differ from paradigm to paradigm – in spite of the fact that the discourse unit and how it is conceived of, for instance as a carrier of content, a carrier of force, a carrier of metacommunicative meaning, a carrier of content and force, or a carrier of content, force and metacommunicative meaning, is indispensable to discourse analysis in general and to the analysis of the structuring of discourse in particular. This also holds for the production and reception framework.

2.2. The structuring of discourse

The structuring of discourse is based on the premise that discourse is a parts-whole configuration with discourse-specific "patterns above the sentence". The concatenation and linearization of discourse units is captured by discourse syntax, and the semantics and pragmatics of the connectedness of the units is accounted for in discourse semantics and discourse pragmatics. Quantitatively oriented studies tend to focus on the linearization of discourse units as well as on the quality of their connectedness, while qualitatively oriented discourse studies share the assumption that discourse as a linearized whole comes in with the presumption of being coherent (cf. Bublitz, Lenk and Ventola 1999; Gernsbacher and Givón 1995; Chafe 1994). In qualitative studies it is not "language patterns above the sentence" and their semantic and pragmatic well-formedness, which make them cohere, but rather interlocutors who negotiate the meaning of discourse units and of discourse-as-a-whole, thereby construing and negotiating discourse coherence. Hence, discourse coherence does not lie in the discourse itself but rather in the interlocutors' minds and therefore is a socio-cognitive construct par excellence. This view is also implicit in cohesion-based analyses of texture (e. g. Hasan and Halliday 1987), in which discourse coherence is connected intrinsically with cohesion and cohesive ties, that is linguistic items which signal, if not encode, the nature of the connectedness between the constitutive parts of discourse and discourse-as-a-whole.

The following sections examine the structuring of discourse with respect to the question of how discursive glue is made manifest in the discourse unit, outside the discourse unit and above the discourse unit. They discuss the connectedness between discourse unit and sequential organization considering in particular methodological implications for discourse analysis.

2.2.1. Discourse unit and discursive glue

In a discursive frame of reference, the question of granularity can be addressed from top-down and bottom-up perspectives. As for the former, the discourse-as-a-whole is considered as the macro unit, which is then segmented into smaller micro units, which may be further segmented into yet smaller, minimal units. As for the latter, a unit is generally adopted from another research paradigm, as is the case with sentence and clause from different models of grammar, for instance clause from discourse grammar, such as (systemic) functional grammar (Givón 1993; Halliday 1994) or sentence from sentence-based models of grammar. Adopting a discourse-dynamic perspective, it is not only the question of local granularity, which needs to be considered, but also the concatenation of minimal units and micro units to form larger constitutive units of discourse. To account for that challenge, the question of granularity needs to be addressed together with the question of discursive glue, that is cohesion and coherence.

Discourse units are relational from both discourse-structuring and discourse-meaning perspectives. Adapting the conversation-analytic concept of doubly contextual (Heritage 1984) to discourse analysis, adjacently positioned discourse units are doubly contextual in so far as they provide linguistic context for the production and interpretation of neighboring discourse units. Linguistic context is functionally equivalent to the linguistic realization of interlocutors' communicative intentions and therefore also contains references to their cognitive contexts, i. e. mental representations, common ground and discourse common ground,[2] and to the social and sociocultural contexts of discourse indexed in the discourse and imported into the discourse (cf. Fetzer 2011 for the deictic forms 'here' and 'there'). The effects of discourse units thus are considered explicitly with respect to cognitive effects, i. e. recipient's recognition of meaning and force, the construal of discourse common ground and intersubjective reality, and with respect to social effects, i. e. discourse expectations, and rights and obligations of particular discourse units and their felicity conditions. However, it is not only discourse units that are situated in context, but also the context itself situates and conditions dis-

[2] Discourse common ground is an interlocutor-, context- and genre-dependent variant of common ground. It is anchored in a network structure and connected with other types of discourse common ground. The network structure is functionally equivalent to Background (Searle 2010). Discourse common ground is composed of mental representations, propositions, and factual and contextual assumptions, which may vary in strength. It undergoes continuous updating and continuous re-organisation as assumptions are read, written and deleted, and contextual implications are raised in strength, lowered in strength or erased (cf. Fetzer 2004, 2007). Changes resulting from the administration of emergent discourse common ground may result in changes of other, higher-level discourse common grounds.

course units. This is particularly true for discursively implicated meaning, which is what the context makes it to be. Conversely, a discourse unit may create the context for which it is appropriate (cf. Mey 2011), as is also argued for by Levinson (1983):

> What makes some utterances after a question constitute an answer is not only the nature of the utterance itself but also the fact that it occurs after a question with a particular content – 'answerhood' is a complex property composed of sequential location and topical coherence across two utterances, amongst other things; significantly there is no proposed illocutionary force of answering (Levinson 1983: 293).

The linearization of discourse is thus a multilayered, complex endeavor. It is based on communicative intentionality, on the strategic use of language constrained by the linguistic system, and on interlocutors acting in accordance – they may locally also act in dis-accordance – with the contextual constraints and requirements of discourse genre. The sequential organization and linearization of discourse is not only a linguistic-surface phenomenon, but rather depends on the sociocognitive construct of discourse common ground, which is updated continuously. Discourse common ground is – like discourse – a dynamic construct, which is negotiated and administered as the discourse proceeds, i. e. confirmed, modified or restructured, by updating already stored information and storing new information. This may require the restructuring of the interlocutors' individual and collective discourse common grounds. Individual discourse common ground administers an individual's discourse common ground, while collective discourse common ground administers negotiated and ratified discourse common grounds of the set of interlocutors; both need to overlap, but may diverge to varying degrees (Fetzer 2007).

The structuring and linearization of discourse is connected intrinsically with the question of granularity, i. e. size and conceptualization of discourse units, and with the semantics and pragmatics of their connectedness. Minimal discourse units may be realized as comment clauses, discourse connectives or elliptical constructions, micro discourse units may be realized as clauses, utterances or discursive contributions, and in-between-units, so-called meso discourse units, may be realized as clause complexes, paragraphs, sequences, episodes, and also larger units. The macro discourse unit is the discourse genre. Irrespective of their size, discourse units carry discursive glue, they may carry both content and glue, or they may carry discursive glue only. As a consequence, discourse units are relational and doubly contextual, as is reflected in their adjacent positioning, that is structural adjacency, in their semantic relations, that is adjacency relation, and in adjacency expectations, that is pragmatic adjacency, as is captured by the discursive constraint of dovetailed – or dovetailedness (Fetzer 2004) – put forward in "Logic and conversation" (Grice 1975).

Dovetailedness is a discursive-glue concept par excellence, which constrains the production and interpretation of discourse units. While adjacency relates structural positioning, semantic relation and pragmatic expectation, dovetailedness

specifies the nature of the relatedness. Grice specifies the constraint for the unit of conversational contribution as "such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange [the linearization of discourse, A.F.] in which you are engaged" (Grice 1975: 45), implying that conversational contributions are linked by one or more common goals manifest in prior and succeeding contributions. In discourse, conversational contributions have the status of a discursive contribution, which may be composed of smaller discourse units, such as minimal discourse units and micro discourse units, or a combination of both. The discursive constraint of dovetailedness, it has been argued (Fetzer 2014), holds for minimal discourse units, micro discourse units, for more complex discourse units, such as sequences, and for discourse-genre-as-a-whole.

Dovetailedness is both semantic and pragmatic. It is implicit in the conversation-analytic concept of conditional relevance and in the two-part sequence of adjacency pair, which, following Mey, "is a case of coherent sequencing, but not all sequencing needs to be defined strictly in terms of adjacency" (Mey 2001: 249). Dovetailedness is fundamental to the construal of discourse coherence, which does not mean that it is meaning-based only. Dovetailedness refers to two sides of a coin, metaphorically speaking. On the one hand, it specifies structural adjacency by adding precision thereby making adjacency relation and adjacency expectation more precise, namely "such as is required". Dovetailedness is also intrinsic in the conversation-analytic concept of adjacency pairs, that is patterned co-occurrences of two communicative actions produced by different speakers with a first part and preferred/dispreferred second pair-parts, such as greeting and greeting/non-greeting; request and compliance/non-compliance; offer (or invitation) and acceptance/refusal; assessment and agreement/disagreement; and question and expected answer/unexpected answer or non-answer (cf. Levinson 1983: 336). The second parts of the adjacency pairs just listed are not of equal standing, as one of them is preferred and the other is dispreferred, as has been examined in the framework of preference organization (cf. Pomerantz 1984). The classification as preferred and dispreferred second is not based on the interlocutors' psychological dispositions, but rather on structural and distributional features and hence closely connected with the linguistic concept of markedness (cf. Levinson 1983: 307).

Dovetailedness goes beyond structure-based positioning. It is a pragmatic concept, which may be encoded in discourse and thus made explicit, or it may be assigned a presuppositional status and thus would need to be inferred. It may have a narrow scope and be assigned the status of a local constraint, as is the case with adjacency pairs and their preferred and dispreferred seconds, or it may have a wider scope and be assigned the status of a less-local constraint, as is the case with insertion sequences and topical digression, and pre- and post-sequences in conversation. Closely related to dovetailedness is the cognitive concept of adjacency expectation. It is the foundation against which two adjacent discourse units may be classified as a particular adjacency pair with preferred and dispreferred seconds, or

against which the second discourse unit may be assigned the status of the first unit of an insertion sequence. For instance, in the discourse genre of interview, communicative actions performed by the interviewer tend to count as requests for information generally formatted as questions and communicative actions performed by the interviewee tend to count as responses to the request for information. Should an interviewee opt for the communicative action of requesting information, which is generally formatted as a question, he or she needs to refer to the communicative-action format of requesting information in an explicit manner, e. g. by saying "may I ask you a question" (cf. Fetzer 2000). In discourse, dovetailedness may be manifest in dovetailedness relation and dovetailedness expectation, as has been shown above. However, it is also possible that structural dovetailedness neither conflates with dovetailedness relation nor with dovetailedness expectation. In that case, a conversational implicature is triggered and the nature of the connectedness between the adjacently positioned discourse units is inferred.

A particular type of discursive glue are discourse relations (or coherence relations), which hold between two discourse units. Discourse relations have been defined in the discourse semantic framework of Segmented Discourse Representation Theory (Asher and Lascarides 2003), which analyses the logical relation between two discourse segments, which refers to one particular type of discourse unit, i. e. a complex linguistic unit with propositional content and illocutionary force of its own. Any discourse segment usually stands in a logical relation to at least one other preceding segment (or rather: the addressee construes a logical relation between them, in order to vouchsafe coherence). The propositions p1 and p2 are in the discourse relation R if the inferences the addressee makes and the logical connection s/he draws between p1 and p2 are in accordance with the ones defined for R. As discourse is not a purely linear phenomenon, but is hierarchically structured, two kinds of discourse relations are generally distinguished: coordinating relations that keep the discourse on the same level, and subordinating relations that introduce a lower level in the discourse hierarchy.

Discursive glue is also found in functional-grammar anchored coherence strands, which are made manifest through (a) topic continuity, (b) tense and aspectual coherence (including modality), (c) lexical coherence, and (d) default grammatical word order vs. pragmatic word order:

> These strands are clearly the most concrete, salient, observable links between clauses in coherent discourse. But the phenomenon of discourse coherence is richer yet. First, coherence strands may connect – or **ground** [original emphasis] – the clause either to the current text, to the current speech situation, or to generic-lexical knowledge. Second, coherence strands may extend either locally, between adjacent clauses, or globally, across larger text-structures. Third, coherence strands may be either semantic or pragmatic in nature. Finally, the strands may ground the clause in either an anaphoric or a cataphoric direction. (Givón 1993: 287, vol. 2)

A systematic analysis of coherence strands may not only explain higher or lower degrees of glueyness (cf. Maier, Hofmockel and Fetzer 2016) and thus of discourse coherence, but also predict syntactic formatting: "The more thematically connected a conjoined clause is with an adjacent clause – the more strands of thematic coherence it shares with that adjacent clause – the more likely it is to appear reduced, less finite, syntactically integrated with that other clause" (Givón 1993: 318, vol. 2), a claim which has been substantiated in grammaticalization and pragmaticalization research (e. g. Aijmer 1997; Traugott 1988).

2.2.2. Discourse unit and sequentiality

The structuring of a particular type of discourse, that is conversation, has been examined comprehensively in ethnomethodological conversation analysis and in interactional sociolinguistics, considering the inherently dynamic nature of discourse. Both subscribe to the premise of indexicality of communicative action and thus of discourse units – or turns and turn-constructional units in ethnomethodological terms (cf. Golato and Golato, this volume) –and are, for this reason, appropriate frames of reference for examining the connectedness between discourse units and discourse-as-a-whole: "Sequential organization refers to that property of interaction by virtue of which what is said at any time sets up expectations about what is to follow either immediately afterwards or later in the interaction" (Gumperz 1992: 304). Sequential organization may refer to local adjacency, that is adjacently positioned units, which may be typified as adjacency pairs, as the minimal unit for sequence construction, it may refer to expanded minimal units with pre-expansions, which may be more and less conventionalized as references to particular felicity conditions for speech acts (cf. Levinson 1983: 356–364), it may refer to expanded sequences with insertions and post-expansion, and it may refer to sequences of sequences including retro-sequences (cf. also section 3.2). Irrespective of their quantity, sequences – be they minimal, expanded or sequences of sequences – are related semantically via discourse relations holding locally and via discourse topics spanning across larger units, and they are framed and delimited by discourse genre with its genre-specific opening, topical and closing sequences, which delimit discourse-as-a-whole, but may also delimit sequences within the discourse genre.

Adopting a top-down perspective on the analysis of discourse requires its constitutive units to be conceptualized as relational units, which are decomposed into smaller units, which may again be decomposed into even smaller units, and it is these smaller units, which constitute discourse-as-a-whole. The relational nature of discourse units also holds for a bottom-up perspective in which (small) discourse units are connected to constitute larger units, which constitute discourse-as-a-whole. The dynamic and relational outlook on discourse and on its sequential organization is based on the premise that discourse units carry force, content and

metadiscursive meaning, with varying degrees of explicitness. What is more, discourse units need to be indexical, expressing exophoric and endophoric reference. Because of their relational conceptualization, discourse units are doubly contextual. By contextualizing prior discourse units they pave the ground for the production and interpretation of upcoming discourse units indicating how the discourse is to proceed, i. e. whether there is some change in the intended direction, or whether there is no intended change and the discourse is to proceed as planned. As for the former, changes may be signaled with contrastive discourse connectives, they may be encoded in contrastive discourse relations or they may be communicated with an embedded sequence with one or more contrastive discourse topics. As for the latter, non-changes may be signaled with continuative discourse connectives, they may be encoded in continuative and elaborative discourse relations or they may be communicated with an embedded sequence with one or more continuative or elaborative discourse topics, for instance.

Granularity does not only refer to micro, but also to meso and macro units of investigation (cf. Fetzer 2004, 2013). A relational conceptualization of a discourse unit allows one to account for the extension of frame from minimal units, such as discourse connectives, which carry force and metadiscursive meaning, to micro units, such as discursive contributions, which carry force, content and metadiscursive meaning, to meso, i. e. sequences or episodes, to macro, i. e. discourse-genre-as-a-whole. A very broad notion of discourse, as is reflected, for instance, in the discourse on context or the discourse on political correctness, could be captured by a unit beyond macro.

Micro, meso and macro discourse units come in with the presumption of being coherent as separate units as well as concatenated and linearized sequences. However, it is not the language patterns above the sentence and their semantic well-formedness which makes them cohere but rather recipients who construe discourse coherence both locally and globally. Discourse coherence is connected intrinsically with cohesion and cohesive ties, viz. linguistic items which express the nature of the connectedness between clauses and sentences, sentences and paragraphs, and paragraphs and discourse-as-a-whole (Hasan and Halliday 1987; Halliday 1994). It is also connected intrinsically with the sociocognitive constructs of discourse relation, coherence strand and discourse topic, and with the discursive constraints of adjacency and dovetailedness. The delimiting frame of discourse genre is a kind of blueprint, which constrains the production and interpretation of discourse-as-a-whole, as pointed out by Thibault (2003):

> Rather, genres are types. But they are types in a rather peculiar way. Genres do not specify the lexicogrammatical resources of word, phrase, clause, and so on. Instead, they specify the *typical* [original emphasis] ways in which these are combined and deployed so as to enact the typical semiotic action formations of a given community (Thibault 2003: 44).

Connected intrinsically with the "typical ways" of doing things with words in a discourse genre – or in an activity type in Levinson's parlance – are inferential schemata:

> […] there is another important and related fact, in many ways the mirror image of the constraints on contributions, namely the fact that for each and every clearly demarcated activity there is a set of *inferential schemata* [original emphasis]. These schemata are tied to (derived from, if one likes) the structural properties of the activity in question. (Levinson 1979: 370).

The communicative value of discourse units is expressed in these "typical ways" of doing things with words in discourse genres, and the corresponding "inferential schemata" feed on the discursive constraints discussed above. The constraint of "typical ways" and their corresponding "inferential schemata" is based on the differentiation between type and token, which is also found in Mey's distinction between the pragmatic units of pragmeme and its realization in discourse as pract. Pragmeme is a "general situational prototype capable of being executed in a situation" (Mey 2001: 221). It consists of an activity part and a textual part which when instantiated in a particular situated context constitutes an "individuated, individual pragmatic act" or "pract" (Mey 2001: 221). A pragmeme and its realization in discourse as pract capture both a textual part (or "content") and an activity part (or "force"). To accommodate the constraints and requirements of discourse pragmatics, the textual part additionally needs to contain so-called textual meaning, as captured by one of the three metafunctions of Systemic Functional Grammar, the textual metafunction, which administers cohesion as well as thematic progression, i. e. the structured interplay of theme and rheme. Furthermore, pragmemes need to be relational by definition, relating adjacently positioned pragmemes, relating pragmemes with other pragmemes and with discourse-as-a-whole thus making manifest the interlocutors' communicative intentions in discourse.

3. Discourse as communicative action

It is impossible to conceptualize communicative action without the explicit accommodation of context, in which it is embedded and to which it refers implicitly and explicitly, and it seems impossible to conceptualize communicative action in context without the explicit accommodation of discourse, which constrains its production and interpretation, and delimits context. Discourse is composed of linguistic context (including other semiotic codes), and it needs cognitive context to account for discourse production, discourse processing, grounding and discourse coherence. Discourse is embedded in sociocultural context, which is seen as a particularization of social context in accordance with sociocultural values (cf. Fetzer 2004), which is embedded in social context. Against this background, the exami-

nation of communicative action as discourse-dependent meaning in context seems more appropriate, as is reflected in discourse as a higher-level communicative act, or as pragmatic discourse.

Discourse – like context – has become more and more relevant to the analysis of meaning, and like context the concept is used in diverging frameworks referring to different theoretical constructs. Not only has the question whether discourse and discourse analysis should be based on semantics or pragmatics been controversial (e. g. Fetzer 2013), but also the questions of granularity as regards the basic unit of investigation, that is the discourse unit on the one hand, and the delimiting frame on the other, and whether they are discrete or fuzzy, and monadic or dyadic (or collective). To accommodate both quantity and quality, a felicitous analysis of discourse needs to go beyond the code model of language and accommodate the premise that the whole, that is discourse, is more than the sum of its constitutive parts. This also holds for the meaning of the whole, which is more than the sum of the meanings of its separate parts. Against this background, discourse analysis "has to do not with what texts mean, but with what might be meant by them, and what they are taken to mean. In this view there is no 'understanding' of texts as a semantic process, separate from, and prior to, a pragmatic 'evaluation', which brings context into play" (Widdowson 2004: 35).

Few analyses have explicitly addressed the implications of the important methodological consequences that discourse is pragmatic and therefore concerned with communicative action in context. If discourse is pragmatic, it needs to be analyzed within pragmatic theory and its fundamental premises of rationality, intentionality of communicative action and cooperation, which does not only hold for discourse-as-a-whole, but also for its constitutive parts. This has been done by the Birmingham School, for instance, Sinclair and Coulthard (1975), Montgomery (1977) or Stubbs (1983), who have investigated the question of how illocutionary acts are sequenced in connected speech. They conceive of discourse as consisting of a series of exchanges between interlocutors. The exchange minimally comprises two sequenced moves, an initiation and a response. The initiation-response-analysis is further elaborated on by Edmondson and House (1981), who state that

> [t]he underlying structure of a conversational episode is an interactional structure – i. e. it is the sequential relevance of interactional acts which gives coherence to a conversation, and this is reflected in the textual cohesion of the substance of the conversation – i. e. what is said (Edmondson and House 1981:80).

Speech act sequences have been conceived of as rule-governed units, which are well-formed and coherent, or ill-formed and incoherent (e. g. Labov and Fanshel 1977; Edmondson 1981). Tsui (1994) approaches responding acts from the notion of "preferred" versus "dispreferred" second pair parts of adjacent turns. She reinterprets both as being "[…] two types of responding acts. One which responds positively and the other negatively" (1994:58). This allows her to combine con-

versation-analytic findings with the I-R-F (initiate-response-feedback) model of Sinclair and Coulthard (1975). Sbisà (2002, and this volume) has analyzed speech act sequences within narrative semiotics (Greimas 1983), concentrating on the conventional effects of speech acts, such as assignments of obligations or entitlements, which obtain only on the basis of the interlocutors' implicit or by-default agreement, which involves recipient's decision to take the speech act in a certain way. The Geneva model of discourse (Moeschler 2002; Roulet 1991) addresses the connectedness between type and token, and points out that there is no straightforward mapping between speech act and discourse unit (or text segment/constituent). They draw the conclusion that because of the complex and multifaceted relationship between discursive parts and discourse-as-a-whole, the connecting parts or discursive joints – or text relation markers (Roulet 2006) – require particular attention. They may indicate illocutionary relations between text segments (or text constituents) and information stored in the discourse memory, which has been referred to as discourse common ground. Text relation markers are markers of illocutionary relations, and are functionally equivalent to illocutionary force indicating devices, providing instructions for the interlocutors to facilitate access to the relevant information.

Speech act theory has not yet been adapted comprehensively to the contextual constraints and requirements of discourse even though the linguistic realization of selected speech acts across cultures has been examined quite extensively, as have been face-threatening acts (Brown and Levinson 1987). Van Dijk (1980) conceptualizes discourse as some kind of macro speech act, and Oishi and Fetzer (2016) differentiate between classical speech acts and the higher-level illocutionary act type of expositive.

3.1. Expositive as a higher-level illocutionary act type

In his analysis of speech acts, Austin discusses one group of illocutionary acts, which contribute to making explicit the speaker's attitude towards the communicative status of her/his illocutionary act in discourse: "the expositive is the clarifying of reasons, arguments, and communications" (Austin 1975: 163). Expositive acts of expounding a view, conducting an argument, and clarifying a usage or a reference (Austin 1975: 161) are different to ordinary speech acts. A necessary condition for an ordinary speech act to be felicitous is a locution with a more-or-less definite sense and reference as regards "naming" and "referring". For the higher-level speech act of expositive, both illocution and locution are also higher-level acts, and that is why expositives have higher-level locutionary meaning, which is composed of the contextualization of prior discursive contribution(s) in accordance with discourse-genre-specific expectations. In performing an expositive illocutionary act, the speaker manifests how illocutionary force and locutionary meaning are intended to be contextualized discursively in context C in discourse D, at a par-

ticular stage in discourse. In doing so, the speaker manifests his/her perlocutionary intention of producing a perlocutionary object or sequel.[3]

Expositives manifest the speaker-intended concatenation of speech acts and their linguistic realization as discursive contributions within a discourse and with the discourse-as-a-whole. The expositive speech act type is thus different to ordinary speech acts in that it has the function of making plain (1) how discursive contributions are intended to fit into the course of discourse, (2) how the speakers intend the words/linguistic strings to be taken, and (3) what they intend the words/linguistic strings to count as in that discursive context. Because of this, expositives are metacommunicative devices par excellence. Their metacommunicative function assigns expositives the status of higher-level illocutionary acts, which are executed in discourse as generalized contextualization devices, requesting the addressee(s) to contextualize a discursive contribution as the linguistic realization of a speech act at a particular stage in the discourse in accordance with discursive requirements. The contextualization of discursive contributions as requested by expositive acts is indispensible to the interlocutors' construal of discourse coherence. Expositives count as requests to interpret embedded discursive contributions in their embedding discursive context and therefore provide relevant discursive glue.

The following excerpt from the discourse of Prime Minister's Questions[4] (PMQs) by the leader of the opposition Edward Miliband (LO) and Prime Minister David Cameron (PM) at the July 10, 2013 session illustrate the form and function of the expositive illocutionary act type, whose linguistic realization is printed in *italics*:

> **Edward Miliband (Doncaster North) (Lab):** Mister Speaker, *let me (first) join* the Prime Minister in paying tribute to Andy Murray for his fantastic victory–following Virginia Wade's victory in 1977. It it was a, it was a fantastic achievement; he showed

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[3] In his analysis of expositives, Austin (1975: 162–163) provides the following list of speech-act verbs:

> 1. affirm, deny, state, describe, class, identify; 2. remark, mention, ?interpose; 3. inform, apprise, tell, answer, rejoin; 3a. ask; 4. testify, report, swear, conjecture, ?doubt, ?know, ?believe; 5. accept, concede, withdraw, agree, demur to, object to, adhere to, recognise, repudiate; 6. postulate, deduce, argue, neglect, ?emphasise; 7. begin by, turn to, conclude by; 7a. interpret, distinguish, analyse, define; 7b. illustrate, explain, formulate; 7c. mean, refer, call, understand, regard as.

[4] Prime Minister's Question Time (PMQs) is a televised weekly 30-minute parliamentary session in Great Britain, in which the Prime Minister (PM) responds to questions from Members of Parliament (MPs). The Speaker presides over the House's debate. The data provided by Hansard (http://www.parliament.uk/business/news/2013/july/prime-ministers-questions-10-july-2013/) have been checked against delivery and adapted accordingly.

> extraordinary determination, and the whole country is incredibly proud of him. Mister Speaker, as the Government considers the issue of party funding reform, can the Prime Minister tell the House how much his party has received in donations from hedge funds?

In saying "Mr Speaker, *let me (first) join* the Prime Minister in paying tribute to Andy Murray …", the LO connects his upcoming discursive contribution echoing an act of congratulating performed by the PM. With the use of the expositive "let me join" the LO does not only align with the PM by agreeing both with the PM's initial content and illocutionary force, but also provides discourse-structuring information about how he intends to have his contribution discursively contextualized with respect to embedding discourse and the discourse-as-a-whole, and how he intends to structure his contribution; the latter is achieved by the combination of the expositive with the cohesive device "first". A discourse-structure-based analysis of the hedged performative *let me* PERFORMATIVE VERB (cf. Brown and Levinson 1987) goes beyond face management. Rather, it connects interpersonal aspects of communication with the structuring of discourse in an explicit manner. In the excerpt above, the hedged performative makes manifest that the behabitive act of congratulation, that is reacting to other people's success (Austin 1975: 160–161), is forthcoming. As for the construal of discourse coherence, *let me join* refers anaphorically to the PM's prior turn while at the same time referring cataphorically to an upcoming discursive contribution exhibiting dual referencing potential, which makes manifest the discourse-structuring function of expositives and thus their Janus-like nature. In using an expositive, the speaker manifests how s/he intends the addressee(s) to take up her/his discursive contribution and how s/he intends them to contextualize it (Gumperz 1996) at that particular stage in discourse. In performing the expositive act, the LO manifests his perlocutionary intention of taking up the initiated sequel of offering congratulations and of continuing it. The expositive act is signaled with the conventionalized performative *let me join* which is supplemented with the cohesive device *first*, implying that another speech act is to follow, in this case the illocutionary act of directive realized by the conventionalized performative *can you do X*, requesting the PM to provide information about the quantity of donations received by the Conservative Party from hedge funds. In performing this illocutionary act, the LO manifests his intention of producing the perlocutionary sequel of initiating a debate about the transparency of donations to political parties.

The differentiation between ordinary speech acts and expositives as a higher-level illocutionary act type allows speech act theory to extend its scope and account for the nature of the connectedness between linearized speech-act sequences and their linguistic realization as discursive contributions, considering not only the status of individual speech acts but also the impact of their sequential position on the structuring of discourse, thus contributing to a pragmatics-based theory of discourse (cf. Sbisà, this volume). As higher-level illocutionary acts expositives

directly influence the contextualization of the linguistic realizations of speech acts and thus the structuring of discourse, contributing to the participants' negotiation and construal of discourse coherence (Gernsbacher and Givòn, 1995; Linell, 1998), making discourse not only co-constructed, but also dynamic. Discourse connectives have a very similar function.[5] Being processed bottom-up, they fulfil an important indexical function by connecting local domains of discourse with global ones (Schiffrin 1987). They may connect discursive contributions locally, as has been demonstrated for the cohesive device *first* analyzed above, signaling the sequential status of the argumentative formatting of the contribution as well as possible degrees of relevance of the discourse topics to the ongoing discourse.

The communicative meaning of discourse connectives can be frequently paraphrased by a performative verb or by a hedged performative, e. g. "as a result" with the value of 'I conclude', "but" with the values of 'I contrast' or 'I do not quite agree', and "like" with the value of 'I quote'. Analogously to expositives, discourse connectives can be seen as carriers of perlocutionary intentions of producing perlocutionary sequels.

Speech acts have not only been distinguished with respect to their status as ordinary speech acts and as higher-level speech acts, but also, as has been the case with Widdowson's definition of discourse (2004), with respect to quantity, that is as micro and macro speech acts.

3.2. Macro speech acts

Speech act theory has paved the ground for an examination of natural language and other types of communication in context. It has not only influenced theoretical pragmatics, but also applied linguistics, where the linguistic realization of speech acts is examined in and across cultures, considering in particular different degrees of (in)directness in sociocultural context. Since the focus has been on individual speech acts, the context of the speech acts under investigation and the delimiting frame, of which the speech acts under consideration have been a constitutive part, for instance a formal or informal interview, have not been fully accounted for. This does, however, not mean that speech act theory cannot be utilized for a felicitous analysis of discourse, as has been shown by the contextualization of speech act theory and the adaptation of the constitutive parts of a speech act, i. e. locutionary act/propositional act, illocutionary act and perlocutionary act, and intended and

[5] Discourse connectives also support the contextualization of a discursive contribution by indicating the speaker's intended contextualization, as is the case with the strategic use of the cohesive device *first* in the excerpt analyzed above. In addition to their interactional and discourse-structuring function, they may also have attitudinal and illocutionary-force intensifying functions.

unintended perlocutionary effects, and their felicity conditions to an analysis of discourse, accommodating the differentiation between direct and indirect speech acts and their felicity conditions to the contextual and discursive embeddedness of speech acts and to their sequential organization as single acts or as patterned sequences with structured pre-, topical and post-sequences. Levinson (1983) has shown this for the sequential organization of the speech acts of announcement, invitation and request with respect to felicity-condition-based pre-sequences, that is references to the preparatory conditions for requests and invitations, and references to the preparatory or essential condition for announcements. Trosborg (1995) has adapted the Cross-Cultural-Speech-Act-Realization-Project framework to the sequential organization of requests, complaints and apologies with respect to discourse structuring pre-, post- and head acts, with pre-acts being functionally equivalent to references to felicity conditions, for instance references to the preparatory conditions for request, head acts being functionally equivalent to the intended communicative act to be performed, that is the request as such, and post-acts being functionally equivalent to supportive acts accounting for the appropriateness of the head act, such as accounts for the relevance of the request. Combining structure, content and force, that is patterned sequences and their inherent hierarchical configuration as pre-, post- and head acts, and propositional content and illocutionary force and their felicity conditions provides synergetic effects, which can contribute to a pragmatics-based theory of discourse.

The dynamics of discourse can only be captured if fundamental pragmatic premises are adapted to discursive linearization. This is because the sequencing of discourse makes manifest the discursive contributions' – referred to as "moves" by Sbisà – perlocutionary effects: "[w]hen considering a sequence of moves, it is reasonable to view the output of one move as coinciding with the input for the next" (2002: 72). Bach goes further by connecting micro, meso and macro domains of discourse with different types of intention: "communicative (illocutionary) intentions generally are accompanied by perlocutionary intentions, and individual utterances are usually parts of larger plans. So it is plausible to suppose that identifying a speaker's perlocutionary intentions and broader plans is often relevant to identifying his communicative intention" (Bach 1992: 397). Perlocutionary intentions are also inherent in Austin's conception of perlocutionary act, which manifests itself in the "achievement of a perlocutionary object (convince, persuade) or the production of a perlocutionary sequel" (Austin 1975: 181). Thus, the Austinian conception of speech act does not only account for force and content, but also for metadiscursive meaning, which is reflected in the reference to "sequel", that is some kind of continuation, connectedness, series or sequence. This can be interpreted as a requirement to connect a speech act with adjacent speech acts, and possibly with other more remote ones, bringing about the understanding of the content, force and metadiscursive meaning, contributing to the construal of discourse coherence.

The extension of frame from speech act to discourse, and from communicative intention to discourse purpose is a necessary step if discourse-as-a-whole is to be examined, as has been done by Labov and Fanshel (1977) or by van Dijk (1980) for instance. The former conceive the performance of discourse (as-a-whole) as functionally equivalent to the performance of a "matrix of utterances" (Labov and Fanshel 1977: 30). Van Dijk argues that complex sequences of speech acts are mapped on more global macro acts in order to be able to plan them, execute them coherently, and in order to understand them, memorize them, and talk about them. The nature of the connectedness between (micro) speech acts and macro speech acts is complex. This is because there is no straightforward mapping from discursive contribution – or utterance in Labov and Fanshel's terms – to micro speech act and from micro speech acts to macro speech act. Rather, there are in-between-stages, or more and less global macro speech acts and thus discursive contributions with fuzzy boundaries, which also need to be considered in the corresponding mapping operations. Once discursive contributions have been mapped onto micro speech acts and once they have been accommodated in the discourse common ground, they may be administered to form larger units.

Discourse purpose is a pragmatic concept, which is dialectically related to the pragmatic premise of intentionality of communicative action (Cohen, Morgan and Pollack 1992; Levinson 1995; Searle 1983). It is made manifest in the speech-act-theoretic operationalization X counts as Y in context C with felicity conditions as context categories (Sbisà 2002), which, if adapted to the contextual constraints and requirements of discourse, result in X counts as Y in discourse D in context C. Analogously to the felicity conditions of a (micro) speech act, the felicity conditions for discourse can be classified as preparatory conditions, which are specifications of the context of the (macro) illocutionary act, which can be realized implicitly or explicitly in discourse. Essential conditions and propositional content conditions are specifications of direction of fit, which can also be realized explicitly or implicitly in discourse by indicating how the discourse is intended to proceed. Micro and macro speech acts "both rely on, and actively create, the situation in which they are realized" (Mey 2001: 219). They have cognitive effects regarding meaning and force, and they have social effects regarding the assignment of obligations and force. Both micro and macro speech acts count as context-changers. As a result, speech acts in discourse are doubly contextual and therefore do not only change context, but also carry context, and they are multiply discursive, connecting speech acts and their realizations as discursive contributions locally, not-so-locally and globally.

Analogously to the performance of a (micro) speech act, which can be realized as a direct, indirect or conventionally indirect speech act, discourse (as-a-whole) can be realized as discourse with a direct, indirect or conventionally indirect force. In discourse with a direct force, the communicative intent and its linguistic realization as a sequence of one or more discursive contributions are represented explic-

itly as regards force and content and thus are intended to be unambiguously clear, as is the case in legal discourse, e. g. pronouncement of judgement or cross-examination, and institutional discourse, such as application forms for citizenship or reminders. The linguistic realization of discourse with conventionally indirect force depends strongly on cultural conventions, as is the case with small talk (cf. Schneider 2008) and closing sections in ordinary conversations, or reviews, letters of recommendation and obituaries, for instance. Analogously to indirect speech acts, the communicative meaning of discourse with an indirect force depends strongly on the context, in which it is realized. Informal small talk or gossip may simply have a phatic function, but it may also serve as some kind of briefing, communicating relevant information about something or somebody.

The macro speech act (or discourse genre, communicative genre, activity type, communicative project) of interview, whose purpose is to elicit information, may undergo discourse-purpose-specific particularization, according to the kind of information elicited; discourse-specific particularization is, of course, also interdependent on sociocultural constraints and requirements. For instance, political interviews are used strategically to elicit and systematize political information, oral examinations are used in educational contexts to assess the examinee's expertise, job interviews are used to evaluate a candidate's suitability and expertise, and health interviews are used to elicit information about patients' conditions. The macro speech act of interview is also used to elicit and systematize citizenship-oriented information about relevant criteria for the (non)qualification for income support, housing benefit or political asylum, and it may also be used for various other purposes.

Depending on their discourse-specific purpose, particularized interviews are composed of discourse-specific realizations of discursive contributions constrained by linguistic and social style (e. g. lexicon, syntactic complexity, discursive complexity, non-verbal code of conduct) and the participants' face-wants and face-needs (cf. Brown and Levinson 1987), for instance formal style with negative politeness or informal style with positive politeness (cf. Fetzer 2000 for the macro validity claim of political interview). Discourse-specific purpose may also constrain the sequential organization of the macro speech act, such as elaborate opening or closing sections, ad-hoc pre- or side sequences, reformulation sequences or deviations from the participant-specific employment of speech acts with requestive force, such as interviewees asking questions to perform requests for information. Deviations from the genre-specific constraints and requirements need to be accounted for ("Can I ask you a question because that is important").

The particularization of macro speech acts goes hand in hand with changes in social norms and values, as is reflected in the emergence of new macro speech acts or of discourse-purpose- or social-context-specific particularizations, for instance in social media. This is found in dialogic formats, such as interviews, and in monologic formats, e. g. lectures and their particularization as academic lecture, political

speech or sermon. It is also reflected in the more general process of conversationalization of (British) institutional discourse (Fairclough 1992).

The analysis of discourse is fundamentally concerned with the nature of the connectedness between parts and wholes, and for this reason discourse is a relational construct *par excellence*, relating separate parts locally as well as globally with regard to their connectedness to discourse-as-a-whole. Discourse is thus not only quantity, as is captured by the number of its constitutive parts, but also quality, as is reflected in the force and nature of the connectedness of its constitutive parts.

4. Conclusion

Discourse has been described as a multifarious and multilayered construct, which seems almost impossible to delimit. It has been defined as quantitatively larger than one discourse unit, and thus is composed of a number of concatenated micro and meso discourse units. The linearization of the constitutive units of discourse allows for multiple combinations, whose ordering is constrained by discourse genre and discursive purpose as well as by the interlocutors' communicative goals. While the constitutive units of discourse can be analyzed as grammatical or ungrammatical, true or false, felicitous or infelicitous, or appropriate or inappropriate, their ordering cannot be classified along those lines only. This is because discourse is a parts-whole configuration in which the meaning of the whole is more than the sum of its separate parts. If the ordering of the parts changes, so does the meaning of the whole.

Micro, meso and macro discourse units and their linguistic realizations are related dialectically in discourse. This holds for micro discourse units and their linguistic realizations, for meso discourse units and their linguistic realizations, and for macro discourse units and their linguistic realizations. Analogously to multilayered context, macro discourse units and their constitutive parts of meso and micro discourse units are multilayered and doubly, if not multiply contextual, and their order of inclusion, i. e. micro, meso and macro, corresponds to their order of accessibility (cf. Fetzer 2012).

Discourse has been approached in different research paradigms, which have implemented different methodological approaches considering formal, interpretative and observational analyses as regards qualitative, quantitative and empirical issues. Irrespective of methodology and research framework, the fundamental questions of (1) granularity regarding micro, meso and macro discourse units and (2) the nature of the connectedness between their constitutive parts remain a challenge.

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17. Critical Discourse Analysis

Piotr Cap

Abstract: This chapter gives an overview of the theoretical underpinnings and current work in Critical Discourse Analysis (CDA). It defines CDA as a transdisciplinary, text-analytical approach to critical social research, aimed at revealing the power imbalance reflected in the use of language and patterns of dominance imposed through the use of language. Describing the most important schools and models in CDA, the chapter demonstrates how critical approaches draw on recent developments in different areas of linguistics, such as pragmatics, cognitive linguistics and corpus studies. At the same time, it shows how the interdisciplinary research agenda of CDA attracts the "classic" theories and tools of linguistics to new empirical territories in political/public discourse. The final part of the chapter illustrates the explanatory power of the legitimization-proximization model in CDA in a case study of the discourse of the war-on-terror.

1. What is Critical Discourse Analysis?[1]

Critical Discourse Analysis (CDA) has now firmly established itself as a field within the humanities and social sciences, to the extent that the abbreviation CDA is widely used to denote a recognizable approach to language study manifested across a range of different disciplines (Breeze 2011; Hart and Cap 2014). In the most recent handbooks, CDA is characterized as a "transdisciplinary, text-analytical approach to critical social research" (Hart and Cap 2014: 1; see also Wodak and Meyer 2009, 2015; Flowerdew and Richardson 2016). Of course, this basic characterization cannot possibly do justice to the vast body of work produced within the field of CDA. It captures, however, one property that is central to all CDA research: the commitment to a systematic, text-based exploration of language to reveal its role in the workings of ideology and power in society (Fowler et al. 1979; Hodge and Kress 1993; Fairclough 1989, 1995; van Dijk 1999, 2003, 2006; Wodak and Meyer 2009; Wodak 2012; among others). It is exactly this core feature, or aspiration, that underlies any strand of CDA practice.

As a self-conscious movement bringing together scholars of linguistic, sociological, political scientific and other backgrounds, CDA abounds in declarations of what it purports to do. These declarations range from the highly politicized: "to

[1] Parts of sections 1 and 2 are based on Hart and Cap (2014).

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explain existing conventions as the outcome of power relations and power struggle" (Fairclough 1989: 2), to the almost anodyne "to answer questions about the relationships between language and society" (Rogers et al. 2005: 365), depending on the stance of the individual researcher (Breeze 2011). In an attempt to reconcile the different positions, Weiss and Wodak (2003) propose that "CDA takes a particular interest in the relationship between language and power […]. This research specifically considers more or less overt relations of struggle and conflict" (2003: 12). Drawing on this perspective, and stressing the particular interest of CDA in the asymmetrical nature of these relations, we can conclude that the aim of CDA is to raise awareness of the power imbalance reflected in the use of language and patterns of dominance imposed through the use of language (Chouliaraki and Fairclough 1999; Reisigl and Wodak 2001; Weiss and Wodak 2003; Wodak and Chilton 2005; among others).

As can be imagined from the above characterization, Critical Discourse Analysis is not confined to any specific methodology or area of research. On the contrary – it is and always has been multifaceted, dealing with data of very different kinds and applying a broad spectrum of theories sourced from across the humanities, social and cognitive sciences (Hart and Cap 2014; Wodak and Meyer 2015; Flowerdew and Richardson 2016). Hart and Cap (2014) note that, because of this heterogeneity, both the "discourse" and the "analysis" in the CDA designation tend to mean something different to different analysts. Discourse (see Fetzer in this volume) is a multidimensional, multimodal and multifunctional phenomenon. It is produced with reference to different dimensions of context, such as linguistic, intertextual, historical and – notably for CDA practitioners – socio-cultural and political. Functionally, it is used to represent, evaluate, argue for and against, and ultimately to legitimate or delegitimate social actions. In this way, discourse is socially constitutive as well as socially conditioned (Fairclough and Wodak 1997; Wodak 2011). That is, on the one hand, all discourse is shaped by the situations, institutions and social structures which surround it. At the same time, however, discourse itself constitutes these situations and institutions, as well as the social identities and relationships between their members or participants. Altogether, the many faces of discourse preclude any uniform perception of how it can be investigated.

In CDA, analytic differences reflect conspicuously in the amount of space that different researchers devote to explore the "micro" (linguistic) and the "macro" (social) dimensions of discourse (Lemke 1995; Benke 2000). Some analysts focus *deductively* on the macro-level social structures which facilitate or motivate discursive events, while others concentrate *inductively* on the micro-level, looking at the particular chunks of language that make up these events. These preferences are, of course, never mutually exclusive but are a matter of analytical emphasis. Furthermore, many researchers steer a middle, "abductive" course. In Luke's (2002) words:

> CDA involves a principled and transparent shunting backwards and forth between the microanalysis of texts using various tools of linguistic, semiotic and literary analysis, and the macroanalysis of social formations, institutions and power relations that these texts index and construct (Luke 2002: 100).

Methods of studying discourse in CDA are thus diverse and depend on the domains and dimensions of discourse under consideration, plus the theoretical goals of the researcher. Analytic aspirations and the amount and kind of data available determine the tools analysts obtain from different macro- and micro-level theories. At the micro-level, one of the most addressed models is Hallidayan systemic functional linguistics (1985, 1994), providing a viable handle on ideological properties of written texts (Fowler 1991; Hodge and Kress 1993). At the other end of the spectrum, cognitive approaches inform studies in the bottom-level lexico-grammatical structures of discourse in terms of the conceptual processes they invoke (Hart 2014; Chilton 2014). Finally, one must not disregard the explanatory power of hybrid approaches, such as critical metaphor analysis (Charteris-Black 2004; Koller 2004; Musolff 2010), which offers CDA practitioners a rich, integrated framework to capture the ideological import of metaphoric expressions occurring in specific text patterns and phraseological sequences. Needless to say, such a diversity and fluidity makes CDA a difficult discipline to pin down.

It seems that the best way to define CDA, though by no means ideal, is by the word "critical" in its designation (Hart and Cap 2014). This involves seeing CDA as a perspective, position or attitude, signposting a specific research agenda. The concept of critical in CDA, however, is understood in as broad a sense as the concept of discourse. For scholars working with a neo-Marxist notion of critique (Fairclough 1995; Chouliaraki and Fairclough 1999), or following the Critical Theory of the Frankfurt School (Wodak 2011; Reisigl and Wodak 2001), critique presupposes a particular political stance on the part of the analyst and is intended to be instrumental in bringing about social change (Hart and Cap 2014). Notwithstanding its popularity, this attitude is often contested by researchers both within (Luke 2002; Martin 2004) and outside (or half-outside) the community of CDA (Widdowson 1998, 2005; Chilton 2005). Martin (2004) claims that it leads to the essentially "negative" nature of analysis, which thus overlooks positive and potentially transformative uses of discourse. In response, Martin and Rose (2003) propose "positive discourse analysis" encouraging critical scholars to devote more attention to the "discourse of positive change and discourse as the site of resistance" (2003: 36).

For others still, critique comes not so much from a particular political perspective but is concerned more with abuses of language per se and the cognitive and linguistic mechanisms involved (Hart and Cap 2014). At the same time, there are traditions in post-structuralist discourse analysis, which adopt a critical perspective (Slembrouck 2001) but which would not normally be considered as falling under

the banner of CDA. Criticality, then, is in a way a necessary condition for defining CDA but it is not a sufficient condition. What sets CDA apart from other forms of critical research is its focus on the micro-level analysis of texts, which are considered the prime source of attested data. In its analysis of texts, CDA relies quite naturally on the field of linguistics – including pragmatics – though to different degrees in different works. Here, although CDA is a huge and complex field which is apparently without boundaries both methodologically and in terms of the type of data it targets, some clear traditions can be identified and described. These traditions may be delineated in terms of particular methodological approaches (e. g. Wodak and Meyer 2009; Hart and Cap 2014) and in terms of the discourse domains targeted (e. g. Cap and Okulska 2013; Bhatia 2004; Martin and Rose 2008).

2. Approaches and domains in CDA

In one of the more recent and most comprehensive attempts at taking stock of the field, Hart and Cap (2014) distinguish eleven approaches to CDA. Because of space constraints, I will not describe each of these approaches in detail. Instead, I will focus on how the different approaches interrelate, forming analytic handles dealing with different types of data. Hart and Cap (2014) present the eleven approaches in relation to their specific methodological attractors, which indicate the underlying analytical traditions. Hart and Cap's (2014) outline is reproduced in Figure 1. The white ovals mark the approaches, and the shaded ovals mark their attractors. The five constellations in the diagram demonstrate how different approaches are linked by common objects of analysis.

The representation in Figure 1 illustrates the variety and interconnectedness of different research traditions in CDA. For example, the discourse-historical (Wodak 2011; Reisigl and Wodak 2001; etc.) and socio-cognitive (van Dijk 2008) approaches are both related in their focus on argumentation, although the discourse-historical approach deals with argumentation in more detail, proposing tools to locate and describe fallacy triggers and argumentative topoi (van Eemeren and Grootendorst 1992) in different discourse domains. At the same time, the discourse-historical approach borrows in its framework of referential strategies from the social actor model (Koller 2004; van Leeuwen 2005; etc.). In turn, the social actor model is presented as a grammar in the format of Halliday's functional network (van Leeuwen 1996; Halliday 1994). We thus observe direct as well as indirect connections between the particular models.

As Hart and Cap (2014) demonstrate, contemporary CDA is a genuine mix of social and linguistic theory, lending itself to different typological procedures. While different approaches can be mapped out according to the social theories they are influenced by they may equally be distinguished by the linguistic fields and models that provide for their text-analytical methodologies. One model that has

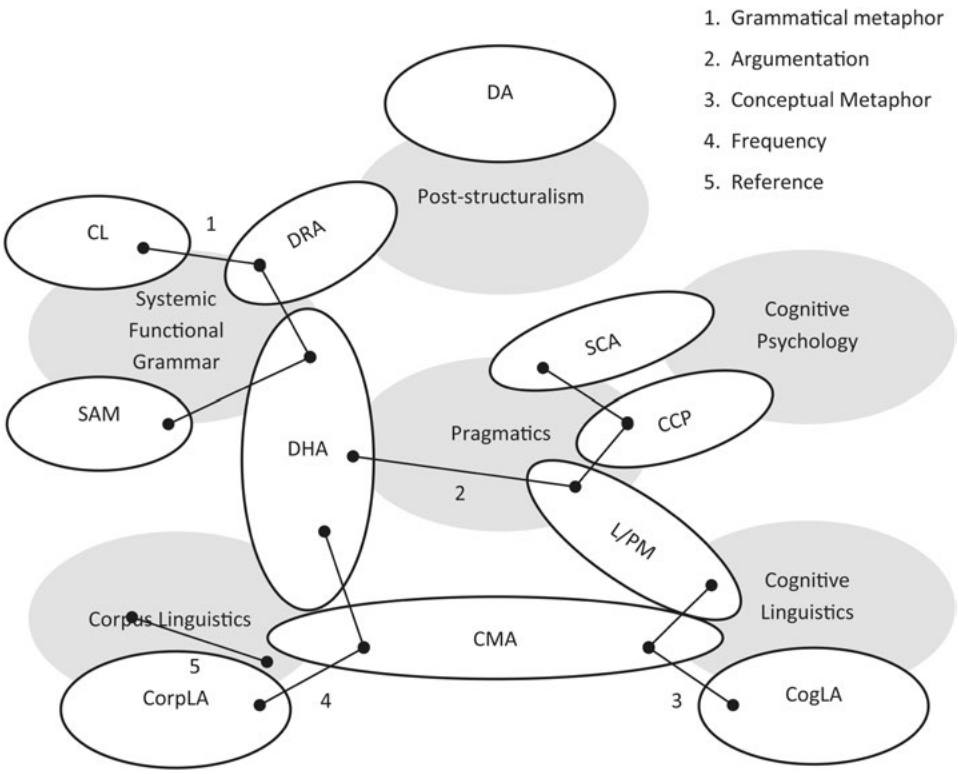

Figure 1. Approaches and methodological attractors in CDA (reproduced from Hart and Cap 2014: 7)
(CL: Critical linguistics; DRA: Dialectical-relational approach; DA: Dispositive analysis; SAM: Social actor model; DHA: Discourse-historical approach; SCA: Socio-cognitive approach; CCP: Critical cognitive pragmatics; L/PM: Legitimization-proximization model; CogLA: Cognitive linguistics approach; CMA: Critical metaphor analysis; CorpLA: Corpus linguistics approach)

turned particularly influential is Halliday's systemic functional grammar (e. g. Halliday 1985, 1994), implementing analytic formalizations in much of the early CDA and in critical linguistics in particular (Wodak 2011; Chilton 2005). It has thus helped critical linguistics, or the East Anglian school (Fowler et al. 1979; Fowler 1991; Hodge and Kress 1993), to retain its central role in the development of CDA. As noted by Fairclough and Wodak (1997), critical linguistics is more than a historical precursor to CDA. Influenced over years by text-analytical frameworks such as systemic functional grammar, it has been able to upgrade its tools to produce comprehensive, qualitative-quantitative studies (Hart and Cap 2014; Flowerdew and Richardson 2016). As a result, it can be considered a major approach in the landscape of modern CDA (Fairclough and Wodak 1997).

Notwithstanding the revisions of older theories, CDA has grown considerably in the last few years to develop several completely new schools. This rapid expansion can be understood as a response to recent advances in linguistics and other communication sciences. The nature of this response is, first of all, that such advances make it possible to address and, in many cases, offset certain criticisms raised against CDA. Second, modern developments in linguistics and communication science provide new tools to better capture and document the ideological potential of discourse. Third, there are new frameworks being developed or refined to account for newly formed genres, such as, recently, genres of computer mediated communication (Giltrow and Stein 2009; Yus 2011). One development in linguistics that CDA incorporated almost immediately was, undoubtedly, corpus studies (Stubbs 2002, 2004; Partington 2006; Baker 2006; Baker at al. 2008; O'Halloran 2010).[2] Hart and Cap (2014) argue that the corpus linguistic approach in CDA helps answer criticisms pertaining to possible bias in data selection and to the statistical value of findings (Stubbs 1997; Widdowson 2004). It is, however, not just a problem solver which can be applied together with other approaches to ensure against subjectivity and overgeneralization (Wodak and Meyer 2009). As noted recently by Flowerdew and Richardson (2016), the corpus linguistic approach brings along its own unique analytical techniques, such as collocation and prosody analysis, which have been more and more productive in studying set chunks of texts for their ideological properties (Baker 2006; Baker et al. 2008).

Figure 1 includes four new approaches in CDA, which had not been acknowledged prior to Hart and Cap's (2014) work. These increasingly influential paradigms can be identified as: critical metaphor analysis (Charteris-Black 2004; Koller 2004; Musolff 2004, 2010; Zinken 2007, among others); the cognitive linguistic approach (Hart 2011a/b/c, 2013a/b; Marín Arrese 2011; Filardo Llamas et al. 2016); the legitimization-proximization model (Cap 2006, 2008, 2013, 2016; Chilton 2004, 2011b; Dunmire 2011); and the "Neuchatel/Fribourg" school of critical cognitive pragmatics (Saussure and Schulz 2005; Maillat and Oswald 2009, 2011; Lewiński and Oswald 2013). Each of these new agendas represents, like most strands in CDA, an individual yet interdisciplinary research program. Moreover, like other schools in CDA, each of them constitutes a specific line of inquiry aiming to reveal the otherwise unexplored characteristics of discourse in its socio-political, cultural and anthropological dimensions. Critical metaphor studies, for instance, document the fundamental role that metaphor plays not only in our

[2] It should be stressed that approaches in CDA do not simply borrow and apply ready-made frameworks from linguistics. Rather, CDA scrutinizes, adapts and re-thinks linguistic theories abductively in response to data and operationalization (Wodak and Meyer 2009: 30). In this sense, one must be cautious about characterizing CDA as an area of *applied linguistics*.

understanding of the socio-political world we inhabit but also in the way we argue about socio-political issues. They show that metaphorical expressions in language cannot be treated as isolated entities but, rather, as manifestations of knowledge networks in the form of conceptual metaphors, which provide structure and coherence to our experience, including social experience (Goatly 2007).

The second approach, cognitive linguistics, is more comprehensive and moves beyond metaphor (Hart 2011b/c) to consider the ideological load of other linguistic structures in terms of the conceptual processes they invoke. It focuses mainly on categorization, modality, and deixis, which bring into effect a range of ideological discursive strategies. The legitimization-proximization model is more concentrated on a single conceptual operation – proximization – and the different forms of its realization (spatial, temporal, axiological) which ensure the continuity of legitimization in changing geopolitical context. As will be demonstrated in a case study later in this chapter, the focus of the legitimization-proximization model on the dynamics of context and the resulting variability of legitimization patterns makes this approach a truly pragmatic enterprise. The Neuchatel/Fribourg school presents, in turn, an almost exclusively explanatory framework in which the manipulative facility of language, as manifested in fallacious arguments, is theorized as a kind of cognitive illusion (Maillat and Oswald 2009). This form of manipulation is made possible by the fact that "people are nearly-incorrigible 'cognitive optimists'" (Sperber et al. 1995: 11) who take for granted that their spontaneous cognitive processes are highly reliable and that the output of these processes does not need double checking (Maillat and Oswald 2009). The Neuchatel/Fribourg school is thus, again, a timely response to modern developments in cognitive science. Like the three other approaches, it treats the ideological and persuasive potential of discourse not as a property of language itself but of the cognitive processes which language reflects and mobilizes. Altogether, the new schools captured in Figure 1 provide a transdisciplinary, cognitive-scientific insight into the conceptual underpinnings of the social-linguistic interface and as such remain in the forefront of the contemporary CDA (Hart and Cap 2014; Filardo Llamas et al. 2016; Flowerdew and Richardson 2016).

3. CDA and pragmatics

The relationship between CDA and pragmatics is complex and difficult to capture. This is because neither pragmatics nor CDA are confined to one specific methodology or one particular area of study. Pragmatics is often understood as an analytic stance, offering a unique, function-based account of all aspects of human communication (Verschueren 1999; Fetzer 2002). As noted by the editors of this handbook series, "pragmatics is defined by its *point of view* more than by its objects of investigation", which means that "researchers in pragmatics work in all areas

of linguistics (and beyond), but from a distinctive [functional] perspective that makes their work 'pragmatic' and leads to new findings and to reinterpretations of old findings" (Bublitz, Jucker and Schneider 2011: v). As such, pragmatics is concerned with all facets of communicative acts, such as the speaker, his/her background knowledge and contextual assumptions, the lexical and grammatical constituents of an utterance, the hearer's interpretations and patterns of inferencing, etc. All these are explored against a broad network of social factors, preconditions, norms and expectations that govern communication, both within a culture and across cultures. Since communicative acts involve linguistic units, whose choice is dictated by language-internal rules, as well as their interpersonal, social and cultural embedding, pragmatic studies bridge the system and the use side of language. They examine what is lexically and grammatically available for a speaker to accomplish a communicative goal, and at the same time explore the ways in which the linguistic potential is realized in a specific social context.

The perspectivist view of pragmatics reveals several features which pragmatics and CDA have in common. These include the fundamental interest in the functionality of language, the sensitivity to the macro/social dimension of language and discourse, as well as the interest in linguistic choices that speakers make to carry out specific functional goals in particular social contexts. At the same time there are differences, or at least asymmetries. The analytical focus of pragmatics is still broader than the CDA focus, both in terms of the discourse domains which it extends over and the levels of language organization it encompasses. While pragmatics is concerned quite equally with the macro dimension of discourse and the micro dimension of the lexico-grammatical features of individual utterances, the interest of CDA has for a long time been primarily in the macro (social) level of analysis. Pragmatics is preoccupied with the functions fulfilled by language in real contexts, and with the relationships between form and social function; however, it also focuses on the detailed study of specific instances of language use. In comparison, although CDA practitioners have long called for triangulation in the sense of obtaining multiple perspectives on the phenomenon under scrutiny (Reisigl and Wodak 2001; van Dijk 2006; etc.), or at least for "constant movement back and forth between theory and data" (Meyer 2001: 27), there has been and still is an observable trend for many research projects in CDA to operate in a top-down manner. Presupposing a particular theory of social relations, they tend to single out the most interesting aspects of language that tie in with a particular theoretical approach, rather than embarking on an all-round, in-depth study covering the multiple dimensions of a text to determine how language works in a particular setting (Blommaert 2001; Breeze 2011). If this trend has been changing recently, the credit goes to the critique levelled at CDA by, indeed, pragmaticians, as well as conversation analysts, ethnographers of communication and other scholars committed to the notion that all interpretations should clearly emerge from the underlying data (Breeze 2011; Verschueren 2011).

While work in linguistic pragmatics has helped CDA in the search for attested textual data to support theoretical claims at the macro level, CDA attracts pragmaticians to new empirical territories, where discourse serves to (re-)enact, negotiate, modify and/or reproduce ideology and individual as well as collective identity in accordance with socio-political goals. There, pragmatics – and the pragmatics of discourse (macropragmatics; see Cap 2011) in particular – benefit from the interdisciplinarity of CDA and its tendency to look for and engage new conceptual frameworks in social research. The results are interdisciplinary studies bridging different disciplines and approaches at the intersection of social and political science and linguistics. The role of pragmatics in such studies is often to appropriate findings in disciplines other than linguistics to the rigid requirements of linguistic micro-analysis. For instance, findings in cognitive science and anthropology, the disciplines frequently addressed in CDA, are used to build frameworks that serve as conceptual handles on a specific kind of linguistic data (Chilton 2004, 2014; Cap 2013; Dunmire 2011; Hart 2014). These frameworks are pragmatic in the sense that they elucidate the functional potential of lexical and grammatical choices drawn from non-linguistic, cognitive domains, such as space or time. The best example of such a framework seems the legitimization-proximization model, which has been included in the panorama of the contemporary CDA in Figure 1. In the remainder of the chapter I discuss this model further as an instance of the dynamic interaction between CDA and pragmatics. Apart from elucidating links that connect the macro-social and micro-linguistic dimensions of research, the legitimization-proximization model also illustrates the most important interdisciplinary elements of the modern CDA research in their typical configuration. The central principles of this configuration involve the top-level position of cognitive and anthropological categories and the bottom-level position of lexico-grammatical categories, with pragmatics acting as an analytic mediator between the two positions.

4. The legitimization-proximization model in CDA

In its broadest sense, "proximization" can be defined as a discursive strategy of presenting physically and temporally distant occurrences, events and states of affairs (including distant i. e. adversarial ideologies) as increasingly and negatively consequential to the political speaker and her addressee. Projecting the distant entities as encroaching on the speaker-addressee territory (both physical and ideological), the speaker seeks justification of actions and/or policies that she proposes to neutralize the growing impact of the negative, "foreign", "alien", "antagonistic", entities. Proximization is thus a cognitive-pragmatic strategy of legitimization of interventionist policies.

The term proximization was first proposed by Cap to analyze coercion patterns in the American anti-terrorist rhetoric following 9/11 (Cap 2006, 2008, 2010). Since

then it has been used within different discourse domains, though most commonly in studies of state political discourses: crisis construction and war rhetoric (Chovanec 2010), anti-migration discourse (Hart 2010), political party representation (Cienki, Kaal and Maks 2010), construction of national memory (Filardo Llamas 2010), and design of foreign policy documents (Dunmire 2011, etc.). Findings from these studies have been integrated in the legitimization-proximization model put forward by Cap (2013). The model defines proximization as a forced construal operation meant to evoke closeness of an external threat to solicit legitimization of preventive measures. It presupposes a bipolar, dichotomous architecture of the political Discourse Space (DS), in which meanings are construed from conceptual oppositions between the in-group (DS-central) and the out-group (DS-peripheral). The threat is posed by the DS-peripheral entities, which the model refers to as ODCs (outside-deictic-center). The ODC entities are construed as moving across the DS to invade the IDC (inside-deictic-center) entities, the speaker and her addressee. Since the ODC threat can be conceptualized in spatio-temporal (physical) as well as ideological terms, the strategy of proximization falls into three categories. Spatial proximization is a forced construal of the DS-peripheral entities encroaching physically upon the DS central entities (speaker, addressee). Temporal proximization is a forced construal of the envisaged conflict as not only imminent, but also momentous, historic and thus needing immediate response and unique preventive measures. Spatial and temporal proximization involve fear appeals (becoming particularly strong in reactionary political projects) and typically use analogies to conflate the growing threat with an actual disastrous occurrence in the past, to endorse the current scenario. Lastly, axiological proximization involves construal of a gathering ideological clash between the "home values" of the DS-central entities (IDCs) and the alien and antagonistic (ODC) values. Importantly, the ODC values are construed to reveal potential to materialize (that is, prompt a physical impact) within the IDC home territory.

In its conceptual design, the legitimization-proximization model subsumes a dynamic view of the discourse space, which involves not only the opposition between IDC and ODC entities, but also the discursively constructed movement of the latter toward the deictic center of the DS (Figure 2). It thus focuses, from a linguistic standpoint, on the lexical and grammatical deictic choices which speakers make to, first, index the existing socio-political and ideological distinctions and, second, demonstrate the capacity of the out-group (ODC) to erase these distinctions by forcibly colonizing the in-group's (IDC's) space.

Furthermore, the legitimization-proximization model assumes that all the three strategies/aspects of proximization contribute to the continual narrowing of the symbolic distance between the entities and values in the discourse space and their negative impact on the speaker and her addressee. This does not mean, however, that all the three strategies are linguistically present (to the same degree) throughout each stretch of the unfolding discourse. While any use of proximization prin-

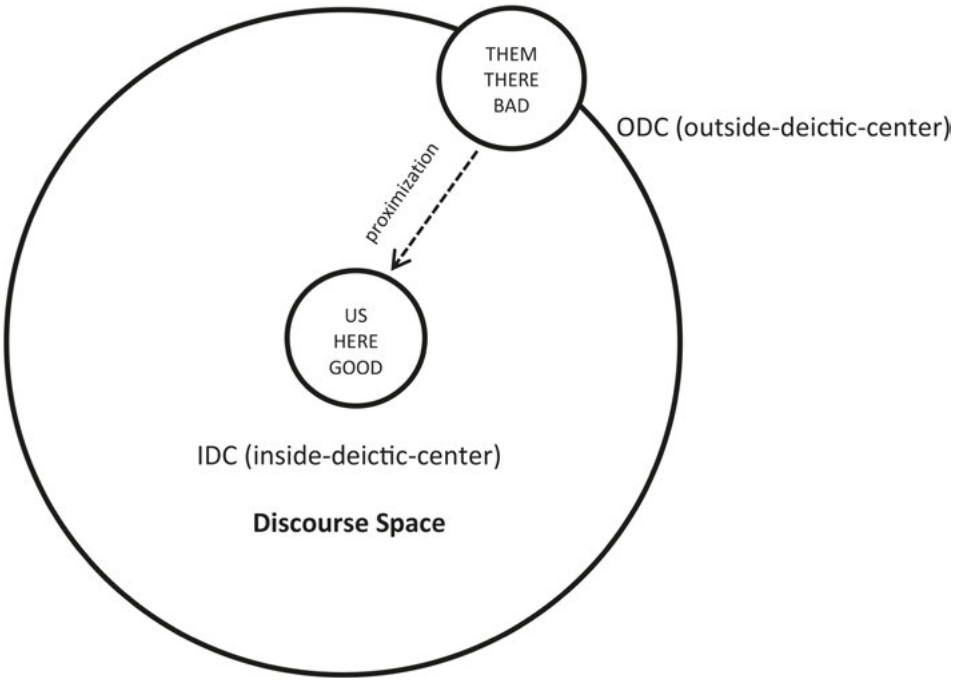

Figure 2. Proximization in Discourse Space (DS)

cipally subsumes all of its strategies, spatial, temporal and axiological, the degree or density of their actual linguistic representation is continually motivated by their effectiveness in the evolving context. As will be shown in a case study below, extralinguistic contextual developments may cause the speaker to limit the use of one strategy and compensate it by an increased use of another, in the interest of the continuity of legitimization.

As a theoretical proposal in CDA, the legitimization-proximization model makes a new contribution at two levels, (i) cognitive-pragmatic and (ii) linguistic, or more precisely, lexico-grammatical. On the (i) cognitive-pragmatic conceptual level, the Spatial-Temporal-Axiological (STA) paradigm revisits the ontological status and the pragmatic function of deixis and deictic markers. While according to classical views (Levinson 1983; Levelt 1989; etc.) deixis is considered primarily a technical necessity and a formal tool for the coding of elements of context so communication and interpretation could take place, the proximization approach makes deixis an instrument of legitimization, persuasion and social coercion. Within the legitimization-proximization model, the concept of deixis is not reduced to a finite set of deictic expressions, but rather expanded to cover bigger lexico-grammatical phrases and discourse chunks. As a result, the component deictic markers partake in forced conceptual shifts. An example of the legitimization-proximization

approach to deixis and deictic expressions is Cap's (2013: 109) spatial proximization framework (Table 1). It defines the main constituents and the mechanism of proximization in the discourse space, as well as makes possible abstracting the relevant (i. e. "spatial") lexico-grammatical items. It thus allows a quantitative analysis of the lexical intensity of spatial proximization in a given discourse timeframe.

Table 1. Spatial proximization framework and its key lexico-grammatical items (reproduced from Cap 2013: 109)

Category	**Key items**
1. (Noun phrases (NPs) construed as elements of the deictic center of the DS (IDCs))	[USA, United States, America]; [American people, Americans, our people/nation/country/society]; [free people/nations/countries/societies/world]; [democratic people/nations/countries/societies/world]
2. (Noun phrases (NPs) construed as elements outside the deictic center of the DS (ODCs))	[Iraq, Saddam Hussein, Saddam, Hussein]; [Iraqi regime/dictatorship]; [terrorists]; [terrorist organizations/networks, Al-Qaeda]; [extremists/radicals]; [foreign regimes/dictatorships]
3. (Verb phrases (VPs) of motion and directionality construed as markers of movement of ODCs towards the deictic center)	[are determined/intend to seek/acquire WMD]; [might/may/could/can use WMD against *an IDC*]; [expand/grow *in military capacity that could be directed against an IDC*]; [move/are moving/head/are heading/have set their course toward confrontation *with an IDC*]
4. (Verb phrases (VPs) of action construed as markers of impact of ODCs upon IDCs)	[destroy *an IDC*]; [set aflame/burn down *an IDC or IDC values*]
5. (Noun phrases (NPs) denoting abstract concepts construed as anticipations of impact of ODCs upon IDCs)	[threat]; [danger]
6. (Noun phrases (NPs) denoting abstract concepts construed as effects of impact of ODCs upon IDCs)	[catastrophe]; [tragedy]

The six categories depicted in the left-hand column of Table 1 are a stable element of the spatial proximization framework. The key items provided in the right-hand column depend on the actual discourse under investigation. In Table 1, they come from the domain of the anti-terrorist rhetoric, which has been widely analyzed

within the legitimization-proximization paradigm (Cap 2006, 2008, 2010). Table 1 includes the most frequent of the spatial proximization items in the 2001–2010 corpus of the US presidential addresses on the American anti-terrorist policies and actions.[3] Quantifiable items appear in square brackets and include combinations of words separated by slashes with the head word. For example, the item [free people/nations/countries/societies/world] includes the five following combinations, all of which contribute to the general count of the first category: free people, free nations, free countries, free societies, free world. The italicized phrases indicate parts that allow synonymous phrases to fill in the item and thus increase its count. For example, the item [destroy *an IDC*] in category 4 subsumes several quantifiable variations, such as destroy America, destroy our land or destroy the free and democratic world.[4]

The framework and its 6 categories capture not only the initial arrangement of the Discourse Space (categories 1, 2), but also (in 3, 4) the shift leading to a clash between the out-group (ODC) and the in-group (IDC), as well as the (anticipated) effects of the clash (5, 6). The third category, central to the design of the framework, sets "traditional" deictic expressions such as personal pronouns to work *pragmatically* together with the other elements of the superordinate VP. The VP in the third category holds a deictic status; apart from denoting the static DS entities (marked by pronominals), it indexes their movement, which the latter establishes the target perspective construed by the speaker. Category 3 can thus process and yield counts from complex lexico-grammatical phrases, such as for instance "they [terrorists] have set their course to confront us and our civilization" (G.W. Bush, 17 March 2003). In this phrase, the person deixis (they) combines with the following VP into a complex deictic structure marking both the antagonistic entity and its movement toward home entities in the deictic center.

The spatial proximization framework (as well as the temporal and axiological frameworks, Cap 2013) endorses the (ii) linguistic/lexico-grammatical contribution of the legitimization-proximization model. The model makes it possible to extract quantifiable lexical evidence of the strategic use of different proximization strategies within different timeframes of policy legitimization. Most importantly, it can account quantitatively for cases – such as below – where one proximization strategy is dropped in favor of another one, for contextual reasons.

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[3] The corpus contains 402 texts (601,856 words) of *speeches and remarks*, downloaded from the White House website http://www.whitehouse.gov in January 2011. It includes only the texts matching at least two of the three issue tags: *defense, foreign policy, homeland security.*

[4] See Cap (2013: 108–109) for details. See also the two other frameworks, temporal (2013: 116) and axiological (2013: 122), which I do not have space to discuss here.

5. A case study

As has been mentioned, the main application of the legitimization-proximization model so far has been to critical studies of state political discourse seeking legitimization of interventionist preventive measures against an external threat. In what follows, I give an example of this application, discussing instances of the American discourse of the war-on-terror. Specifically, I outline what proximization strategies were used to legitimize the US government's decision to go to war in Iraq (March 2003), and what adjustments in the use of the strategies were made later (from November 2003) as a result of contextual changes which had taken place in the meantime.

5.1. Initiating legitimization through proximization

Below I look at parts of G.W. Bush's speech at the American Enterprise Institute, which was delivered on February 26, 2003. The speech took place only three weeks before the first US and coalition troops entered Iraq on March 19, and has often been considered (Silberstein 2004) a manifesto of the Iraq war. The goal of the speech was to list direct reasons for the intervention, while also locating it in the global context of the war-on-terror declared by G.W. Bush on the night of the 9/11 attacks. The realization of this goal involved a strategic use of various lexico-grammatical forms reflecting different proximization strategies.

Providing his rationale for war, President Bush had to confront the kind of public reluctance faced by many of his White House predecessors: how to legitimize the US involvement in military action in a far-away place, among a far-away people, of whom the American people knew little (Bacevich 2010). The AEI speech is remarkable in its consistent continuity of attempts to overcome this reluctance. It applies spatio-temporal and axiological proximization strategies, which are performed in diligently designed pragmatic patterns drawing from more general conceptual premises for legitimization:

> We are facing a crucial period in the history of our nation, and of the civilized world. […] On a September morning, threats that had gathered for years, in secret and far away, led to murder in our country on a massive scale. As a result, we must look at security in a new way, because our country is a battlefield in the first war of the 21st century. […] We learned a lesson: the dangers of our time must be confronted actively and forcefully, before we see them again in our skies and our cities. And we will not allow the flames of hatred and violence in the affairs of men. […] The world has a clear interest in the spread of democratic values, because stable and free nations do not breed the ideologies of murder. […] Saddam Hussein and his weapons of mass destruction are a direct threat to our people and to all free people. […] My job is to protect the American people. When it comes to our security and freedom, we really don't need anybody's permission. […] We've tried diplomacy for 12 years. It hasn't worked. Saddam Hussein hasn't disarmed, he's armed. Today the goal is to remove the Iraqi regime and to rid Iraq of weapons of

> mass destruction. […] The liberation of millions is the fulfillment of America's founding promise. The objectives we've set in this war are worthy of America, worthy of all the acts of heroism and generosity that have come before (Bush 2003a).

In a nutshell, the AEI speech states that there are WMD[5] in Iraq and that, given historical context and experience, ideological characteristics of the adversary as opposed to American values and national legacy, and G.W. Bush's obligations as standing US president, there is a case for legitimate military intervention. This complex picture involves historical flashbacks, as well as descriptions of the current situation, which both engage proximization strategies. These strategies operate at two interrelated levels, which can be described as diachronic and synchronic.

At the diachronic level, Bush evokes ideological representations of the remote past, which are "proximized" to underline the continuity and steadfastness of purpose, thus linking with and sanctioning current actions as acts of faithfulness to long-accepted principles and values. An example is the final part: "[t]he liberation is […] promise. The objectives […] have come before". It launches a temporal analogy axis which connects a past reference point (the founding of America) with the present point, creating a common conceptual space for both the proximized historical acts of heroism and the current and/or prospective acts construed as their natural follow-ups. This kind of legitimization, performed by mostly temporal and axiological proximization (the originally past values become the here and now premises for prompt action[6]), draws, in many ways, upon the socio-psychological predispositions of the US addressee (Dunmire 2011). On the pragmatic-lexical plane, the job of establishing the link and thus winning credibility is performed by sequences of assertions, which fall within the addressee's "latitude of acceptance" (Jowett and O'Donnell 1992).[7] The assertions reveal different degrees of acceptability, from being indisputably and universally acceptable ("My job is […]"; "The liberation of millions […]") to being acceptable due to the credibility developed step-by-step within a "fact-belief series" ("We've tried diplomacy for 12 years [FACT] […] he's armed [BELIEF]"), but none of them is inconsistent with the key predispositions of the addressee.

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5 Weapons of mass destruction.

6 This is a secondary variant of axiological proximization. As will be shown, axiological proximization mostly involves the adversary (ODC); antagonistic values are "dormant" triggers for a possible ODC impact.

7 Jowett and O'Donnell (1992) posit that the best credibility and thus legitimization effects can be expected if the speaker produces her message in line with the psychological, social, political, cultural, etc., predispositions of the addressee. However, since a full compliance is almost never possible, it is essential that a novel message is at least tentatively or partly acceptable; then, its acceptability and the speaker's credibility tend to increase over time.

At the synchronic level, the historical flashbacks are not completely abandoned, but they involve proximization of near history and the main legitimization premise is not the (continuing) ideological commitments, but the direct physical threats looming over the country ("a battlefield", in President Bush's words). As the threats require a fast and strong pre-emptive response, the main proximization strategy operating at the synchronic level is spatial proximization, often encompassing a temporal element. Its task is to raise fears of imminence of the threat, which might be external and distant apparently, but in fact able to materialize anytime. The lexico-grammatical carriers of the spatial proximization include such items and phrases as "secret and far away", "all free people", "stable and free nations", "Saddam Hussein and his weapons of mass destruction", etc., which force dichotomous, "good against evil" representations of the IDCs (America, Western [free, democratic] world) and the ODCs (Saddam Hussein, Iraqi regime, terrorists), located at a relative distance from each other. This geographical and geopolitical distance is symbolically construed as shrinking, as, on the one hand, the ODC entities cross the DS towards its deictic center and, on the other, the center (IDC) entities declare a reaction. The ODC shift is enacted by forced inference and metaphorization. The inference involves an analogy to 9/11 ("On a September morning […]"), whereby the event stage is construed as facing another physical impact, whose ("current") consequences are scrupulously described ("before we see them [flames] again in our skies and our cities"). This fear appeal is strengthened by the FIRE metaphor, which contributes the imminence and the speed of the external impact (Hart 2010).

While all spatial proximization in the text draws upon the presumed WMD presence in Iraq – and its potential availability to terrorists for acts far more destructive than the 9/11 attacks – Bush does not disregard the possibility of having to resort to an alternative rationale for war in the future. Thus the speech contains supporting ideological premises, tied to the principal premise. An example is the use of axiological proximization in "The world has a clear interest in the spread of democratic values, because stable and free nations do not breed the ideologies of murder". This ideological argument is not synonymous with Bush's proximization of remote history we have seen before, since its current line subsumes acts of the adversary rather than his and/or America's own acts. It involves a more typical axiological proximization, where an initially ideological conflict changes, over time, into a physical clash. Notably, in its ideological-physical duality it forces a spectrum of speculations over whether the current threat is still ideological or already physical. Since any conclusion from these speculations can be denied in the prospective discourse, the example quoted ("The world …") shows how proximization can interrelate, at the pragmalinguistic level, with the mechanism of implicature (Grice 1975).

5.2. Maintaining legitimization through adjustments in proximization strategies

Political legitimization pursued in temporally extensive contexts – such as the timeframe of the Iraq war – often involves redefinition of the initial legitimization premises and coercion patterns and proximization is very well suited to enact these redefinitions in discourse. This seems to promise a vast applicability of the legitimization-proximization model as a truly dynamic cognitive-pragmatic development in CDA. The legitimization obtained in the AEI speech and, mainly, how the unfolding geopolitical context has put it to test is an illuminating case in point. Recall that although Bush has made the WMD factor the central premise for the Iraq war, he has left an emergency door half-open to be able to reach for an alternative rationale. Come November 2003 (just eight months into the Iraq war), and Bush's pro-war rhetoric adopts (or rather has to adopt) such an emergency alternative rationale, as it becomes evident that there were never weapons of mass destruction in Iraq, at least not in the ready-to-use product sense. The change of Bush's stance is a swift change from strong fear appeals and spatio-temporal proximization to a more subtle ideological argument for legitimization, involving predominantly axiological proximization. The following quote from G.W. Bush's Whitehall Palace address of November 19 is a good illustration:

> By advancing freedom in the greater Middle East, we help end a cycle of dictatorship and radicalism that brings millions of people to misery and brings danger to our own people. By struggling for justice in Iraq, Burma, in Sudan, and in Zimbabwe, we give hope to suffering people and improve the chances for stability and progress. Had we failed to act, the dictator's programs for weapons of mass destruction would continue to this day. Had we failed to act, Iraq's torture chambers would still be filled with victims, terrified and innocent. […] For all who love freedom and peace, the world without Saddam Hussein's regime is a better and safer place (Bush 2003b).

The now dominant axiological proximization involves a dense concentration of ideological and value-oriented lexical items (such as *freedom*, *justice*, *stability*, *progress*, *peace*, vs. *dictatorship*, *radicalism*) as well as items/phrases marking the human dimension of the conflict (e. g. *misery*, *suffering people*, *terrified victims*, vs. the world [being] *a better and safer place*). All these lexico-grammatical forms serve to construe, as in the case of the AEI address, clearly dichotomous representations of the DS "home" and "peripheral/adversarial" entities (IDCs vs. ODCs), and the vision of impact upon the DS "home" entities. In contrast to the AEI speech, however, all the entities (both IDCs and ODCs) are construed in abstract, rather than physical, tangible terms, as the particular lexical items (*dictatorship*, *radicalism*) are not explicitly but only inferentially attributed to concrete groups. Proximization in the Whitehall speech is thus mainly a proximization of antagonistic values, and not so much of physical entities recognized as embodi-

ments of these values. The consequences for maintaining the legitimization stance which began with the AEI address are enormous.

First, there is no longer a commitment to material threat posed by a physical entity. Second, the relief of this commitment, however leading to a new premise for war, does not disqualify the original (WMD) premise since the antagonistic "peripheral" values retain a capacity to materialize within the deictic center (see "… a cycle of dictatorship and radicalism that brings millions of people to misery and brings danger to our own people", reiterating "The world has a clear interest in the spread of democratic values, because stable and free nations do not breed the ideologies of murder" from the AEI speech). Third, as ideological principles possess a global appeal, the socio-ideological argument helps extend the spectrum of the US (military) engagement (Burma, Sudan, Zimbabwe), which in turn forces the construal of failure to detect WMD in Iraq as merely an unlucky incident amongst other (successful) operations.

Add to these general factors the power of legitimization ploys in specific pragmalinguistic constructs ("programs for weapons of mass destruction"[8], the enumeration of the "new" fields of engagement [Burma, etc.], the always effective appeals for solidarity in compassion ["terrified victims" in "torture chambers"]) and there are reasons to conclude that the fall 2003 change to essentially axiological discourse (subsuming axiological proximization) has helped a lot toward saving credibility and thus maintaining legitimization of not only the Iraq war, but the later anti-terrorist campaigns as well. The flexible interplay and the discursive switches between spatial and axiological proximization (aided by temporal projections) in the early stages of the US anti-terrorist policy rhetoric have made a major contribution.

6. Conclusion: Proximization as a method and territories for a pragmatic CDA

The legitimization-proximization model is where pragmatics, spatial cognition, and CDA meet in a conspicuous way. While drawing on the essentially cognitive-anthropological theories of discourse, proximization provides the conceptual representation of discourse space with a pragmatic element involving speaker's awareness of the changing context. In its account of discourse, the model focuses on the strategic, ideological and goal-oriented essence of construals of the near

[8] The nominal phrase "[Iraq's] programs for WMD" is essentially an implicature able to legitimize, in response to contextual needs, any of the following inferences: "Iraq possesses WMD", "Iraq is developing WMD", "Iraq intends to develop WMD", "Iraq intended to develop WMD", and more. The phrase was among G.W. Bush's rhetorical favorites in later stages of the Iraq war, when the original premises for war were called into question.

and the remote. Specifically, it focuses on how the imagining of the closeness and remoteness can be manipulated in the political sphere and bound up with fear, security and conflict. At the linguistic level, it draws from critical-corpus approaches (cf. Figure 1) to offer a rigorous scrutiny of the lexical and grammatical choices which (political) speakers make to enact the conceptual affiliations and distinctions. Along with the other modern developments in CDA (especially the cognitive models, such as critical metaphor analysis; cf. Figure 1), the legitimization-proximization model is an example of how CDA realizes its commitments by engaging cognitive, socio-psychological and anthropological concepts and approaches in a joint work with a text-analytical pragmalinguistic apparatus. As a method, it structures these concepts and tools in a hierarchical analytic mechanism processing data in a comprehensive, abductive manner. At the top level, cognitive and anthropological categories are responsible for the conceptual framework of analysis. This involves defining two geopolitically and ideologically disparate camps (in-group vs. out-group) in the Discourse Space and setting them at a relative distance from each other. This distance is symbolically construed as shrinking; first, because the out-group aims to encroach on the in-group's territory (both physical and ideological), second, because the in-group declares a preventive reaction. The ability to capture this shift in the setup of the Discourse Space in linguistic terms constitutes the central methodological advantage of the legitimization-proximization model. As has been documented in the case study, the model expresses this conceptual change in terms of pragmatically-minded variations, at the bottom level, in the use of specific lexico-grammatical constructs, such as deictic builders of spatial and ideological dichotomies. While the case study in the present chapter has been essentially qualitative, the legitimization-proximization model opens up further vistas to endorse the findings (such as the change from spatial to axiological proximization, or, generally, from the rhetoric of direct physical threat to a milder rhetoric of ideological conflict) in rigorous quantitative analysis. This is possible by engaging the spatial proximization framework (cf. section 3), together with the axiological proximization framework (Cap 2013), to produce counts of specific lexico-grammatical items in set periods of time.

The landscape of discourses where such transdisciplinary, qualitative-quantitative projects are possible is huge. The domains addressed in CDA in the last 30 years have been racism, xenophobia, national identity, gender identity and inequality, media discourse, discourses of national vs. international politics, and many more. This list, by no means exhaustive, gives a sense of the spectrum of discourses where models such as legitimization-proximization can contribute. Since the central commitments of CDA include exploring the many ways in which ideologies and identities are reflected, (re)-enacted, negotiated, modified, reproduced, etc., in discourse, any "doing" of CDA must involve studying, in conceptual terms, the "original positioning" of the different ideologies and identities, and, in the majority of cases, studying also the "target positioning", that is the conceptual

change which the analyst claims is taking place through the speaker's strategic *use* of discourse. Doing CDA means thus handling issues of the original arrangement of the Discourse Space, and most notably, the core issue of the DS symbolic re-arrangement. As such, any CDA practice clearly needs a pragmalinguistic approach to account for the original and later the target setup of the DS. At the heart of this account are bottom-level, quantifiable lexico-grammatical choices responsible for strategic enactment of the conceptual shifts. The anti-terrorist discourse, such as analyzed in the case study, clearly contains a lot of lexical material that is used to force such strategic shifts. Among other domains and discourses, the most analytically promising appear those in which distinctions between different ideologies and identities are enacted in a particularly clear-cut and appealing manner – to construe strong oppositions between "better" and "worse" ideologies or identities. This applies to the discourses of xenophobia, racism, nationalism or social exclusion, all of which presuppose a rigid in-group vs. out-group distinction, arguing for a growing threat from the out-group. Each of these discourses constitutes a fruitful field for critical-pragmatic explorations. In that sense, CDA not only draws from pragmatics, but also takes it to new and exciting territories.

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V. Corpus pragmatics

18. Introduction to part 5: Corpus pragmatics

Andreas H. Jucker

1. Introduction

Part 5 of this handbook is devoted to methods in pragmatics that rely on corpus searches. Corpus pragmatics is a relatively late addition to the various subfields of pragmatics. Early work in pragmatics tended to be qualitative rather than quantitative. It tended to focus on richly contextualised instances of language use, on small sets of data and on the minutiae of spoken interaction, which precluded the use of large-scale corpora. Early work in corpus linguistics, on the other hand, tended to explore research questions in the area of lexico-grammatical, morphological and syntactic patterns and other areas of the interaction between the lexicon and sentence structure, which were amenable to be turned into search algorithms because they concerned the surface manifestations of language.

Some work in corpus pragmatics, however, appeared as early as the late 1980s and the 1990s (e. g. Aijmer 1987, 1996; Stenström and Andersen 1996; Schmied 1998 or Culpeper and Kytö 1999), but the field really took off only in the 2000s with a series of monographs and edited volumes (e. g. Aijmer 2002; Deutschmann 2003; Aijmer and Stenström 2004; Baker 2006; Facchinetti and Rissanen 2006; Adolphs 2008; Romero-Trillo 2008; Jucker, Schreier and Hundt 2009). In the meantime, the field has already matured to such an extent that in addition to a dedicated journal (*Corpus Pragmatics*) and handbook (Aijmer and Rühlemann 2015) a series of survey articles have appeared (e. g. Andersen 2011; Rühlemann 2011; Jucker 2013; Jucker and Taavitsainen 2014). Work in corpus pragmatics is proliferating at an increased pace at the moment. It combines the persisting interest in the field of pragmatics in general with the increased reliance on empirical and above all quantitative approaches and the explosion of available corpora and corpus tools (Felder, Müller and Vogel 2012; Taavitsainen and Jucker 2014).

Corpus pragmatic approaches typically adopt a quantitative perspective. Research questions often ask about the frequencies of certain elements in specific text samples and, crucially, about differences of these frequencies in different text samples. But – as I will argue in this introduction and as will become clear in the contributions assembled in this section – a quantitative perspective requires a very solid foundation in the preparation of the data base and in the analysis and categorisation of the data.

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2. The scope of corpora

In a pre-theoretical sense, any collection of texts or even one single text can be called a corpus. In the sense intended here, however, only electronically searchable corpora are meant. In the definition of Andersen (2011: 590), "corpora are compilations of naturally occurring spoken or written language that can be accessed on a computer. Such compilations may be monolingual or multilingual and may represent general language or specific domains (professional/academic corpora)".

The earliest corpora in this sense date back to the 1960s. They were designed to provide a more or less representative mirror image of an entire language, and a lot of thought went into the balanced construction of these corpora: which text genres should be represented? And how should the different genres be distributed? According to Aarts' (2011) useful typology, such corpora are, therefore, called balanced corpora. Examples of such early balanced corpora are the *London-Lund Corpus of Spoken English* (LLC), the *Brown Corpus* of written American English or the *Lancaster-Oslo-Bergen* (LOB) Corpus of written British English. Aarts (2011) stresses the intuitive nature on which the "balancing" was done. There is, as yet, no established way to assess in any useful sense the overall composition of a language as a whole, and, therefore, it can only be pure guess work what kind of composition of a sample corpus would best represent an entire language. To a large extent this is also true for specialised corpora that try to represent a single variety of a language. The corpus of *Early Modern English Medical Texts* (EMEMT), for instance, claims to be a "representative sample of the entire field of English medical writings that appeared in print between 1500 and 1700" (Taavitsainen and Pahta 2010: cover blurb). However, from a strictly statistical point of view, such a claim rests on a full and comprehensive list of all the relevant texts of the entire field and a selection principle which gives every single text of the field the same chance of being included in the sample corpus, a criterion which seems hard to achieve even in a limited field such as medical discourse. In the case of an entire language, there is no way of establishing the limits of the entire set (or "population" in statistical terms) that a corpus is supposed to represent. Corpora still try to be representative of more than just themselves, and, therefore, the label "sample corpus" seems more appropriate according to Aarts (2011). He mentions the *British National Corpus* with 100 million words as the largest sample corpus of British English.

According to Aart's (2011) typology, there are also full-text corpora, which contain one or more complete texts. Parallel corpora contain texts of more than one language or more than one variety of the same language. The parallelism between these texts can vary from direct translations of one language into the other to corpora of different varieties or languages that have been compiled on the basis of identical designs. The Brown and LOB corpora, for instance, consist of identical samples of different genres drawn from American English and British English respectively. Additional categories are diachronic or historical corpora represent-

ing older stages of a language and learner corpora containing texts produced by non-native speakers of a language.

In recent years, the number of available corpora and their size have increased at an unprecedented rate. Back in the 1960s one-million-word corpora were considered to be large. In the meantime, many corpora are available extending to several hundred million words. A dedicated website created by Mark Davies includes a dozen different corpora, four of which contain more than one billion words (http://corpus.byu.edu). It includes balanced corpora such as the *Corpus of Contemporary American English* (COCA, 520 million words) but also corpora with a very narrow focus on just one type of text, e. g. the *Hansard Corpus* with the proceedings of the British Parliament from 1803 to 2005 (1.6 billion words) or the *Corpus of American Soap Operas* with transcripts from American soap operas from the early 2000s (100 million words). The largest corpus, however, is provided by the *Google Books Ngram Viewer*, which accesses a database of 361 billion words.

However, for research questions in pragmatics, corpus size is usually not the decisive criterion. It is usually more important for the pragmaticists to be able to contextualize the individual search results, either in the immediate context surrounding the search item or the larger context of the genre or text type in which it occurs. The Ngram Viewer does not provide any context at all. In fact, the searches are not performed on entire texts but on indexes derived from the texts. The ngrams in these indexes carry only minimal information about the type of English and the year of publication of the text in which they originally occurred. In other corpora, it is usually possible to trace individual occurrences of search items back to their original location but often this has to be done manually, which severely restricts the amount of data that can be assessed in this way in spite of the ease of retrieving many more occurrences from these large corpora. Thus, there is often a tension between small but richly contextualised sets of data versus large-scale corpora with a lot of quantifiable material but a very limited amount of context for each of the retrieved hits; the big data caveat in O'Keeffe's terms (this volume; see also Taavitsainen and Jucker 2015: 18).

One solution to this problem is the use of pragmatically annotated data (see Archer and Culpeper, this volume). A subcorpus of the *Michigan Corpus of Academic Spoken English* (MICASE), for instance, has been tagged for some speech acts, and the *Corpus of Verbal Response Mode* (VRM) *Annotated Utterances* has been coded both for literal meaning and for pragmatic meaning (see Rühlemann 2011: 630). But such annotations are extremely labour intensive, which puts severe limitations on the size of the corpora that can be annotated in this way.

3. Corpora, quantification and statistics

Corpus pragmatic approaches search for patterns and generalisations across large amounts of data. Research questions typically ask for frequencies and differences in frequencies in different samples or subsamples. They ask questions that can only be answered with numerical results. However, any numerical claim depends on a solid foundation consisting of several layers pertaining to the database, the identification and analysis of the data and so on. This can be visualised as a pyramid in which each individual level depends on a solid foundation of all the lower levels, and at the same time each level consists of a higher degree of abstraction and generalisation than its supporting level and thus the height of each level comes at the cost of a further loss of detail (see Figure 1).

Figure 1 depicts the pyramid of quantitative research. At the bottom of any quantitative research there is the selection and compilation of data. The researcher can decide to make use of an existing corpus or to construct a corpus specifically designed for the research question at hand (see chapter 19 by Gisle Andersen). The decision is not trivial. Mistakes at this level may render all the work at higher levels questionable or even meaningless. Considerations at this level will include the question about which language varieties need to be included, whether they are spoken or written, the degree of formality, the diachrony of the data and many more. The second level of the pyramid very often consists of the pre-processing of the data (see chapter 20 by Dawn Archer and Jonathan Culpeper). Present-day corpora are often annotated with parts-of-speech tags. There are also speaker-identification tags and tags that identify different registers or modalities of the language samples that are included. Some corpora even include pragmatic annotations. The quality of these annotations again has an immediate bearing on the reliability of all the work carried out at the higher levels in the pyramid. If the accuracy of the parts-of-speech tags is less than one hundred per cent, for instance, the quantifications at the higher levels inherit these errors to the extent that they rely on the parts-of-speech tagging.

The core of any research project is, of course, the identification and description of a certain linguistic phenomenon. In the context of corpus pragmatic research this can be a particular linguistic form or a range of such forms, such as a particular discourse marker or an interjection, whose functions are to be investigated (see chapter 21 by Karin Aijmer), or a range of speech functions, such as a specific speech act or a class of speech acts, whose specific linguistic realisations are to be investigated (see chapter 22 by Anne O'Keeffe). A precise description of these phenomena is again an indispensable prerequisite in order to ensure the reliability of the higher levels in the pyramid.

Once the elements have been identified, they need to be categorised. Different uses of a discourse marker, for instance, or specific ways of realising a certain speech act have to be distinguished. Without such a categorisation, the elements

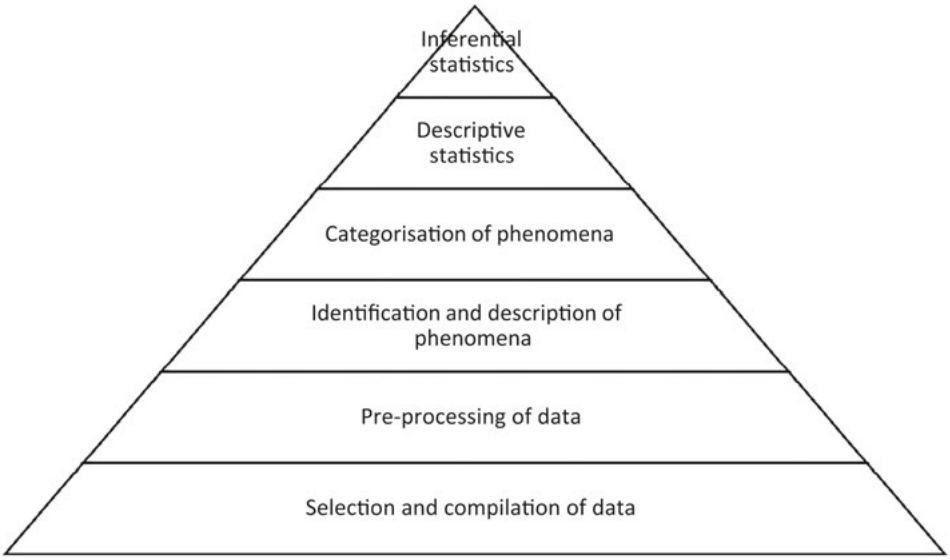

Figure 1: The pyramid of quantitative corpus research

cannot be counted and quantification is not possible. The items to be quantified need to be identified in such a way that they can be reliably counted. This means that individual occurrences of some phenomenon are claimed to be sufficiently similar or even identical in order to be lumped together. Small differences that are not relevant are abstracted away or ignored. In this sense quantification necessarily involves a certain loss of detail of description. It is the price that has to be paid for quantification. If we are prepared to pay the price, we can count the instances, and we can compare different phenomena.

It is also essential at this stage – and this is all too often ignored – that the categories must be defined in such a way that another researcher would identify the same elements as instantiations of this particular category. This stage, therefore, should include an interrater reliability test. This involves at least two raters, or coders, who independently code a data sample and then compare their results. The categorisation is only considered to be sufficiently robust if the coders come up with a sufficiently high number of identical codes assigned to the data. If that level is not achieved, the category descriptions have to be improved or the categories have to be adjusted before a new round of testing with fresh data samples can be started. This process has to be repeated until the desired level of interrater agreement has been achieved. Usually a level of 70 per cent is considered to be adequate. Practical experience shows that such a level, which may appear to be relatively modest, is often more difficult to achieve than might be expected, especially if functional categories are involved. However, the reliability of category

counts critically depends on the reliability of category identification. If the categories proposed by the researcher have not passed the test of interrater reliability, the quantitative results have to be seen with a lot of scepticism, and even if they have passed such a test, it should be clear that a level of a minimum of 70 per cent interrater agreement means that the results are no more than approximations or relatively accurate estimates. The nature of linguistic data generally does not lend itself to high precision measurements.

This scepticism is essential whenever higher levels in the pyramid are considered. The counting of categories that forms the basis for the descriptive statistics seems like a tedious task that can generally be done easily and quickly by the computer. But the ease of computation should not be allowed to suggest a degree of precision that is not supported by the approximate nature of the underlying data categorisation.

At the level of descriptive statistics, researchers often have to work with normalised frequencies. If the frequencies of a certain linguistic element are to be compared in two or more different contexts, the actual figures have to be set into relation of the size of these contexts. Normally this is done in terms of number of words. The observed frequency of the element in each context is calculated as a frequency per 10,000 words or per one million words or some other suitable level. It seems straightforward to use the number of words as the category for normalisation but it is not without problems. Computers can count the number of words very easily and quickly but they rely on a rather crude definition of what a word is (something like a string of letters enclosed by blanks or punctuation marks). Even if this is too simplistic for a linguistic definition of what a word is, for many purposes it is good enough as a proxy, in particular if the word count is carried out in the same way in all the relevant contexts. But in some instances the number of turns or the duration of speaking may be more accurate measures for the normalisation of frequency figures, and it must be realised that the results depend on such choices.

The pinnacle of many research efforts seems to be reached when the researcher cannot only produce the frequencies for a particular element in different contexts but when he or she can confidently claim that the differences are significant. This is done on the basis of inferential statistics. Many different statistical tests are available for this purpose, and the computer will very quickly return a verdict of whether different numerical patterns in the different contexts are likely to be random or whether they are sufficiently large to exclude the possibility of being just random and, therefore, must be assumed to be significant.

However, such results must always be addressed with a healthy dose of caution. It crucially depends on the choice of an appropriate statistical test, and it depends just as crucially on the reliability of the figures that have been fed into the computer, which depends – as argued above – on the quality of the choices at all the lower levels of the pyramid. But even with the best of intentions and the highest level of care, the result at the top of the pyramid inherits all the unavoidable

limitations at the lower levels. It only applies to the data that was included in the sample, it depends on the accuracy of the data annotations, the reliability of the data categorisation and counting, and so on.

And ultimately, even if we accept – with sufficient caution – the significance of our results, the statistical tests do not tell us anything about the reasons for this significance. A distribution of the data that is highly unlikely to be random is just that – a distribution that is highly unlikely to be random – no more, no less. Often enough it is just the starting point for new questions to be asked.

4. The papers in this section

The first two papers in this section are concerned with the construction and annotation of corpora. In chapter 19, Gisle Andersen discusses the various aspects that need to be taken into consideration when researchers either choose an existing corpus or decide to build their own corpus. He argues that the specifics of pragmatic research often make it useful or even indispensable to go beyond ready-made, off the shelf corpora by either extracting relevant subparts, by annotating existing corpora in various ways or by embarking on the construction of the researcher's own tailor-made corpora. Andersen focuses on the various selective processes, or sampling frames, of corpus construction and on the effects these choices have on the potential for corpus pragmatic investigations. He discusses the differences between form-based approaches and function-based approaches and the distinction between corpus-based versus corpus-driven approaches. The sampling frame is particularly challenging in the case of parallel corpora with data drawn from different languages or different time periods because the inventory of genres and text types may be very different in these languages or time periods. He also discusses some more technical aspects of corpus construction, such as the transcription of spoken data and various types of annotations.

In chapter 20, Dawn Archer and Jonathan Culpeper argue that pragmatic annotation for a long time lagged behind the annotation of other aspects in corpora. They note that corpus pragmatic work so far has had a strong bias towards research questions with a formal entity as a starting point. Pragmatic annotation offers a way out of this restriction. They distinguish between different levels of pragmatic annotation. At one level, there are annotation schemes that identify interactional phenomena, such as speech acts, and at a second level, there are annotation schemes for contextual phenomena, such as the gender or social status of the interactants. Such contextual features are particularly important since pragmatic interpretations are regularly based on contextual features. The annotation of pragmatic units is difficult because of the problem of identifying adequate boundaries and because pragmatic units are often ambiguous and indeterminate. Pragmatic annotations, therefore, must often be applied manually, which seriously restricts the corpus

size for annotations. They also present their own annotation scheme, which they used for the *Sociopragmatic Corpus* with its sophisticated and highly detailed tags identifying for each segment the relevant combination of sociopragmatic variables including speaker identification, addressee identification, and their relationship. They argue that many pragmatic phenomena cannot easily be annotated automatically but some annotation is possible with computational assistance.

The third paper in this section, by Irma Taavitsainen, chapter 21, is devoted to the historical dimension of corpus pragmatics, where the challenges and problems of corpus pragmatic research are exacerbated because of the historical nature of the data. She provides an outline of the relevant corpora, from the pioneering *Helsinki Corpus* to the single-register or single-variety corpora produced by the same Helsinki team to more recent corpora. She focuses on some of the challenges of historical corpus pragmatic work, such as the dilemma between large generalisations which cover a lot of data versus the wish to focus on increasingly fine-grained distinctions, which reduces the available data for each relevant distinction to such an extent that useful generalisations are no longer possible, or the problem of spelling variation in historical texts. The chapter also gives a brief introduction to the most important corpus tools, such as concordances, keyword analysis, collocations and statistical assessments, and it points out the importance of including the social and cultural context as well as the genre context into the analysis. This makes it necessary to switch back and forth between the frequency counts of corpus searches and the actual contexts in which the search items occur. Finally, she identifies some future directions for historical corpus pragmatics, as for instance an increased trend towards megacorpora, towards increasingly richer and more sophisticated annotations of corpora, and towards more and more sophisticated editing techniques that are used to prepare historical material for inclusion into searchable corpora.

Chapters 22 and 23 consider the relationship between form and function in corpus pragmatics. The chapter by Karin Aijmer looks specifically at research approaches that take a linguistic form, such as a discourse marker, an interjection, a term of address or a hesitation marker as a starting point in order to explore its function across a large number of occurrences. This is the more common approach in corpus studies because corpus searches depend on clearly specifiable strings of linguistic material, i. e. on formal patterns. She draws attention to the problem of the ambiguity of many linguistic forms. Discourse markers, for instance, often have linguistic forms that coincide with forms in other word classes and even as discourse markers they are multifunctional. She, too, draws attention to the importance of the context for the interpretation of the various functions of the elements retrieved in corpus searches. She also points out the connection to the variationist perspective, in which search items are systematically correlated with different types of context in order to explore the sociolinguistic factors, for instance, on the usage of specific elements. Moreover, she considers corpus pragmatic work in the context of selected theoretical approaches, such as Thetical Grammar or Construction Grammar.

The paper by Anne O'Keeffe looks at approaches that take a speech function, e. g. a specific speech act, as a starting point in order to explore its realisations in a specific set of texts. This can be done by searching for elements that are regularly associated with this function, as for instance *sorry*, which may function as an apology or may accompany an apology. But not all apologies contain an instance of *sorry*, and not all instances of *sorry* occur together with an apology. She also draws attention to the dilemma in corpus research between large numbers of occurrences of a particular phenomenon, breadth of forms in her words, and the contextual depth that is available for each occurrence. The larger the number of occurrences, the more restricted will be the contextual depth for each occurrence and vice versa. In order to illustrate the problem, she traces the history of *I'm sorry* and *I apologise* in the largest available corpus, the *Google Books Ngram Viewer*. She then presents two case studies which contrast corpus linguistic methods and discourse completion tasks. The study by Schauer and Adolphs (2006), which analyses expressions of gratitude in the *Cambridge and Nottingham Corpus of Discourse in English* (CANCODE) and in a discourse completion task, finds that the corpus data gives a broader contextual picture than the DCT data. In the corpus, expressions of gratitude often occur in clusters while in the DCT data single utterances expressing gratitude are the norm. This result is supported by a study by Flöck and Geluykens (2015), who compared directives in the British component of the *International Corpus of English* (ICE) with response data of a written DCT and a small corpus of business letters. In the final part of the chapter, O'Keeffe presents different approaches that deal with the problem of searching for speech functions. The first approach, one-to-one searching, is restricted to instances in which a specific form, such as *thank you*, or a specific tag is searched for. This will provide a full recall of all such forms. The second approach consists of a down-sampling of the corpus to a manageable size and a manual analysis of the relevant search item. The third approach makes systematic use of existing research findings, e. g. from DCT studies, to establish the relevant search items for corpus search. And finally she presents four possible solutions that have been proposed for larger corpora together with their advantages and limitations: the use of illocutionary force indicating devices; the use of genre-specific search inventories established by manual searches of small sample corpora; the use of typical lexical or grammatical features associated with a speech act; and, finally, the use of metacommunicative expressions.

In the last chapter of this volume, chapter 24, finally, Michael Haugh focuses specifically on the corpus-pragmatic approaches that take metapragmatic elements as a starting point. Such elements reflect the interactants' awareness of what is going on in the interaction and their comments about this. Haugh uses elements such as *just kidding*, *kidding*, *only joking* and so on as examples with which the speaker signals to the addressee that the surrounding talk should be treated as non-serious, playful or jocular. He distinguishes between three different types of acts and activities: first, pragmatic acts and activities (e. g. *apologise, joke,*

threaten); second, inferential acts and activities (e. g. *allude*, *imply*, *sarcasm*); and third, evaluative acts and activities (e. g. *aggressive*, *polite*, *rude*). He identifies a number of challenges of an analysis of metapragmatic elements. First, the analysis must identify a sufficient number of tokens for an analysis, and these tokens must be comparable across contexts. The same metapragmatic lexical item may well be used in different ways on different occasions. And second, the accuracy of the transcriptions is essential. A careful transcription often reveals details that are lost in a less detailed rendering.

Part 4 of this handbook covered methods that were largely qualitative. They focused on small data sets of richly contextualised communicative behaviour. In the following chapters of part 5 of the handbook, the focus shifts to large scale investigations that try to find generalisations across ever increasing data sets. But the tension between such large-scale generalisation and the goal of paying attention to the minute details of each individual occurrence remains a *leitmotif* in all the chapters of part 5.

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19. Corpus construction

Gisle Andersen

Abstract: This chapter considers various aspects of corpus construction, i. e. the collection, processing and annotation of texts for corpora that can be used in linguistic analyses of speech or writing. It focuses on the range of selective processes that shape various types of corpus construction and the effects of the choices made. Corpus construction is illustrated with reference to recent studies in corpus pragmatics which either directly address methodological issues or which illustrate important aspects thereof. The issues dealt with include form- and function-based approaches to pragmatics, corpus-based vs. corpus-driven studies, and various factors in research design, such as text type and domain, language variety and demography, transcription and annotation of corpora, etc.

1. Introduction

Corpus construction is probably the most significant component of research design in corpus pragmatics. This chapter outlines the parameters involved in the construction of spoken and written corpora and the consequences of the choices made for possible research questions in corpus pragmatics. The field of pragmatics is notoriously wide, and the last couple of decades have accumulated a range of corpus-based studies that would merit mentioning in this context. It is not my intention to provide a historical account of the field of corpus linguistics or a survey of all available corpora of English or other languages, as good overviews of the field have been provided elsewhere (McEnery and Hardie 2012; Andersen 2010; O'Keeffe and McCarthy 2010). Nor is it my intention to survey research in corpus pragmatics, as this has been done in two earlier chapters of this handbook series (Andersen 2011; Rühlemann 2011). Rather, my focus will be on the range of "selective processes" that shape various types of corpus construction and the effects of the choices made. These will be outlined in section 2 and illustrated with reference to recent studies in corpus pragmatics (widely defined) which either directly address the issue of corpus construction or which illustrate important aspects of it. Special emphasis will be on studies that illustrate the problematic nature of corpus studies and cross-corpus comparability across different corpora. Finally, section 3 offers some concluding remarks and reflections on future developments within corpus pragmatics.

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2. Issues in corpus construction and overview of literature in corpus pragmatics

The choice of a certain corpus as a basis for studies in linguistics has obvious bearings on the kind of research questions that can be pursued and the outcome of testing individual hypotheses about language. The research potential of a corpus is constrained by its sampling frame, i. e. the totality of numerous choices made in corpus construction, such as whether to document a certain variety of a language, mode of communication, period or speaker group. This section considers a wide range of parameters that may be relevant to consider in corpus construction. Many of these parameters can be construed as dichotomies (highlighted in italics below), and each will be illustrated in this section with examples of previous work in corpus pragmatics.

2.1. Overall methodological considerations

In very general terms, research in corpus pragmatics is motivated by a specific objective to investigate a functional category, say, a certain type of speech act (Adolphs 2008), e. g. requests, or a particular form, say, the sequence *you know*, in a certain language variety with the aim of exploring what kind of bearing it has on communicative interaction. To this end, researchers may choose to use an *existing corpus* vs. a *purpose-built corpus*. An existing corpus such as the British National Corpus (BNC) provides a comprehensive and multifaceted snapshot of British English at the time of its compilation (early 1990s) in the form of a generally accessible 100-million word sample of this variety. With such a rich source at one's fingertips, it is only natural that its construction has stimulated a vast amount of research, although only a relatively small subset of this research is in the field of pragmatics. For instance, Tottie (2011) used the BNC in a study of the two "fillers" *er/uh* and *erm/um*, items which play a crucial role in the organisation of spoken discourse (Swerts 1998; Kjellmer 2003; Corley, MacGregor and Donaldson 2007). This is a principally quantitative sociolinguistic study, which demonstrates some of the complexity and features of the BNC, showing that demographic factors of speaker gender, socioeconomic status and age have a bearing on the aggregate use of the variant filler forms. In short, men use more fillers than women, people from the higher socio-economic and more well-educated strata of the population use more than people from lower strata, and older speakers use more than younger speakers. This research illustrates the importance of metadata in corpus design, and how information about the background of the speakers can lead to new insights. Metadata covers information about speakers and authors, texts, topic domain, date of recording, region, etc. The data for this part of Tottie's research is drawn from what is known as the demographic component of the BNC, which contains a statistically balanced sample of conversations of speakers of a variety of backgrounds.

Its counterpart, the context-governed component, contains a number of less spontaneous spoken discourse types that were selected according to *a priori* linguistically motivated categories, including lectures and talks, news commentaries and classroom interaction. Together these two spoken components amount to about 10 million words of spoken English, which is outnumbered by the written component of the BNC by roughly ten to one. The spoken component of the BNC constitutes one of the resources most often exploited in corpus pragmatics (cf. Andersen 2011; Rühlemann 2011 for surveys of studies), and British English is thus among the better documented varieties of English.

However, despite the pervasiveness of a corpus such as the BNC, there may be research questions that require researchers to pursue the development of one's own corpus. A variant of the ready-made corpus procedure is applied by Rühlemann, Bagoutdinov and O'Donnell (2011) and Rühlemann and O'Donnell (2012). The authors were interested in the dynamics of narrative discourse and how it compares with conversational discourse more generally. For this purpose they created the Narrative Corpus (NC) by extracting texts from the BNC, specifically only those parts of the spoken demographic BNC that contained conversational narratives. This raises the obvious question of how narratives are defined, and this is addressed by Rühlemann and O'Donnell (2012). The extraction is based on *a priori* assumptions about lexemes thought to be recurrent in English narratives, such as "'it was so (funny, weird, etc.)', 'did I tell you', 'reminds me', the interjections 'bloody hell' and 'oh my god', as well as one-word items such as 'anyway', 'suddenly', 'happened', and the lemma 'remember'" (Rühlemann and O'Donnell 2012: 316). This corpus construction procedure required substantial manual work in reading concordance lines and browsing text files. Their extraction of a relevant BNC subset also relied on other criteria in addition to these lexical ones, criteria that were based on basic conversation analytical principles and accumulated knowledge about the dynamics of narrative discourse. Typically, stories contain utterances that are longer than utterances in turn-by-turn talk more generally, and therefore the authors decided to include utterances of more than 15 words length. They also looked for stretches of conversation where one speaker occupied roughly every third slot, a technique that is based on Sacks' observation that "[f]ormally [a story] can be said to be in the first instance an attempt to control a third slot in talk, from a first" (Sacks 1992:18). Given the laborious nature of this corpus construction task, the authors express hopes that the extraction of narratives can be automatised or done at least semi-automatically in the future. Among the interesting observations made during the construction of the corpus is that narratives tend to trigger more narratives, as stories are often responded to with other stories, thus forming parts of narrative chains. Hence, the number of narratives is much higher than the number of texts/conversations in the NC. Further, Rühlemann and O'Donnell (2012) have developed an innovative system for discourse annotation (cf. section 2.4) which enables new approaches to the analysis of discourse and pragmatics, applied for

instance in Rühlemann et al.'s (2011) study of the interaction of paralinguistic features (filled pauses; cf. Tottie 2011 above) and discourse presentation.

The construction of the BNC alongside other influential corpora such as the so-called Brown family of American and British comparable corpora (Francis and Kucera 1979; Hofland and Johansson 1982; Mair 1997; Baker 2009) and the International Corpus of English (Greenbaum 1996) have stimulated much research and laid the foundations for corpus pragmatics as what is now a fledging field (Romero-Trillo 2008; Jucker, Schreier and Hundt 2009; Taavitsainen, Jucker and Tuominen 2014; Rühlemann and Aijmer 2016). However, the choices made in the compilation of such ready-made corpora naturally limits the kind of research questions that can be pursued on their basis, as ready-made corpora do not necessarily accord with one's research objectives. For example, McIntyre and Walker (2011) were interested in a discourse phenomenon commonly addressed in corpus stylistics, namely discourse presentation (Semino and Short 2004), i. e. the presentation of speech, writing and thought for instance by means of expressions such as *he said (that)*. However, rather than being content with available off-the-shelf corpora, the authors decided to construct their own corpus tailored for their research purposes: to compare such presentation in Early Modern English (EModE) with equivalent phenomena in Present-Day English (PdE). They therefore built a relatively small corpus of Early Modern English writing, as a point of comparison with studies of Present-Day English. The overall aim of their pursuit is to study the degree to which discourse presentation categories evolve over time. This study provides a good illustration of why corpus construction is not a trivial task, as the authors were forced to think carefully about such issues as comparability and delimitation of time frame. Their corpus was designed to match the fiction and news sections of a PdE corpus used as comparative basis, namely The Lancaster Speech, Writing and Thought Presentation Spoken Corpus (SW&TP).[1] This procedure raises issues of comparability of historical and contemporary corpora, in that it is difficult to find a textual basis from a historical period that exactly matches that of a contemporary corpus (a problem also noted by Jucker 2006), especially as "the newspaper as a text type did not appear until the latter end of our time frame" (McIntyre and Walker 2011: 109). Defining what counts as EModE was also problematic, since "there is no common consensus among historical linguists, particularly with regard to where EModE ends and Modern English begins" (McIntyre and Walker 2011: 109). To overcome such problems, the authors made a sensible pragmatic choice to include a selection of data from 1500 to 1750 that matches the SW&TP corpus to the extent possible.

During the corpus construction procedure, McIntyre and Walker (2011) made an important methodological observation, namely that it is possible to apply Leech

[1] http://www.lancaster.ac.uk/fass/projects/stwp/default.htm

and Short's (1981, 2007) model of discourse presentation to Early Modern English, a model which organises discourse presentation according to the amount of involvement of the original speaker in the anterior discourse and the person in the posterior discourse presenting what was said in the anterior discourse (Semino and Short 2004: 10). Further, the manual annotation procedure allowed the authors to improve on earlier work on discourse presentation in EModE journalism by extending the categorical inventory of that of Jucker (2006). Although this is a hypothesis-generating rather than a hypothesis-testing study, by quantifying the various types of discourse presentation McIntyre and Walker (2011) point out significant differences between EModE and PdE, such as the fact that overall there is less speech, writing and thought presentation in EModE than in PdE, but also, significantly, that maximal presentation forms occur more in EModE than PdE, while the reverse is true for minimal presentation forms. This suggests that there is more telling (diegesis) rather than showing (mimesis) in EModE, thus indicating a general trend towards less narrator interference. In other words, their study supports the idea that there may indeed be a long-term evolution that affects the ways in which speech, writing and thought are presented in journalistic prose.

Another overall consideration to make in corpus construction is what type of corpus methodology to use, or put more simply, what to search for. Andersen (2011) distinguishes the *form-based* and *function-based* approaches to corpus pragmatics. Under the form-based approach, the point of departure is a previously recognised form (a word, a phrase or a structural pattern, such as English *it*-clefts or *wh*-clefts (Collins 2005)). An example of a form much studied over the last decades is the discourse marker *innit* (Stenström and Andersen 1996; Andersen 2001; Stenström, Andersen and Hasund 2002), which serves functions as tags and as response signals (follow-ups) especially in adolescent speech. Andersen (2001: 139 ff) showed that the invariant British English form *innit* (from *isn't it* or *ain't it*) has an extended function from occurring in tag position as a marker of mutual manifestness (common ground) directed towards the previous speaker's utterance, in addition to its more generally recognised use as a tag question which modifies a proposition of the current speaker. Subsequent studies have uncovered a functional expansion of this form, and especially Pichler (2013, 2016) demonstrated a wider range of functions in more recent data than originally observed. This shows the value of comparisons of forms across different corpora and underlines the need to replicate studies in corpus pragmatics as new comparable corpora become available.

The methodological counterpart, the function-based approach, takes as its basis a particular pragmatic function and describes its possible realisations in actual discourse. This can be exemplified by Torgersen et al. (2011), who investigate a certain class of discourse markers whose "overarching function […] is to (appear to) involve the interlocutor by (appearing to be) eliciting responses indicating that the interlocutor agrees with, remembers, understands or follows the thread" (Torgersen et al. 2011: 96). The forms performing this function included in their study were

right, innit, ok, yeah, you know, *you know what I mean, if you know what I mean, do you know what I'm saying, you get me*. Their analysis is based on the Bergen Corpus of London Teenage Language (COLT; Stenström, Andersen and Hasund 2002) and the Linguistic Innovators Corpus (LIC), which contains transcriptions of recordings made in connection with a sociolinguistic project in London (Cheshire et al. 2008), containing interview data as well as self-recorded conversations. Torgersen et al.'s comparative analysis of these forms in COLT and LIC revealed that the forms *innit* and *if you know what I mean* occur with similar frequencies in both corpora; *ok*, *right*, *yeah* and *you know* are more frequent in COLT; while *you get me*, (*do*) (*you*) *know what I mean* and (*do*) (*you*) *know what I'm saying* are significantly more frequent in LIC. This exemplifies a significant line of research in corpus pragmatics, namely the variationist approach, where different realisations of discourse functions are construed as a discourse-pragmatic variable (Pichler 2016). Other work within this research paradigm has documented innovation in the system of general extenders (a.k.a. set-marking tags, items such as *and things like that*), such as ongoing grammaticalisation in London (Cheshire 2007) and lexical replacement with *and stuff* in other varieties (Denis 2011; Tagliamonte and Denis 2010; Tagliamonte 2016) as well as variability with regard to the use of quotatives (Denis 2016).

The final dichotomy to be mentioned in this section is the crucial division between *corpus-based* vs. *corpus-driven* approaches in corpus pragmatics. This distinction reflects two coherent and complementary ways of using corpora for the study of language use, first laid out by Tognini-Bonelli (2001). In corpus-based studies, researchers study predefined linguistic features based on their assumption that a particular word form or set of forms are known to or likely to be found in a corpus. This assumption is usually based on preliminary observations of the data or hypotheses about a form's occurrence in a particular language variety. Researchers use the corpus to search for this form and to analyse its use and distribution in the corpus. Corpus-driven research, by contrast, is a more inductive and exploratory approach that makes no or minimal assumptions as to which word forms and categories a corpus contains and therefore "differs from the standard practice of linguistics" (Biber 2009: 276). It generally involves calculating frequencies of individual word forms and sequences of words within and across different corpora, thus inductively "exploiting the potential of a corpus to identify linguistic categories and units that have not been previously recognised" (Biber 2009: 278). All corpora lend themselves easily to corpus-based studies, which is methodologically simple in that it involves searching for the relevant forms and the subsequent study of the concordance lines retrieved by the search facility. This method can involve "one-to-one searching" (Ädel and Reppen 2008: 2), where specific linguistic forms are searched for in the corpus, but often needs to be followed by "sifting" of the data, i. e. manually extracting relevant tokens from corpus concordances and discarding irrelevant tokens. Given this relative methodological simplicity, it is not surprising

that most work in corpus pragmatics is corpus-based rather than corpus-driven, and a wide range of studies could have been mentioned (see for instance the studies in Romero-Trillo 2008). However, a recent study by Andersen (2016) shows that the corpus-driven approach is a valuable asset in corpus pragmatics as well. The main advantage of the corpus-driven method is that it avoids the intuition-based selection of members of a certain category as candidates for analysis, thereby providing a more accurate picture of variants and variables that may be undergoing change.

Corpus-driven studies require either direct access to the full set of texts in a corpus, on which statistical operations can be performed, or access to statistical data derived from the corpus, such as word frequency lists, frequency-ranked lists of n-grams (sequences of n words of varying length), or lists of collocations (statistically significant co-occurrences of words; cf. section 2.4). Such data may then be used for instance as basis for comparison between corpora or between sections within one corpus. In other words, the corpus-driven approach is somewhat more technically demanding than the corpus-based approach, as it presumes access to statistical techniques not normally accessible directly from corpus web-sites but which require additional computation. In the case of Andersen (2016), he applied keyness analysis, which is a bottom-up statistical approach, to identify words and sequences of words that are particularly frequent in one corpus and much less frequent or non-existent in another. He performed a comparative analysis of two London corpora (COLT and the London English Corpus) and the result of the comparison made it evident that, within this variety of English, there is innovation in several pragmatic categories, such as the use of interjections, vocatives, text-organising discourse markers like *at the end of the day* and response elicitors. The study also uncovered response elicitor variants that have not been accounted for in Torgersen et al.'s (2011) comparison of the same corpora, mentioned above. Andersen's corpus-driven analysis showed that formal variation in response elicitation is greater than originally proposed by Torgersen et al., and that the envelope of variation should be extended to include a number of forms left out in the original study (*do you get what I mean*, *do you get what I'm saying*, *if you get what I mean*, *if you get what I'm saying*, *you get what I mean*, *you get what I'm saying*). In conclusion, in order to produce fully accountable results, it may be necessary to combine corpus-based with corpus-driven methods, as reliance on the corpus-based approach alone risks overlooking variants not previously documented in the literature and failing to uncover recent additions to the pool of available variants. Although somewhat more technically demanding, the corpus-driven approach is now more accessible through the establishment of large international infrastructures for language resources, such as CLARIN[2], which houses a very large number of corpora and other language resources and makes them available

[2] https://www.clarin.eu/

not just for search but also for downloading and performing statistical operations on them, which can subsequently be used in corpus-driven studies.

2.2. Mode of communication, text type and domain

Having overviewed some of the main methodological considerations, I now turn to a set of factors that pertain to the content of corpora. Different research objectives will lead to the use of corpora representing different modes of communication, i. e. whether we wish to explore the "written" or "spoken" mode. In the written mode, the compilers of the first and second generation of corpora (the Brown family, BNC, ICE, etc.) have made conscious efforts to include as wide a range of genres as possible, including informative and imaginative writing. This connects with another significant dichotomy in corpus construction, namely *representativity* vs. *balance*. The former refers to the extent to which the texts in a corpus actually represent the discourse domains and linguistic distributions of the language variety we aim to describe. In strict statistical terms, a corpus such as the BNC is not a representative sample of the total text production in a language community (Leech 1991, 2007), since there is no way of knowing the extent of the population of possible texts or the distribution between different text types within this population. Further to this, genre taxonomies are sometimes intuitively defined and not based on any well-defined criteria for what constitutes a coherent textual genre. These problems illustrate what has been termed *external representativeness*, which concerns "the extent to which [a sample of texts] is selected from the range of text types in the target population" (Biber 1993: 243), which contrasts with *internal representativeness*, which concerns "the extent to which [a sample of texts] includes the range of linguistic distributions in the population (Biber 1993: 243; on this issue, see also Millar and Biber 2015). Besides, it is clear that a lot of text categories, especially unpublished ones, are never represented in corpora, such as internal documents, memos, reports, brochures, etc. Therefore, although representativity may be an ideal, what compilers of corpora usually aim for is balance between the various text types and linguistic categories that they decide to include. In the case of the ICE-GB, for example, this balance is utilised in a study by Facchinetti (2002), who charts the distribution and semantic and pragmatic values of the modal verbs *can* and *could* in this corpus, showing that statistical discrepancy between the verbs – *can* outnumbering *could* by roughly seven to one – is stable in the various sections of the spoken and written components, while only a handful of written categories show a counter-tendency, notably academic and non-academic humanistic writing, news reports and novels/stories. The study further shows that the two verbs behave differently with respect to the inferences of modality they invite; epistemic modality is by far the least common in *can*, it is the most common modality in *could*; dynamic ability and dynamic possibility account for two thirds of all tokens of *can*, they are much less frequent with *could*, while deontic modality is of sim-

ilar frequency across the two verbs. The differences can in general be ascribed to the modal meanings of the two verbs and their relevance for different types of discourse; "for instance, the intrinsically interactive features of spoken data partly justify the high incidence of deontic and dynamic implication values for both *can* and *could* in this medium" (Facchinetti 2002: 241). Facchinetti's study thus shows how balance between different text types and relevant metadata are of significance in accounting for a linguistic category in corpus data.

However, the quest for balance across text types is challenged by recent societal developments which have altered the very shape of the textual landscape which written corpora seek to represent, most notably the emergence of new genres within computer-mediated communication (CMC) and – doubtlessly concurrent, though much less focused – the gradual decrease of the relevance of some other written categories, letter writing being one obvious example. While the compilers of the first generation corpora could restrict themselves to a finite set of published and unpublished text categories, corpus construction in the internet era has to cater for a wide range of new genres such as text messages, e-mails, blog posts, status updates on social networking sites and web pages (Crystal 2001, 2006). These genres share some features with written texts, such as the need for a physical medium of communication other than the human voice, be it transferred on a computer, a smartphone or an electronic advertising board. But some of the genres, such as text messaging in social media or via an SMS service, contain language that much resembles speech, in that it is highly colloquial, dialect-near and informal. The emergence of new genres poses a challenge in particular to those studies which use corpora to compare the development of a language over time. One branch of corpus linguistics that uses this methodology has come to be termed "short-term diachronic comparable corpus linguistics" (Leech et al. 2009: 24) and involves investigations of comparable corpora which are collected at different times and which together span a shorter period of time than is usual for historical linguistics. One recent study within this paradigm is Baker (2017). He compares all corpora in the Brown family in a study that covers a wide range of features, showing that language use in the 20th and 21st centuries is characterised by broad tendencies towards democratisation and colloquialisation. Democratisation of discourse is observed as a collection of features that suggest that language is becoming less authoritarian and increasingly reflecting equality among people. These features include the tendency to avoid unequal or face-threatening forms such as a shift from use of strong modals (*must, should, shall, will*) towards weak modals (*can, could, might*) and avoidance of formal titles (e. g. *Mr* and *Mrs*). Colloquialisation (informalisation) refers to the tendency for written language to follow spoken language norms and thus appear more informal, including the increased use of active verbs at the expense of passives, more use of first and second person pronouns and increased frequency of colloquial forms such as *kids, guy, okay, kind of*, etc. At the same time, Baker is reluctant to claim that British English is necessarily adapt-

ing American norms (Americanisation), as has been alleged, but rather subscribes recent changes to parallel developments in the two varieties.

With regard to corpus construction, it is of course a tremendous advantage to have available this suite of corpora that have been compiled at different times using exactly the same sampling frame, not least evidenced in the study by Leech et al. (2009). But it remains a problem that the youngest members of the Brown family of corpora fail to capture language usage within the new CMC genres. This is especially true since much of present-day language change appears to be fuelled by these new genres, such as the emergence of a new acronym-based vocabulary in expressions such as *lol* and *wtf* and the rise of emoticons and emojis as a new mode of attitudinal expression. In fact, it does not seem unreasonable to claim that the trends of democratisation and colloquialisation that Baker is describing appear precisely to be inspired by or even accelerated by these new CMC genres, where the threshold for user participation is so much lower than in the traditional printed media. Recent work has shown that the CMC genres also pose new technical challenges to corpus construction, for instance regarding how to deal with duplicate texts, mass mailing and attachments to emails (Deutschmann et al. 2009). The field of CMC is now maturing and after its "first wave" of studies concentrating on the "features and strategies that are (assumed to be) specific to new media" (Androutsopoulos 2008: 1), studies in the "second wave" acknowledge that CMC increasingly takes place on mobile platforms and therefore concentrate on "situated language use and diversity" (Androutsopoulos 2008: 1). It has thus become necessary for some researchers to investigate datasets that transcend the traditional spoken/written divide but which are so-called "heterogeneous corpora" that incorporate "not only text-based records but also video, audio and field notes" (Adolphs, Knight and Carter 2011: 315) in order to capture the full complexity of language users' linguistic experience.

Not only has there emerged a set of new genres in corpus construction which challenge the idea of genre balance over time (Renouf and Kehoe 2013), but one could in fact argue that the whole idea of conventional genre classification is set in motion in our (post-) postmodern society. The notion of text categorical balance is tied up with another significant dichotomy in corpus construction: the distinction between *static* vs. *monitor corpora*. While the corpora described thus far are static, providing a snapshot of a language variety at a certain point in time, one of the mega-trends in corpus construction gaining speed around the turn of the millennium has been the development of large monitor corpora (Renouf 2007), which use a continuous sampling method by which the corpus is augmented with new texts at regular intervals, yearly as with the Corpus of Contemporary American English (COCA; cf. Davies 2009) or daily, as with the Norwegian Newspaper corpus (NNC; cf. Andersen and Hofland 2012). Several of these monitor corpora are internet-based, using web crawler technology, such as the NNC and WebCorp LSE (Renouf and Kehoe 2013). Such monitor corpora allow for studies of lin-

guistic innovation, including lexical innovation, based on continuously updated data (Gabrielatos et al. 2012). It should also be pointed out that the emergence of internet itself has triggered a discussion of whether the web is indeed a corpus and how it can be approached and analysed as such (Kilgarriff and Grefenstette 2003).

This approach links to another crucial parameter in corpus construction, namely whether the corpus is designed to account for *diachrony* or *synchrony* in the documentation of a language. Diachronic corpus studies entered the stage with the launch of the Helsinki corpus in the early 1990s (Rissanen and Tyrkkö 2013) and has been supplemented with other significant corpora such as the ARCHER corpus (Biber, Finegan and Atkinson 1994) and the Corpus of Historical American English (COHA). Jucker and Taavitsainen (2014) use the historical COHA corpus and the contemporary COCA corpus in a diachronic study of compliments in a time window from 1810 to 2010. Using an approach called "metacommunicative expression analysis" (Jucker and Taavitsainen 2014: 257), by which speech acts are searched for not via overt expressions but via expressions which talk "about" particular speech acts, the authors show that a crucial distinction must be drawn between ceremonious and personal compliments, and that, contrary to claims often made in the literature, in their corpus, compliments are more often paid and received by men rather than by women.

With regard to the content of corpora, yet another dichotomy can be distinguished in corpus construction, between *genre-diverse* and *monolithic* corpora. As has been suggested above, the large and balanced reference corpora incorporate a wide variety of genres. However, it is often purposeful to construct categorically monolithic corpora in order to zoom in on the language use of a particular genre. Especially the language of newspapers has been widely documented (Renouf 2007; Andersen and Hofland 2012). Compilers of such corpora are keenly aware that journalistic text does not represent the totality of language use, but, as Renouf and Kehoe (2013) argue, "[t]here are cases where it is appropriate to look at newspaper data only […] [since] newspapers are usually at the forefront of linguistic change, so [they] are promising starting points for the study of neology and productivity" (Renouf and Kehoe 2013: 181). It has also become customary to document new web-based genres with monolithic corpora, as with the Birmingham Blog Corpus (Kehoe and Gee 2012) and the Networks of Texts and People (NTAP) corpus, where a computer crawler looks for daily updated blog posts on climate change discourse in the blogosphere (Salway et al. 2016). In an earlier investigation, Halverson (2012) found that a monolithic corpus, namely the Norwegian Newspaper Corpus, was appropriate for the study of metonymic extension and vagueness. She looked into how new metonymical uses of place names, such as *Kyoto* and *Schengen*, are utilised to refer not to the places themselves but to events located there or to the participants or results of such events. Such metonymic uses also exhibit signs of vagueness between different metonymic readings, although only in a minority of the cases, and an interesting observation is made in that the meto-

nymic uses by far outnumber the literal uses of such place names in contemporary newspaper discourse.

The content of corpora is also distinguishable with regard to domain, since corpora may cover *general* or *specific* language use. While the large reference corpora often contain parts that cover specific domains such as BNC's sections with informative writing in the arts, social sciences, commerce and finance, etc., it is also customary to construct domain-specific corpora that allow researchers to explore language usage within particular scientific domains and to study academic, legal or professional language (Connor and Upton 2004; Flowerdew 2002). Much of this work places itself within the branches of Language for Specific Purposes or Applied Linguistics. In one study, Walsh, Morton and O'Keeffe (2011) investigate the Limerick Belfast Corpus of Academic Spoken English (LIBEL) and show how a set of recurrent multiword units in academic language play a crucial role as markers of discourse aimed at orienting the hearer. Expressions such as *as I was saying*, *what you can do is*, *do you think you could*, etc. are used to "signpost, manage, demonstrate, sequence, set up activities/groups and they mark out shared and new knowledge" (Walsh, Morton and O'Keeffe 2011: 332). Their study is methodologically interesting in that it combines corpus linguistics with conversation analysis, which is an innovative approach to features of spoken academic discourse.

Finally, the construction of spoken corpora raises a number of issues pertaining to the selection of speakers (cf. section 2.3) and the interface to data (section 2.4). With regard to content, it is worth pointing out that conscious efforts have been made to classify spoken interaction according to a number of parameters, in the spoken component of the BNC and in subsequent corpora. Ideally, a general spoken corpus should contain as wide a range of usage contexts as possible, although the problem of representativity, mentioned at the beginning of this section, is certainly no less present in the case of spoken corpora. In fact, as argued by Čermák, "the problem of what should be included [in spoken corpora] has hardly ever been considered" (2009: 113). In order to achieve a comprehensive and balanced coverage of spoken data and for spoken corpora to become a true counterpart of the large written corpora, he argues, we need to identify relevant parameters that aim towards representativity of the population of speech events from which they are sampled. His typology incorporates a set of twelve design criteria (in addition to traditional demographic factors such as speaker age, regional background, etc.; cf. section 2.3). These include origin of the text, whether it is originally spoken or written (as in the case of a read manuscript), dialogue or monologue, the proximity of partners (friends/family vs. no proximity), private vs. public speech, interactive vs. unidirectional (as in the case of lectures), spontaneous vs. prepared (scripted) text, casual vs. official contexts, etc. However, it remains to be seen what implications this proposed typology has for practical work in corpus construction and for the costs and efforts associated with this task.

2.3. Language and demography

We now turn to what we might consider as the sociolinguistic factors associated with corpus construction, i. e. factors which pertain to the linguistic and cultural background of the speakers/writers represented in a corpus. First of all, corpora may be *monolingual* or *multilingual*, where the latter can be further distinguished into *cross-lingual* corpora with comparable data from different languages or *parallel* corpora which contain texts and their translations into other languages. The studies reported above deal with (mostly English) monolingual corpora. Contrastive language studies are valuable because they shed light on what is specific and what is more general or even universal in language use. Such studies may be based on corpora with comparable sections representing different languages. One such corpus is the KIAP corpus (Fløttum et al. 2009), which contains research articles across three disciplines, economics, linguistics and medicine, in three languages, English, French and Norwegian. This corpus has triggered text-linguistic and discourse-analytical research that looks into how authors manifest themselves in academic discourse. This research into scientific language shows that discipline is more important than language in the identification of authors' cultural identities. To exemplify, the medical researcher is seen as textually "rather absent […]", the economist as "somewhat present but in a modest way […]", and "the linguist as clearly and polemically present in the text" (Fløttum et al. 2009: 141).

Contrastive work may also span several corpora representing different languages, such as Defranq and De Sutter's (2010) work on the intersubjective function of equivalent expressions in Dutch, English and French. They focus specifically on so-called "contingency hedges" (Defranq and De Sutter 2010: 183), e. g. the verbs *depend* in English, *dépendre* in French and *afhangen/liggen* and a modal form *zien* in Dutch. The authors demonstrate that these verbs cross-linguistically show similar signs of decategorialisation, having become markers of intersubjectivity, but not all to the same extent, and that the choice between the Dutch verbs depends on regional and functional parameters. A similar cross-corpus comparative approach is taken by Drange, Hasund and Stenström (2014) in their study of a highly specific type of swearing that is found cross-linguistically in adolescent speech, so-called "swearing by mum". They investigate this feature in three corpora, COLT (cf. section 2.1) representing London English, COLA representing Spanish speakers from Madrid and UNO representing Norwegian speakers from Oslo (Drange, Hasund and Stenström 2014: 37). Demonstrating a certain degree of cross-linguistic similarity and some statistical differences and cultural-specific patterns, this study illustrates the value of comparable corpus construction. The three corpora have been created using the same sampling frame, COLT serving as a model for the other two. The only crucial difference is time, which the authors problematize and consider not to be a major obstacle for comparison in their case, since "the swearing repertoire of a given language community changes very slowly"

(Drange, Hasund and Stenström 2014: 37; cf. also Fjeld 2002 and Ljung 2011). In contrast, the issue of corpus comparability does pose a problem for Defranq and De Sutter (2010), who acknowledge that their corpora are not fully comparable, in that the Belgian French corpus mainly contains interview data, as opposed to the spoken part of the BNC, and the Corpus of Spoken Dutch. In other words, it cannot be ruled out that observable differences may be a reflection of different sampling strategies applied in the corpus construction.

A variant of contrastive studies compares not *different languages* but *varieties of the same language*. Most such studies have compared the two "super-varieties" (Collins and Yao 2013: 479) of English, namely British and American English, such as Tottie's (1991) work on backchannels and Tottie and Hoffmann's (2006) work on tag questions, but there are also studies which compare peninsular vs. Latin American Spanish (Placencia and García 2007), hexagonal vs. Québécois French (Dostie 2009), etc. The compilation of the ICE corpus has facilitated the study of a much wider set of language varieties. Collins and Yao (2013) use ten of the ICE corpora in an exploration of colloquialisation in world Englishes with regard to a set of grammatical variables including contracted vs. full forms of verbs, use of quasi-modals such as *gonna*, *gotta* and *wanna*, and *let's* imperatives as markers of directive illocutionary meaning. A consistent pattern of variation emerges from their study: the South-East Asian (SEA) varieties of English (Singapore, Philippines, Hong Kong) are moving closer towards the colloquialisation known to characterise the so-called inner circle varieties (BrE, AmE, CanE, AusE, NZE) than the two non-SEA varieties (India and Kenya). The strength of this research methodology stems directly from the major advantage of having a set of similarly constructed corpora using the same sampling strategy as evidenced by the ICE corpus project.

Further, the construction of parallel corpora has triggered much research, although pragmatics has not been its prime focus. In a collection of papers that look into pragmatic markers contrastively by Aijmer and Simon-Vandenbergen (2006), several contributions are based on parallel corpora, such as Hasselgård's (2006) comparison of Norwegian *nå* and English *now* in the English-Norwegian Parallel Corpus (ENPC) and Johansson's (2006) work on the translation of English *well* in the ENPC and the Oslo Multilingual Corpus. A more recent study which explores parallel corpora in a contrastive functional analysis is Ebeling and Ebeling (2013). They consider Sinclair's idea that a lexical item is characteristically an "extended unit of meaning" (Sinclair 1996), rather than an individual word, and how this is evident in translations. Their contrastive analyses incorporate a range of phraseological items in English and Norwegian, and they conclude that "translators strive for both idiomaticity and sameness of meaning along as many dimensions as possible" (Ebeling and Ebeling 2013: 217), i. e. not only with regard to the semantic denotation of a word. These dimensions include the semantic prosody or attitudinal discourse function of words, as conceptualised in Sinclair's model.

Ebeling and Ebeling's (2013) study marks an important shift in the study of Sinclairian pragmatics and the corpus-based study of phraseology, in introducing the cross-linguistic study of semantic prosody.

The next parameter to be considered concerns the selection of speakers on the basis of *demographic factors* such as gender, age, educational level, region, socioeconomic background and ethnicity. These factors constitute metadata that is not always explicitly coded in spoken corpora, but they are nevertheless essential in studies located at the intersection between corpus linguistics and sociolinguistics (cf. Andersen 2010; Baker 2010 for methodological accounts), within the socio-pragmatics or variational pragmatics paradigm (cf. Schneider and Barron 2008; Andersen and Aijmer 2011; Murphy 2012). One topic which has received much attention is the use of tag questions (Andersen 2001; Stenström, Andersen and Hasund 2002; Tottie and Hoffmann 2006; Pichler 2013; Kimps, Davidse and Cornillie 2014; Barron, Pandarova and Muderack 2015). A fresh approach to tag questions is taken in a recent study by Kimps (2016), which offers a detailed functional and prosodic analysis of tag questions in three corpora, COLT, LLC and ICE-GB. She considers whether there are particular functions that are associated with particular speakers or corpora. Among a wide range of findings, Kimps shows that there are observable effects of age with regard to the functional variability of tag questions. Young speakers below the age of 18 show preferences for tag questions used as responses, and to some extent also use tag questions to denote desired actions, more so than adults, while tag questions with questioning functions are significantly more typical of speakers between 18 and 45, or older (Kimps 2016: 191). Further, the study shows that the impact of gender on the choice of tag questions is minimal. This is an interesting observation, especially in light of earlier sociolinguistic studies on tag questions, much of which "has concentrated on the different speech style of men and women" (Kimps 2016: 193). Kimps' work is methodologically significant because it introduces a very comprehensive functional apparatus for the analysis of tag questions in terms of their speech function and attitudinal stance.

Finally in this section, spoken corpora aiming at the documentation of a certain language variety will mostly select *native speakers*, but in other studies it is purposeful rather to document the use of *language learners*. Learner corpus research has been gaining ground the last couple of decades (Hasko 2013). The corpus-based study of authentic collections of spoken or written learner language has been used by scholars concerned with language acquisition and pedagogy (Aijmer 2009; Granger 2009), with a view to studying learner behaviour including, but certainly not limited to, errors made by learners. A special feature of corpus construction applied in learner corpora is the comparison of learner data with a baseline corpus containing similar texts (e. g. student essays) written by native speakers. A recent study by Paquot (2013) uses this methodology to chart the collocational and colligational preferences of French EFL learners in the International Corpus of Learner English (ICLE), and compares them with nine other ICLE learner sub-corpora.

She finds that, among the features that appear to be transferred from the learners' first language are discourse conventions such as French *on peut dire* that boosts "French-like" English phrases such as *we may wonder* and *we can wonder*, as well as other cases that display "French-speaking novice writers' reliance on phraseological cascades including *je dirais* to conclude their argumentative essays" (Paquot 2013: 409).

2.4. Access to data, transcription, annotation and statistical methods

In this final subsection, I address issues in corpus construction which are more technical in nature, especially regarding the construction of spoken corpora (cf. also Culpeper and Archer this volume). There are different ways in which spoken data can be made accessible in corpora, and we can distinguish between *text-based* and *multimodal* spoken corpora. All speech corpora, from the ground-breaking London-Lund Corpus (Svartvik 1990) onwards, contain texts with transcriptions of speech. More recently compiled corpora are sometimes multimodal, in that they also give users access to audio and/or video files containing the conversations (Andersen 2010). This has an obvious advantage, especially to research in corpus pragmatics, which in many contexts requires "a holistic approach to language data, in which all aspects of an utterance are investigated" (Andersen 2011: 598). COLT was among the first corpora to make audio data available to its users, and sound files aligned with their transcriptions are now accessible as part of the large, international CLARIN infrastructure.[3] The use of video data allows for not only the concurrent study of words and acoustic features such as intonation, but it may also enable the detailed study of gestures, facial expressions, movements and posture, which also play prominent roles in communication. However, the access to video data has obvious consequences for privacy protection of the speakers; this may be an obstacle to research, and it can be argued that "the utilisation of video material in corpus-based pragmatics is still in its infancy" (Andersen 2011: 598).

But even the transcription of a spoken corpus raises crucial methodological issues. In a recent special issue focusing on this topic, Kirk and Andersen (2016) stress that, although fairly well-established conventions exist for how to transcribe speech, transcriptions "amount to no more than selections of linguistic features from what through utterances was intersubjectively communicated. Transcriptions are abstractions from – or 'idealisations' (Cook 1995: 38) about – a given utterance" (Kirk and Andersen 2016: 291). The special issue aims to take a step towards best practice in corpus transcription and annotation. One contribution shows, for example, that subjectivity is a general feature of transcription. Andersen (2016) compares COLT and the London English Corpus, and the comparison unveils a

[3] http://clarino.uib.no/korpuskel/landing-page?identifier=colt&view=short

series of corpus-internal as well as corpus-external differences that are due not to genuine differences between the two corpora or user groups within them, but due to inconsistent patterns of transcription. The differences pertain to the transcription of what Andersen calls "semi-lexical features" (Andersen 2016: 324), namely voiced pauses, interjections, response signals, certain discourse markers and phonological reductions, categories which were all characterised by considerable inconsistency in their transcription in the two corpora. On the other hand, colloquialisms and dialect forms were much less problematic, as they seemed to involve word forms where conventional orthographies prevail. Thus, Andersen concludes, a lot can be gained by better standardisation in English corpus transcription.

Among the most valuable features of corpora is that they are commonly augmented with layers of annotation of various types of linguistic information, such as the word class of individual words, the lemma each word form belongs to, and the syntactic structure, which is the output from automatic parsing of the sentences in the corpus (Nelson, Wallis and Aarts 2002). Of particular importance to corpus pragmatics is *prosodic annotation*, which is necessarily laborious, but which was quintessential to Kimps' (2016) study of tag questions, mentioned above. For two of the corpora, COLT and LLC, Kimps could rely on existing annotation of tone units, stress and intonation that was available as text files in the corpora. The two corpora have similar annotation systems that are based on Crystal (1969), which was strongly influenced by Halliday's (1967) system for prosodic analysis. Spot checks made by the author suggested that the transcriptions were accurate (Kimps 2016: 42). For ICE-GB, however, Kimps had to do the prosodic analysis of the tag questions in the dataset. The methodological value of having access to transcription is also obvious from a study by Kjellmer (2009). He considers it a major drawback that the corpus he is using in his study of backchannels, the spoken component of the Cobuild Direct corpus, does not contain prosodic annotation, "which, if given, would have disambiguated a number of occurrences" (Kjellmer 2009: 85). Another recent study that benefits greatly from prosodic annotation is Lin (2013). Based on the IBM/Lancaster Spoken English Corpus, this is an innovative study in that it examines the prosody of formulaic language, showing that "[w]hether a formulaic expression receives the nucleus in its immediate context depends on is position in the intonation unit, its 'holisticity', 'pragmatic meaningfulness' and 'predictability'" (Lin 2013: 580). In other words, prosody plays an important part in determining the status of formulaic expressions. Further, among the types of annotation that pertain most directly to corpus pragmatics is *discourse-pragmatic annotation*, which like prosodic annotation requires extensive manual work. Although still in its early stages with regard to its exploitation in corpus pragmatics, such systems have been developed and utilised not least in the context of the Irish component of ICE, thanks to the effort of John Kirk and his colleagues (Kallen and Kirk 2012). The SPICE-Ireland scheme has annotations enabling the search and retrieval of speech act types (directives, expressives), discourse markers, tags, quotatives, etc.,

and the system may well serve as a model for similar annotation pursuits in the future. Another dimension of pragmatic annotation is introduced by Rühlemann and O'Donnell (2012), mentioned above, who propose a system for the annotation of narrative structure in discourse.

The final issue, to be dealt with briefly, concerns the ways in which corpora can be explored via quantitative techniques. Such techniques have been utilised widely in other branches of linguistics, including phraseology, lexicography and terminology research, but are now also gaining ground in corpus pragmatics. As suggested in the discussion of corpus-driven approaches in section 2.1, in state-of-the-art corpus linguistics it is necessary to allow users to go beyond the method of searching corpora to facilitate a range of statistical analyses. This entails that in corpus construction one should ideally make the corpus texts available for users to perform statistical operations on them, or produce downloadable statistics which users may subsequently explore. The range of statistical corpus methods includes the analysis of word frequencies, n-grams, collocations and keyness. For example, Clancy (2011) uses frequency analyses to "elucidate the benefits of synergy of corpus linguistics and variational pragmatics" (Clancy 2011: 371) in an analysis of hedging behaviour in two different home/family environments with data drawn from the Limerick Corpus of Irish English. One family represents the middle class mainstream culture and is contrasted with a family representing the Irish Traveller Community. This study illustrates how frequency comparison can highlight differences between the two speaker groups with regard to hedging expressed through markers such as *like, I think, just, you know* and *actually*, showing that "[t]he Traveller Community exhibits some of the characteristics of East Asian collectivist cultures" (Clancy 2011: 382). Another method that requires more sophisticated calculation than a simple frequency analysis is the analysis of *collocations*. Two words are said to collocate if they occur in combination more often than would be expected given their individual frequencies (e. g. Sinclair 1991; Sag et al. 2002; Lyse and Andersen 2012). Collocations are identified by means of a statistical measure of association between words, such as the Mutual Information score, which reflects the collocational strength of two (or more) words seen from their position in a ranked list of collocations. This is a method that is far less exploited in pragmatics than its usefulness should suggest (but see Trommer 2011). In a recent study, Andersen (2016) argues that many types of pragmatic innovation are to do with the combination of existing word forms in new and innovative ways. This can be seen, for instance, in the emergence of the expression *you get me* used innovatively in London English with an interactional function akin to *you know what I mean* (Torgersen et al. 2011). The reason why collocations are particularly relevant in the context of corpus pragmatics is that pragmatic analyses often entail the grammaticalisation and reanalysis of particular forms which take on new pragmatic functions. Grammaticalisation necessarily leads to changes in the combinatory possibilities of words and the degree to which particular words combine.

The emergence of a new discourse marker such as *you get me* has an inevitable effect on the collocational behaviour of its constituent parts, *you+get+me*, which can be seen to occur with increasing frequency as a result of its reanalysis into a discourse marker once it catches on among the speakers in a community. Thus, corpus pragmatics can gain a lot from a more systematic study of collocations, and corpus constructors should make it possible for researchers to access collocation data, and not just access the corpus via a search interface. Yet another statistical method, the analysis of keyness, briefly touched upon in section 2.1, refers to word forms that are used uniquely or significantly more frequently in one corpus (or section of a corpus) than in another. These can be said to represent the "aboutness" of a corpus in terms of its cultural or topical characteristics or its stylistic features. The method is used in a study of the language of television by Bednarek (2012), who shows that emotionality, expressed through "key" trigrams (sequences of three words) such as *no no no*, *what the hell* and *oh my god*, is a crucial "defining feature of the language of television, cutting across individual series and different television genres" (Bednarek 2012: 59). Use of the keywords analysis has been especially salient in the study of political discourse (Johnson, Culpeper and Suhr 2003; Baker 2004; Archer 2009) and in corpus stylistics, where keywords are seen as important markers of style. Examples are Culpeper's (2009) study of character talk in Shakespeare's *Romeo and Juliet* and Fischer-Starke's (2009) study of Austin's *Pride and Prejudice*, which shows that this research methodology has a potential to "[uncover] meanings that are not discussed in literary critical secondary sources" (Fischer-Starke 2009: 492).

3. Concluding remarks

In the preceding section I have chosen to present previous research and procedures in corpus construction as a series of dichotomies, such as corpus-based vs. corpus-driven studies, representative vs. balanced corpus, etc., and shown how various studies in corpus pragmatics have contributed new insights into language use by exploring corpora that were constructed according to different selective processes. Some general issues are worth addressing at this time. From the above discussion, an important lesson to be learnt is that, despite the availability of a wide selection of ready-made corpora, embarking on a corpus construction process for the purpose of a specific research project in corpus pragmatics (and beyond) may well be worth the effort. A study such as McIntyre and Walker (2011) showed that it may be fruitful to build and annotate a new corpus specifically designed for a particular research objective, in their case in order to zoom in on a particular period of English writing. Another overall observation is that corpus pragmatics research is fundamentally interdisciplinary in its nature (Murphy 2012), and the corpus linguistic approach provides an adequate methodological link to neighbouring dis-

ciplines such as political discourse studies, literary studies and sociology. Some of the research also stresses the need for a holistic approach to data that requires access not just to transcriptions but to audio or video recordings, and for "more fine-grained explorations of corpora, where indeed the corpus is small and lends itself to such analyses" (Murphy 2012: 344). Yet other work highlights the need to make more use of sophisticated statistical techniques in corpus pragmatics, which have a great potential for unveiling pragmatic innovation and allowing for fuller accountability of the data (Andersen 2016). A crucial methodological issue that has only to some degree been focused in corpus pragmatics is the replicability of studies. With regard to corpus construction, this means that compilers of corpora must document their choices and procedures in research articles or as published guidelines, showing for instance the choices made in the transcription procedure (Kirk and Andersen 2016). There are also other issues in corpus construction that would merit a fuller discussion than this chapter allows for. One problem that is yet unresolved for corpus linguistics is the study of absence, which relates to the charge that is sometimes made against corpus linguistics that it cannot deal with information not to be found in a corpus. As Partington (2014) puts it, "[corpus linguistics] may have much to say about what is present in the corpus being examined but it cannot enlighten us about what is absent, what is not found therein" (Partington 2014: 119), a criticism raised by proponents of Critical Discourse Analysis (cf. discussion in Baker 2005). Another big issue is the relation between corpus pragmatics and theoretical pragmatics and, by extension, whether corpora can be used systematically to the study of implicit meaning. This is pointed out by Larrivee and Duffley (2014), who state that, "[w]hile corpus pragmatics has been pursued for the study of particular items […] and for more general pragmatic phenomena such as speech acts, […] implicatures, presuppositions and similar pragmatic phenomena remain to be investigated more fully with regard to their actual occurrence in real language use" (Larrivee and Duffley 2014: 544). This raises a fundamental question of how hypotheses about language grounded in pragmatic theory, such as the principle of relevance, can be tested on the basis of corpora. These are challenges that are not to be taken lightly and which will likely shape the future discussion of theory and methodology in corpus pragmatics in the years to come.

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20. Corpus annotation[1]

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Abstract: The corpus-based method does not seem to promise much reward for pragmatics research, given its typical focus on form. The practice of annotating corpora for pragmatic phenomena has not been prominent in the budding field of corpus pragmatics either. In this chapter, we therefore argue for and demonstrate the unrealised potential afforded by pragmatic annotation, especially for macro, interactional and social areas of pragmatic research. We discuss the nature of corpus annotation, the issues of segmentation and implementation, and the current state-of-the-art with regard to pragmatic annotation schemes (especially for dialogue). We also reflect on promising areas of future development.

1. Introduction

This chapter concerns the addition of explicit interpretive information to a corpus of electronic language data, usually in the form of tags or codes, to assist in the analysis of pragmatic phenomena. Nearly ten years have elapsed since our last attempt, along with Matthew Davies, to crystallize the world of corpus annotation and pragmatics into a handbook chapter (cf. Archer, Culpeper, and Davies 2008). Back then, we noted that pragmatics and corpus annotation lagged behind work on other annotation aspects, notably, grammatical annotation. In fact, even some of the schemes purporting to be "pragmatic annotation" schemes were prioritising units that are more lexical or syntactic than they are pragmatic (e. g. anaphors, modal verbs). That said, there had been some progress in developing annotation schemes which focused on interactional pragmatic entities such as the act, and/or the exchange, or on relevant aspects of context (e. g. Stiles 1992; Carletta et al. 1997b; Core and Allen 1997; Archer and Culpeper 2003). Since 2008, the academic landscape has experienced some near seismic shifts, thanks to the development of corpus pragmatics. Hence, the inclusion of corpus-related chapters in this pragmatics and methods volume. Other notable works in the area of corpus pragmatics

[1] We pitch this chapter as an update to our 2008 paper on pragmatic annotation. Some of the summaries of the pre-2008 literature in that paper are re-used here. This is notably the case for paragraphs that appear here as part of section 3, many with little change. We gratefully acknowledge Matthew Davies's contribution in bringing the original 2008 paper into existence.

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include Romero-Trillo (2008), Jucker, Schreier and Hundt (2009), Taavitsainen, Jucker, and Tuominen (2014) and Aijmer and Rühlemann (2014). A commensurate increase in the attention given to pragmatic annotation has not materialized to date, however. Consider the two most recent collected volumes on the topic of corpus pragmatics. Pragmatic annotation gets no specific chapter in Taavistainen, Jucker and Tuominen (2014) and a single chapter on "speech act annotation" (Weisser 2014a) out of the sixteen in Aijmer and Rühlemann (2014).

The vast majority of extant corpus pragmatics studies have formal features with pragmatic import (i. e. pragmalinguistic material) as their starting point and/or primary focus. Although an important area of pragmatics, this bias matches the bias of computer searches towards form (be it a letter, string of letters or words), and the tendency within corpus linguistics to concentrate on the relationships between those forms (i. e. text and co-text) at the expense of the (situational, social and cultural) dynamics of context, particularly at the local, micro level. This bias tends to mean that more global, macro areas of pragmatics, and especially the area of sociopragmatics, are neglected or made to be secondary concerns, not least methodologically. This situation need not be so. Pragmatic annotation offers a method by which we can tackle such areas directly, as this chapter will demonstrate.

The field of corpus pragmatics is obviously interdisciplinary. As this chapter sits in a pragmatics volume, our own bias will be towards pragmatics, not corpus linguistics. Our main question is: what can corpus annotation methods do for pragmatics, and how? In some cases, and specifically to help move the field forward, we will discuss areas of pragmatics that have the *potential* to be explored through corpus annotation methods, and not simply studies that have already been undertaken using pragmatic annotation. We will not engage with computational pragmatics, the neighbouring field of corpus pragmatics, in this chapter, because of its different research agenda compared with mainstream pragmatics. Simply put, computational pragmaticians are interested in "getting natural language processing systems to reason in a way that allows *machines to interpret utterances in context*" (McEnery 1995: 12, our emphasis); in other words, in building "artificial agents that can carry on conversations with humans in order to perform tasks like answering questions, keeping schedules, or giving directions" (Jurafsky 2004: 579).

The remainder of this chapter is organized into four sections. The first outlines some of the general aspects of pragmatic annotation, such as segmentation. The second considers annotation schemes for interactional phenomena, such as speech acts. The third considers annotation schemes for contextual phenomena, such as the gender or social status of the participants. Note that the separation of interactional and contextual reflects the emphasis of the schemes we review; in practice, there is much overlap, and indeed a few schemes explicitly consider themselves to be mixing both. The fourth section looks at the potential of new developments,

especially in corpus methods, to further the pragmatics research agenda. In writing the third section, and to a lesser extent section 4.1, we will re-use some of the literature summaries that appeared in our 2008 publication (Archer, Culpeper and Davies 2008).

2. Corpus annotation: Two key issues

Leech's definition of corpus annotation is "the practice of adding **interpretative, linguistic** information to an electronic corpus of spoken and/or written language data" (1997: 2, original emphasis). As this definition highlights, there are no dark arts involved in corpus annotation. Rather, it can be as simple as going through a text with a highlighter (electronic or otherwise), and highlighting every instance of, for example, a request (where our interest is exploring requests). If we did this for several texts in a corpus, we would be doing corpus annotation of a pragmatic kind. Highlighting a text manually is not an optimal way of annotating, however, if we wish to retrieve those annotations easily, using computers. For that reason, it is more usual to add characters to an electronic text. The angle-bracket tags of XML offer an easy solution, with a "switch-on" tag followed by a "switch-off" tag, allowing a segment of text to be annotated with a code. Example (1) provides an illustration:

(1) Barry: <req>Can you bring me a <pause> pint of lime and lemon <pause>
with some i– lots of ice?</req>
Ken: Yeah, course I can.
Barry: Cheers, thanks.
(BNC, spoken demographic)

Thanks to such "structural mark-up", it becomes relatively easy to "pull out" examples of requests automatically, and examine their contexts via concordance lines, and so on. It must be noted, though, that even an apparently simple annotation scheme, such as this, encounters two knotty issues: how to segment the data into pragmatic units, and how to consistently categorize those pragmatic units.

2.1. Segmenting language data into pragmatic units

Segmenting language into pragmatic units is a prerequisite for applying interpretative tags. Scholars who annotate words or grammatical features have it relatively easy compared with the pragmatics scholar, because those units have more definite and consistent formal correlates and thus are easier to segment. For example, words have written orthographic correlates: "a string of uninterrupted non-punctuation characters with white space or punctuation at each end" (Leech, Rayson and Wilson 2001: 13–14). Such orthographic word entities are relatively definite and

tangible, and, moreover, a computer can find them. This is not to say that even with a "word" things are totally straightforward, as we must decide whether pause-fillers such as *er* and *erm* should be treated as "words", and whether open compounds or phrasal verbs should be classed as one word or more.

The problems we encounter in pragmatic segmentation will partly depend on the nature of the pragmatic unit and our ability to identify it. Many pragmatic annotation schemes orientate to the pragmatic unit of the speech act. Pragmalinguistic features seem to offer a means of identifying pragmatic phenomena such as speech acts, and perhaps even give clues as to their boundaries. A word such as *please* or a structure such as *Can you* [*VERB X*]? can be found relatively easily with regular expressions, and then annotated with whatever pragmatic value it is conventionally associated with (here, in both cases a request). The latter example, *Can you* [*VERB X*]?, also seems to give some boundary clues: *can* occurs at the beginning and a question mark occurs at the end. However, despite Searle's (1969: 30) claim that such interrogative structures count as "inference triggers" for requests, much depends on how conventionalized an expression is for a particular pragmatic phenomenon to be triggered. Culpeper and Gillings (2018) report that in their BNC2014 data only 21 of their randomized sample of 100 hits for *can you* – and we should bear in mind that Searle's paradigm example of an indirect request is "can you pass the salt?" – could be clearly construed as requests, as opposed to literal questions about somebody's ability to do something. In other words, a computer operating with the form "can you" alone is unlikely to reliably identify requests. This is not to decry the status of interrogative, and other pragmalinguistic forms, as inference triggers; a human may well comprehend a *can you* expression as a request inference trigger in relevant contexts (e. g. somebody known to like an excess of salt in their food is seated out of reach of the salt).

A further problem is that speech acts are not only not straightforwardly identified or limited by pragmalinguistic expressions. In fact, they often are not even wholly confined to the utterance in which the pragmalinguistic expression resides. Consider example (1) and the utterances that follow it. They are connected to Barry's opening requestive utterance containing the conventional *can you* structure. Ken signals compliance with the request, and then Barry offers a follow-up polite acknowledgement. This kind of triple conversational move is part of what makes requests *requests*. An even clearer general example is the pre-request. Barry might have initially said, "Are you going to the bar?" Such pre-requests are closely associated with head requests: so much so that the addressee knows, very often, what the full request is before it is performed in full. An annotation scheme, if it is to do complete justice to requests, would need to connect all these parts up. In particular, a pre-request would need to be connected to the head request. This is not impossible to do, and indeed we will review one annotation scheme that does this at the beginning of section 4.1, though it is clearly beyond current automated annotation possibilities.

Thus far, we have assumed that one chooses a pragmatic unit and then proceeds to segment the data accordingly. A more inductive approach would be to let the nature of the pragmatic unit be determined by the nature of the data. One could do this in an informal way. Dialogic data is clearly comprised of conversational "turns", an obvious unit to use for segmentation. However, a group of corpus linguists have developed an inductive, data-driven approach for identifying discourse segments within academic discourse (see, for example, Biber et al. 2004; Csomay 2005). Essentially, it works by comparing the first 50 words of text with the next 50, and then calculating a similarity value. The process is then repeated (i. e. the following 50 words are compared with the next 50), as needed, after which similarity scores can be plotted. Where there are troughs in the plot, that is, points of less similarity between two 50-word segments, they become possible candidates for marking discourse segment boundaries.

2.2. Implementing the annotation scheme

In 2008, we pointed out that pragmatic interpretations, leading to the implementation of a functional tag, such as a speech act, require a complex synthesis/understanding of contextual information that is currently beyond the means of a computer. This broadly remains the case. However, there are ways in which even manual annotation can be assisted by a computer, some of which are mentioned in upcoming sections.

The labour-intensive nature of manual annotation can also be circumscribed to a degree by only annotating those feature(s) that are relevant to our research goals. For instance, if one were only interested in the clauses that function as questions in a discourse, it would be inane to annotate all of the clauses; the questions are likely to make up a smaller proportion of the total, and we would be tagging material we had no intention of using. It is an important issue for time and efficiency – and often money – that we know what it is we seek when we approach a corpus, and that only relevant work is undertaken.

Some key issues for the implementation of pragmatic annotation schemes are as follows:

Ambiguity and indeterminacy. Pragmatic phenomena cannot be reduced to binary choices. Ambiguity and indeterminacy are not "noise" or "errors" in pragmatics, but often strategic choices. Ambiguity and indeterminacy need to be factored into any pragmatic annotation scheme (see the brief discussion of Stiles 1992, for an example of how this might be done).

Delicacy. Archer and Culpeper (2003: 52) point out the Catch-22 here: the more delicate a categorisation scheme the more accurate the description, yet the more delicate the scheme, the less likely there will be enough evidence to apply a particular category, and, consequently, the less likely there will be enough evidence to find statistically meaningful results for a particular category.

Implementation evidence. There are various types of evidence that can justify the implementation of a category, including language (e. g. vocatives), secondary sources (e. g. sociological accounts) and inferences (e. g. networks of interaction) (see Archer and Culpeper 2003: 53, for more detail on these sources of evidence). Often the application of a pragmatic category is done on the basis of multiple sources of evidence, both formal and interpretative.

Consistency is a particularly crucial feature of implementation. Annotators – and given the size of corpora there are usually more than one – must apply the pragmatic categories of the annotation scheme in a consistent fashion, both over time (i. e. not shift practices after having coded a few items) and relative to each other. One way of safeguarding against the former is to re-annotate the first part of the data, having passed through all the data. One way of safe-guarding against the latter is to check inter-rater reliability (e. g. compare the coding of two or more annotators) (see Hallgren 2012, for an overview).

3. Pragmatic annotation schemes

In this section, we review extant pragmatic annotation schemes. The following sub-section briefly overviews the pragmatic background, mostly revolving around illocutionary force, to the "dialogue act" schemes, and then considers the schemes themselves. The section concerning contextual meanings proceeds in a similar fashion – with, first, an overview of the pragmatic background, and then the schemes themselves. Finally, we give an example of a mixed scheme.

3.1. Dialogue act schemes

3.1.1. The pragmatic background

The key pragmatic theory underpinning dialogue act schemes is speech act theory (Austin 1962; Searle 1969, 1975). That this theory has become important in corpus pragmatics is not entirely surprising, as for decades studies have attempted to quantify speech acts and their realisations. For example, the *Cross-Cultural Speech Act Realization Project* (CCSARP) (see Blum-Kulka, House and Kasper 1989) is a study of data elicited by written discourse completion tasks, involving seven different languages or language varieties and 1,088 informants, and that data is almost invariably analyzed quantitatively. However, studies deploying questionnaires elicit short data samples, not long stretches of discourse. The point made by McEnery and Wilson (1996: 99), though writing more than 20 years ago, thus still holds: "quantitative accounts […] would be an important contribution to our understanding of pragmatics". Dialogue act schemes are a means of pursuing quantitative pragmatic analysis across long stretches of discourse.

Extant dialogue act studies typically involve the manual- or semi-automated tagging of speech act types, so that they can be placed in more generic groups, and thereby reveal patterns in the discourse. Once a particular form has been assigned to a speech act category, it is possible to investigate, for example, the formal characteristics of that category – and also compare them with the formal characteristics of the other categories. Although Austin's (1962) classification of speech acts was probably the first, most researchers draw on Searle (1976). His taxonomy consists of five categories (1976: 10–15):

Representatives	committing the speaker to the truth of the expressed proposition, e. g. *asserting*, *concluding* [he later renamed this category *Assertives*]
Directives	attempts by the speaker to get the addressee to do something, e. g. *advising*, *requesting*
Commissives	committing the speaker to a future course of action, e. g. *promising*, *threatening*, *offering*
Expressives	expressing a psychological state, e. g. *thanking*, *apologising*, *welcoming*
Declaratives	effecting immediate changes in an institutional state of affairs, with extra-linguistic qualities, e. g. *declaring war*, *christening*

Alternative classifications, which have been proposed, include Bach and Harnish (1979). One particular criticism made of these classifications is that, practically speaking, they are classifications of the semantics of speech act "verbs", which cannot be assumed to map straightforwardly onto classifications of illocutionary "acts" (Searle 1976: 8; Leech 1983: 177, 198). Broadly speaking, the earlier the classification – Austin, Searle or Bach and Harnish – the more obviously this is the case. Some researchers have therefore rejected attempts to devise a classification of illocutionary acts in favour of a classification of speech act verbs drawn from dictionaries: for example, Ballmer and Brennenstuhl (1981) identified 4,800 English verbs using dictionaries and classified them. Studies, whether corpus-based or computational, have typically adapted such speech act classifications for their particular datasets and annotated acts accordingly. The grand plan of devising a classification that accommodates all kinds of speech act found in all kinds of discourse and at the right level of delicacy therefore seems impossible. The global classifications that exist are best seen, then, as providing a useful starting point for would-be annotators.

Readers will have noticed that we are using the label "dialogue act". This brings us into line with how pragmatic corpus annotators refer to their own schemes.[2]

[2] Usage of the label is not necessarily consistent. For example, Bunt (1994) suggests that a dialogue act is a speech act in the context of a dialogue, whilst Core and Allen (1997) suggest that it is an act whose internal structure relates specifically to its dialogue function.

Moreover, many of the schemes do not strictly confine themselves to speech acts, but encompass other interactional phenomena, especially aspects that have been a focus of study for Conversation Analysis (CA) (e. g. Sacks, Schegloff, and Jefferson 1974) and Discourse Analysis (DA) (e. g. Sinclair and Coulthard 1975). Many aspects of CA would be amenable to, and, we would argue, would benefit from, annotation, by which one could study conversational patterns over large datasets. Research attempting to combine a CA-based approach with annotation, for example, is the *Linguistic Interaction Database Exchange System* (LIDES), which enables switches in code from one linguistic variety to the other to be tagged (see the *LIDES Coding Manual* 2000 for further details). Such work is extremely rare, however. One reason for this relates to the philosophy behind CA. Engaging in CA is an inductive matter – a matter of revealing the categories that are used. Annotation generally involves the opposite: the imposition of preformed categories. This being so, annotation can perhaps be more naturally equated with the DA model of the Sinclair and Coulthard (1975) type – a speech-act based model, which focuses on structural relationships between utterances, using terms such as "exchange" or "move". A Sinclair-Coulthard inspired approach has been used by both computational and corpus-based analysts (see, for example, Carletta et al. 1997a, 1997b; Archer 2005; and sections 3.1.2, 3.1.3 and 3.3). Additional computational work with respect to discourse structure that is not necessarily inspired by the Birmingham School (i. e. DA in the spirit of Sinclair and Coulthard 1975) includes Carlson, Marcu and Okurowski (2003), Stede (2004) and Baldridge and Lascarides (2005).

3.1.2. Dialogue act schemes: A hand-coded scheme

Here, we focus on Stiles (1992) and SPICE-Ireland. Both are notable, but for different reasons.

Stiles (1992) must count as one of the very earliest pragmatic annotation studies. He raises many of the key issues. His taxonomy, which he calls *Verbal Response Mode* or VRM, was designed as a means to an end: he wanted to improve psychologists' interactions with their patients, and needed some means of pragmatically analysing their interaction. The eight categories of VRM (disclosure, edification, advisement, confirmation, question, acknowledgement, interpretation and reflection) are essentially groups of particular kinds of speech act. The "form"/"function" distinction is central to speech act theory, in that words and their force operate by complex means, and the relationship between the two is often tangential or indirect. Stiles's scheme takes this fully into consideration. Each speech act group is designated by a letter code (e. g. Q = question, A = advisement). When coding data, the first letter codifies the literal form of the utterance, and the second its illocutionary function. So, in example (1), the request "Can you bring me a <pause> pint of lime and lemon <pause> with some i– lots of ice?" would

be tagged QA. In contrast, a literal question, such as "Can you undo it?" (BNC; said in the context of a struggle to remove the top from a Tippex bottle), would be tagged QQ. Stiles (1992: 100) also includes the category "uncodable" (U), which he details briefly. Unfortunately, he does not include it in his main description of the taxonomy. He also restricts it to "utterances that coders cannot understand or hear clearly" (1992: 15). As such, the scheme does not fully accommodate indeterminacy in the data.

SPICE-Ireland (Systems of Pragmatic annotation for the spoken component of ICE-Ireland) must currently count as the largest manually annotated corpus. Constructed by John Kirk and Jeffrey Kallen, pragmatic annotations were added to the Irish component of the International Corpus of English (626,597 words in total). With over 54,612 speech act annotations, the result is a remarkably rich resource. Annotations were added for the following features:

- utterance speech-act function
- prosody (pitch movements)
- utterance tags
- discourse markers
- quotatives

The speech act taxonomy was modelled on Searle (1976). The unit to which speech act functions were applied was usually the utterance, but they allowed for a somewhat wider scope, and included pauses. Cases that appeared ambiguous were coded according to the "most likely interpretation within the context of the conversation as a whole" (Kallen and Kirk 2012: 28). Their reasoning for choosing a manual route for annotation is that: "no simple algorithm exists for determining the speech act status of an utterance" and, thus, "annotation is made on the basis of a detailed analysis of language in use" (Kallen and Kirk 2012: 28). The resultant corpus allows robust and detailed answers to questions about the distribution of speech acts in Irish English. For example, they revealed representatives and directives to be outstandingly frequent; other speech act types have much lower frequencies. Further, they found that speech act types vary according to text type. For example, representatives are especially frequent in face-to-face conversation, spontaneous commentary and telephone conversation; directives are outstandingly frequent in demonstrations, but also frequent in business transactions, classroom discussion, face-to-face conversation, telephone conversation and legal cross-examination. For more detail, see Kallen and Kirk (2012).

3.1.3. Dialogue act schemes: (Semi-)automated models

According to Jurafsky (2004), there are two (semi-)automated models of speech act interpretation: the BDI (belief, desire and intention) model and the *cue-based* or *probabilistic model*. BDI computational models (e. g. Perrault and Allen 1980) use

"belief logics" inspired by Searle's (1975) explanation of indirect speech acts of the "Can you pass the salt?" variety. In simple terms, they seek to mimic a hearer's chain of reasoning with respect to satisfactorily met pre-conditions. By contrast, cue-based or probabilistic models (e. g. Jurafsky and Martin, 2000) are inspired by Power's (1979) concept of "conversational games and moves", and Goodwin's (1996) work relating to the "microgrammar", that is, the specific lexical, collocational, and prosodic features that characterise particular conversational moves. As most well-known studies are in the latter cue-based tradition, cue-based models will be the focus of this section.[3]

Work on the automatic detection of dialogue acts is quite advanced, such that standards for shallow discourse structure annotation now exist. This said, these standards are not commonly agreed upon, according to Weisser (2014a: 90). Here, then, we focus on one of the better known: the *Dialogue Act Markup in Several Layers* (DAMSL) tagset, designed by the natural language processing community as part of the *Discourse Resource Initiative* (Core and Allen 1997). Of particular interest, to us, is its utilisation of concepts outside the philosophical traditions that first defined speech acts, with the result that we see the inclusion of Schegloff's concept of "repair" (Schegloff, Jefferson, and Sacks 1977), and "preceding and succeeding discourse" (Schegloff 1968, 1988). Thus, the DAMSL tagset distinguishes between the *forward-looking* function of an utterance, which differentiates between different speech act based phenomena (cf. STATEMENT = a claim made by the speaker; INFO-REQUEST = a question by the speaker; CHECK = a question by the speaker for confirming information), and the *backward-looking* function, which identifies some sort of pragmatic relationship between utterance U and previous utterances (cf. ACCEPT = accepting the proposal; REJECT = rejecting the proposal; REPEAT-REPHRASE = demonstrated via repetition or reformulation).

The SWBD-DAMSL annotation model (SWBD = Switchboard domain) provides us with an example of work that has utilised – and expanded – the DAMSL tagset (Stolcke et al. 2000). Consisting of approximately 50 basic tags (including QUESTION, STATEMENT, OPINION, BACKCHANNEL, APPRECIATION), which, when combined with diacritics indicating related information, extends to 220, the model distinguishes 42 mutually-exclusive utterance types. Here is an example of a conversation taken from the *Switchboard Corpus* of spontaneous human-to-human telephone speech:

[3] The reason that cue-based models are more prevalent than BDI models may relate to the fact that computers can search for formal correlates of speech act-types more readily than abstract logical aspects.

(2)

Speaker	*Dialogue Act*[4]	*Utterance*
B	STATEMENT	but, uh, we're to the point now where our Financial income is enough that we can consider putting some away –
A	BACKCHANNEL	*Uh-huh/*
B	STATEMENT	– for college,/
B	STATEMENT	so we are going to be starting a regular payroll deduction –
A	BACKCHANNEL	*Um./*
B	STATEMENT	– in the fall/
B	STATEMENT	and then the money that I will be making this summer we'll be putting away for the college fund.
A	APPRECIATION	*Um. Sounds good.*

(Adapted from Stolcke et al. 2000: 7)

This extract shows that each utterance is assigned a unique Discourse Act label. By "utterance", Stolcke et al. (2000: 4) mean a sentence-level unit, which may or may not correspond to a speaker turn. The tagset is interesting for several reasons. First, it classifies utterances according to a combination of pragmatic, semantic and syntactic criteria. Second, it claims not to be "task-oriented". Indeed, Stolcke et al. (2000: 4) argue that it is generic in nature, having been applied to a corpus of spontaneous conversational speech – albeit telephone speech. Their claim is important, as similar work has tended to concentrate on specific tasks, which tend to be formulaic and may often be easier to annotate.

Carletta et al.'s (1997a, 1997b) taxonomy is an example of such a task-oriented scheme, having been applied to Map Task dialogues (see Figure 1, below).[5] Unlike Stolcke et al. (2000), their scheme is based on conversational moves (i. e. utterance function), game structure, and higher-level transaction structure. Consequently, it shares similarities with the structure adopted by Sinclair and Coulthard (1975), when analysing classroom discourse (see "interactional meaning" under section 2). The "games" level is roughly equivalent to Sinclair and Coulthard's "exchange" level, in that it distinguishes between initiations and responses, etc. A "game", in turn, is made up of *conversational moves*, beginning with an initiation and continuing until the purpose of the "game" has been achieved. Carletta et al. (1997b: 3) provide a diagram which summarises the procedure followed when assigning the moves of their scheme. As Figure 1 shows, formal and interactional aspects are once again combined, as in Stiles (1992) (see, in particular, QUERY/REPLY-YN and QUERY/REPLY-W).

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4 Dialogue Act (as used here) is synonymous with our use of discourse act throughout the paper.

5 A Map Task involves participant A's duplication of a route that is present on B's map, but missing from his/her own. For further details see Carletta et al. (1997b: 2).

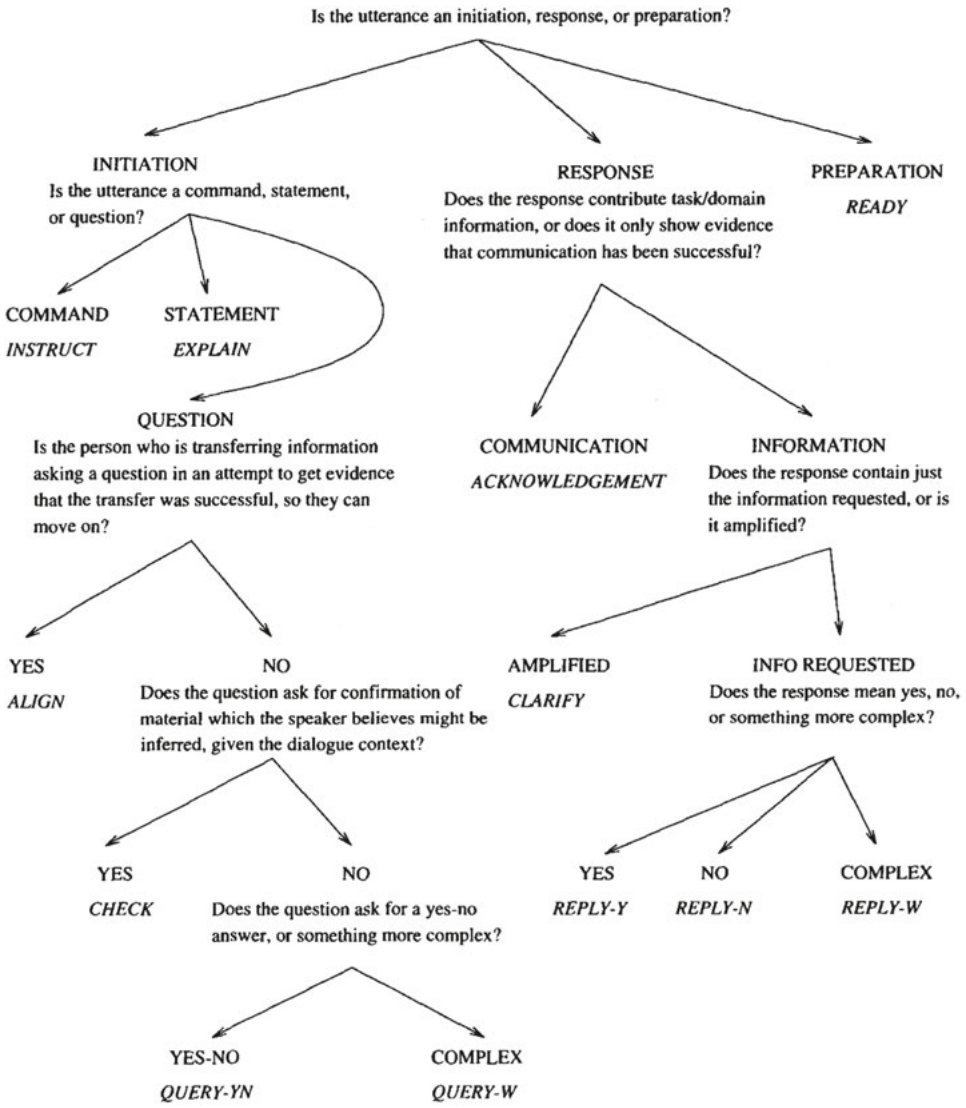

Figure 1: Conversational Move Categories
(from Carletta et al. 1997b: 3; original emphasis)

Weisser (2014a: 85) has recently undertaken a useful comparison of DAMSL and SWDB-DAMSL, with his own task-oriented system – the *Dialogue Annotation & Research Tool* [DART] – as a means of assessing 'their relative merits'. His main argument appears to be that SWBD-DAMSL is an improvement on DAMSL because of "marking the speech act", and hence identifying "the pragmatic force of the unit", "as the main dimension" (Weisser 2014a: 93). However, he is critical of SWBD-DAMSL, in turn, for continuing to "hide" potentially relevant pragmatic information "behind dimensions that are less linguistically motivated" (2014a: 94). In contrast, his own system is designed to annotate for speech act (sp-act), polarity, topic and mode, as well as to draw on punctuation as a means of "facilitating further processing" (Archer, Culpeper, and Davies 2008: 647).[6] Categories such as these point to the overlap between DART (Weisser 2014b) and Weisser's work with Leech with respect to the *Speech-Act Annotation Scheme* (SPAAC). SPAAC was devised to annotate service dialogues (see Leech and Weisser 2003). As its name suggests, the key level of annotation within SPAAC relates to the tagging of speech acts (the term Weisser 2014a still prefers over discourse act). SPAAC draws from a tagset of 40 items for this purpose, including ACCEPT, ACKNOWLEDGE, ANSWER, ANSWER ELABORATE, APPRECIATE, BYE, COMPLETE, CONFIRM, etc. "Correct" speech act assignment is aided, in turn, by five further dimensions (many of which are also tagged within DART):

(a) segmentation (e. g. into utterances, C-units[7] and discourse markers)
(b) syntactic form (e. g. declarative, interrogative, imperative, fragment)
(c) topic or subject matter (e. g. address, arrival, cancel, credit card, date, departure: see train booking dialogues)
(d) mode (e. g. alternative, condition, probability, expletive)
(e) polarity (i. e. positive vs. negative).

The form tagset within SPAAC consists of <decl> (= declarative clause), <q-yn> (yes-no question), <q-wh> (wh-question), <imp> (= imperative), <frag> (=fragment, i. e. a non-clausal unit or incomplete clause lacking a subject), <dm> (=discourse marker), <yes> (= affirmative reply) and <no> (= negative reply). Within DART, similar phenomena are captured under a syntactic category, but with the addition of term of address <address> and exclamation <exclam> categories. As we might expect, there are some obvious similarities between SPAAC, DART,

[6] According to Weisser (2014a: 89), the use of punctuation in this way is still uncommon, in spite of the usefulness of punctuation when marking up "prosodic information or completeness status".

[7] C-units are Communication Units. They are usually defined as an independent clause, along with any subordinate clauses attached to it.

and those schemes already mentioned (cf. QUERY-YN and QUERY- with <q-yn> and <q-wh>, REPLY-Y and REPLY-N with <yes> and <no>).

Leech and Weisser (2003) go on to suggest that form labels other than questioning/answering share strong associations with particular speech act labels. For example, an "inform" is said to be "normally conveyed by a <decl> or (less frequently) a <frag>" (Leech and Weisser 2003: 22). Leech and Weisser (2003: 22) define an INFORM as follows:

> Typically speaker x has the goal of informing speaker y about something speaker x believes that speaker y did not know or was not aware of before, generally without this having been elicited, e. g. *The last train leaves at 1650*.

Informs can be difficult to distinguish in practice, because of their potential overlap with other speech acts, including CONFIRM, EXPRESS, REGRET, EXPRESSWISH, EXPRESSPOSSIBILITY, EXPRESSOPINION, etc. In consequence, Leech and Weisser's (2003: 22) INFORM category is "flexible". That is:

> [*Inform* is] used where some element of **conveying information** or **making the addressee aware** is present. For example, after a longish period in which the telephone is ringing, the operator may say to the caller: *I'm sorry*, ***there's no reply*** (emphasis original).

Here, their argument is that, although the information content of the utterance in context is low, the operator is nevertheless making the caller "explicitly aware of something". Leech and Weisser's need to justify the definition and use of their "inform" category illustrates how even apparently straightforward speech act categories like "inform" are problematic to both define and apply to real data.

3.2. Contextual schemes

3.2.1. The pragmatic background

A crucial feature of pragmatics is that it accounts for meanings which are context sensitive. Areas of context requiring some consideration include the co-text, physical context, personal/social context, cognitive context, cultural context and the context in the situational model (i. e. the context that is projected by the language itself, e. g. a fictional world projected by the words of a novel). Approaches to context within pragmatics often combine several of the above areas, as in Dell Hymes' (e. g. 1972) "speech events" or Levinson's ([1979]1992) "activity types". There is also an increasingly strong recognition that there are multiple contexts in communication, as constructed by different participants, and that these are always in a state of flux (e. g. somebody might speak to another in their capacity as "tutor" and then speak to someone else in their capacity as "friend"). Unfortunately, many researchers working outside pragmatics regularly employ an impoverished notion

of context. Often the co-text is taken to be the sum total of all there is to be said about the context. This criticism also applies to corpus-based studies, which, if they consider context at all, confine themselves to the inclusion of a few static values (e. g. the sex of the participants) in the header of files (see section 3.2.2). The major challenge for pragmatic annotation must be to take "adequate" account of the context. By this we mean, identifying – so that coders might annotate – what are perceived to be the most germane contextual variables, thereby providing an optimally relevant interpretation of an utterance (see, e. g. Clark, 1992: 105–6). This often means that coders have to annotate their datasets manually (but see 4.2).

3.2.2. Context as a static construct: The example of the BNC headers

Most language data are analysed away from their original source, and linguists of all types must re-create a sense of context so that valid interpretations of data are possible. Of course, the issue for corpus annotation is what aspects of the context must be selected for annotation, and the form that that annotation should take. There is no universally-adopted scheme for contextual annotation, as yet (or, indeed, for most types of annotation, but see the *Text Encoding Initiative*, TEI). However, the *Expert Advisory Group for Language Engineering Systems* (EAGLES) has surveyed dialogue annotation practices, with the aim of producing a set of guidelines (see http://www.ling.lancs.ac.uk/eagles/ and also Gibbon, Moore and Winski 1998). One of the things highlighted by EAGLES is the issue of where contextual information (e. g. speaker characteristics, channel characteristics, activity types) should be placed. One option is to place such information in the headers of individual files, as in the *British National Corpus* (or BNC), which stores contextual information about the text in a header at the start of each file. These headers, in turn, are structured according to the guidelines produced by the TEI. According to EAGLES, researchers interested in spoken data can also provide additional contextual information in external files, linked to the original dataset via pointers (cf. Gibbon, Moore, and Winski 1998: 733–747).

Compared with the rich diversity of potential contextual inputs, as described in the field of pragmatics, corpora like the BNC have taken a fairly minimalist approach. As we have already argued, applying an empirical methodology whereby one can quantify context in some way is a major challenge for a corpus-based approach. This is especially so when one's concern is not with the relatively static characteristics of speakers, but with "face-to-face" interactions between speakers and hearers. Work in the EAGLES tradition focuses almost exclusively on dyadic interactions (the addressee is normally the other speaker), rather than multi-party talk. One of the main interests of EAGLES is the automated analysis of dialogue. Automatically identifying the addressee in multi-party talk is well beyond the capabilities of current tagging programmes. Even less work has addressed the rel-

evant contextual properties of spoken interaction on a turn-by-turn basis. Putting contextual information in file headers may be reasonable for the general research purposes of corpora such as the BNC, but this practice is inadequate for full pragmatics research. In the following section, we demonstrate how a more complex scheme can go some way towards pursuing a full pragmatics agenda.

3.2.3. Context as a dynamic construct: An example of a sociopragmatic annotation scheme

Archer and Culpeper's (2003) sociopragmatic annotation scheme, implemented in the *Sociopragmatic Corpus*, seeks to identify important contextual factors relating to both speaker and addressee at the level of the utterance (as opposed to the text), and is designed to interface with three fields – pragmatics, corpus linguistics and (historical) sociolinguistics. These disciplines have their own research goals and methodological preferences. Consequently, when they are combined, they present us with a particular set of difficulties (see Archer and Culpeper 2003: 38–42), at the heart of which lies the issue of context. This scheme demonstrates that it is possible, nonetheless, to bridge the gap between text and contexts, such that we can (i) accommodate the investigation of language set in various context(s), for example, speaker/hearer relationships, social roles, and sociological characteristics such as gender and (ii) treat context(s) as dynamic.

Following TEI guidelines, Archer and Culpeper (2003) transcribe individual utterances using the <u> element, where <u> signals the beginning of the segment to which the annotation pertains and </u> the end. In the BNC and similar corpora, this <u> element tends to contain a limited amount of information, such as the person id (see the *TEI Guidelines*, http://www.uic.edu/orgs/tei/p3/doc/p3.html), as in example (3):

(3) <u id=1 who=PO01>**How are you?**</u>

The approach taken by Archer and Culpeper (2003) is slightly different, since they opt for text-internal coding at the utterance level. This means that participant information is given in the <u> element rather than in the header. Example (4) is from the Trial of Charles I (1649):

(4) *Lord President* <u speaker="s" spid="s3tcharl001" spsex ="m" sprole1="j" spstatus="1" spage="9" addressee="s" adid="s3tcharl002" adrole1= "d" adstatus="0" adage= "9">**If this be all you will say,**</u>
<u speaker="s" spid="s3tcharl001" spsex ="m" sprole1="j" spstatus="1" spage="9" addressee="m" adid="x" adrole1= "n" adstatus="x" adage= "x">**then, Gentlemen, you that brought the Prisoner hither, take charge of him back again.**</u>

The annotation scheme is designed to identify the specific combination of socio-pragmatic variables affecting each segment. In particular, this means describing who is talking to whom at a given point in time, and in what capacity (cf. the annotation scheme in the BNC, which only describes the static properties of speakers across the whole interaction). The first six tags identify the speaker, and these are followed by corresponding tags to identify the addressee (underlined above). The first tag (speaker="s") tells us that the speaker is a single individual (rather than being representative of multiple speakers, which would be tagged as speaker="m"). The spid="s3tcharl001" tag indicates that the speaker is the Lord President of the courtroom. The spsex="m" tag identifies this speaker as male, and sprole1="j" tells us that he is acting in the capacity of a judge. He is also of high status (spstatus="1") and over the age of 45 (adage="9"). The addressee tags tell us that the judge is addressing an individual (addressee="s"), who is identified as Charles I (adid="s3tcharl002"). The adrole1="d" tag tells us that the King is acting as defendant; adstatus="0" that he is royal; and adage="9" that he is over the age of 45 (like the Lord President).[8] Note that if the same speaker addresses a different person, the values for the addressee then change. This can sometimes occur within the same speaker turn, as shown above, where the second <u> tag marks the point at which the judge addresses other hearers and the utterance continues. The ability of Archer and Culpeper's (2003) scheme to identify more than one role field in any given interaction is especially important when it comes to multi-party interaction. Clearly, this kind of information cannot be encoded usefully in a header file.

Sceptics may point out that such a scheme is both time-consuming to apply, and, due to its complexity, open to error. Our experience of applying it to a corpus of 250,000 words suggests that it is time-consuming but nonetheless viable for implementation in smaller, more focussed corpora. This is further confirmed by the work of researchers such as Ursula Lutzky, who have successfully extended the size of the drama component of the *Sociopragmatic Corpus* in order to study discourse markers such as *marry*. In Lutzky's (2008) case, she extended the corpus by drawing upon more texts from the *Corpus of English Dialogues* and adding texts from the *Penn-Helsinki Parsed Corpus of Early Modern English* (*PPCEME*). We would argue, in addition, that software tools can be developed to speed up the implementation process of a non-automatic annotation scheme quite significantly. For example, once a participant's identity is clarified, the computer can enter static values automatically, leaving the analyst to focus on the beginnings and endings of utterances, as well as dynamic values.

Archer and Culpeper (2009: 288) have since exploited their annotation scheme. They aimed to identify:

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[8] See Archer and Culpeper (2003), for a complete breakdown of the categories.

> […] linguistic material in the *Sociopragmatic Corpus* (containing play-texts and trial proceedings from the period 1640–1760) that is *statistically characteristic* of particular constellations of social categories (relative to other constellations of categories).

They used the pragmatic annotation in their corpus to extract the talk exchanges of particular dyads (i. e. master/mistress-servant in plays, examiner-examinee in trials). They then used WMatrix3 to identify key features in this talk by comparing word frequency lists of the various dyads with a reference corpus (in this case, the *Corpus of English Dialogues*). Their aim, in so doing, was to introduce a new approach – that of sociophilology. Sociophilology shares with sociopragmatics a fundamental interest in "the 'local' conditions of language use" (Leech 1983: 10), and thus has context as its starting point. It then draws on corpus-linguistic methods in order to determine how various contextual labels are shaping the language used (and vice versa). In section 4.2, we introduce another means of using Wmatrix3 to explore pragmatic phenomena.

3.3. Mixed schemes: An example

Archer (2005) is an example of a scheme that combines various strands of pragmatic meaning, including the formal, illocutionary, interactional and contextual. Based on an analysis of courtroom interaction from the later Early Modern English period (1640–1760), Archer's work extends the *Sociopragmatic Annotation Scheme* to include an "interactional intent" field, a "force" field, and, where applicable, a "(grammatical) form" field. As the "form" field is relatively self-explanatory, in that it consists of the range of question-types (e. g. yes-no, disjunctive, wh-, etc.) used in the historical courtroom, we will comment, instead, on the more pragmatically-oriented phenomena, the interactional intent and force fields. The interactional intent field "stfunc" relates to the position an utterance occupies in the discourse. In other words, it assesses the interactional/structural purpose of an utterance, so that we have a better understanding of the ways in which (trial) talk is organised. Possible values include:

"initiation"	initiating a new exchange by means of an eliciting device. Prototypical examples include question, request, requirement.
"response"	providing information that has been directly elicited by another participant, usually by responding verbally. Prototypical examples include answer, acceptance, refusal, denial.
"response-initiation"	responding to a direct elicitation of another participant by using and/or following it with an eliciting device. Prototypical examples include an answer immediately followed by a request.
"report"	stating information which has not been directly elicited by another participant. Prototypical examples include statement, explanation.

"follow up"	providing follow-up/feedback to a preceding utterance in some way. Prototypical examples include comment, evaluation.
"follow up-initiation"	providing follow-up/feedback to a preceding utterance by using and/or following it with an eliciting device. Prototypical examples include a comment immediately followed by a question.

The extract below, taken from the Trial of Giles (1680), provides an illustration of the respective values. The recorder (labelled *Record.* and *Recorder,* in the transcript) was questioning a witness, Elizabeth Crook. When she contradicted evidence given by an earlier witness, William Richmond, the recorder intervened. Shortly after, other participants also became involved. They included the King's Counsel:

(5)

Record.	You made the Bed, did not you?	[initiation]
Crook,	I did.	[response]
Recorder,	Upon your Oath, what time of Night was it?	[follow up-initiation]
Crook	I think it was nearer Eleven than Ten.	[response]
[text omitted]		
Kings Coun.	What time of Night was it that he was making love to you?	[initiation]
Crook,	I think about Ten a Clock.	[response]
Kings Coun.	Time passed merrily away with you then.	[follow up]
Rich.	It was Twelve a Clock.	[report]

Archer's (2005) interactive/structural elements clearly show some resemblance to Sinclair and Coulthard (1975). Carletta et al. (1997b) also show an IRF influence, though their approach is more computational (see section 3.1.2).

Stenström (1984) and Carletta et al. (1997b) account for many more values at their "move" level than Archer (2005) does at her "interactional intent" level (cf. Stenström's (1984: 83–6) "framing", "focusing", "checking" and "supporting" moves and Carletta et al.'s (1997b) "instruct", "explain", "check", "align", "query" and "acknowledge" moves, etc.). There is a necessary balance in any categorisation between usefulness and ease or consistency of coding. The primary purpose of the "interactional intent" field is to distinguish between utterances that elicit, respond to, comment on, and terminate an exchange. Archer (2005) argues that further classifications would make the field cumbersome and, thus, potentially more problematic to implement, and that the kind of distinctions that Carletta et al. (1997b) and Stenström (1984) make at this level can be adequately accounted for at a different level (i. e. via the force field).

Archer's (2005) force field [force=""] is inspired by Searle (1969, 1975) and Wierzbicka (1987), in that it assigns utterances to one (or more) of seven macro categories: "counsel" (= "w"), "question" (= "q"), "request" (= "r"), "require" (= "c"), "sentence" (= "v"), "express" (= "e") and "inform" (= "h"). These are

viewed as macro categories, and the values they subsume, as "reasonably accurate approximations of the prototypical instances of verbal behaviour describable by means of the English verbs used as labels" (Verschueren 1999: 131–2). The definitions of four macro-categories are as follows:

Counsel S wants to convey something to A which will help prevent/result in Y [= an event not in A's best interest], e. g. "My advise to you is, that you would put your self upon your Tryal [sic] … [text omitted] … If you will deal ingenuously with the Court, I think that is best".

Question S wants A to supply a missing variable by saying/confirming/clarifying something about X [= an action/event/behaviour/person], e. g. "Shall I withdraw?"

Request S wants Z [= an action/event] to happen and hopes to do it/get A to do (or get others to do) it, e. g. "I do humbly move, that I may have time allowed me by this court to send for my Witnesses".

Require S wants (and expects) A to do something, even though A may be reluctant, or to do something him/herself, in spite of A's (probable) reluctance, e. g. "My Lord, I demand this, to hear the Commission read".

As the force of some utterances can/may remain indeterminate (due to contextual factors such as status, power and discourse sequencing, for example), Archer's design also allows for the inclusion of multiple and, indeed, indeterminate forces by using the "m" and "p" values respectively (cf. Stiles 1992; see also section 3.1.1).

4. Furthering the pragmatics research agenda with corpus annotation

4.1. Areas for exploitation within pragmatics

There are a multiplicity of areas within pragmatics that could benefit from pragmatic annotation. We will confine ourselves to some examples relating to speech acts and Gricean implicature.

The manual segmentation of speech act phenomena is well-established, notably through the *Cross-Cultural Speech Act Realization Project*, CCSARP (see Blum-Kulka, House, and Kasper 1989). This project devised a way of coding speech acts in a large body of elicited data. The data was elicited by discourse completion tasks, a type of questionnaire that requires the informant to produce a speech act appropriate to a particular context. The vast majority of studies applying this methodology have focussed on requests or apologies. The key issue relating to segmentation using the CCSARP framework is making the distinction between head act (HA) and alerter (AL) or supportive move (SM). The head act is regarded as the core of the speech act, and usually contains a verb and its grammatically related elements, for example, "Pass me the salt", "I'd like the salt" or "Can you pass me the salt?". Note that the head act can vary, particularly in terms of directness.

The three salt examples just mentioned would be categorised as "mood derivable", "want statement" or "preparatory (ability)". Alerters (e. g. "excuse me") alert the addressee to the up-coming speech act.[9] Supportive moves are independent elements which pragmatically support the head act in some way (e. g. mitigate the face threat of the act). They include grounders (e. g. "I really need it") and disarmers (e. g. "I know you are really busy but …"). The CCSARP framework also encompasses the internal modification (IM) of head acts through downgraders (e. g. politeness markers and minimisers) and upgraders (e. g. intensifiers). The CCSARP framework in its entirety has not been applied to corpus data, as far as we are aware. However, it is not difficult to envisage its application. The scheme could lead to segmentation and annotation in a corpus in the way that is illustrated in example (6), taken from the BNC:

(6) <AL>Excuse me</AL> <HA-preparatory>could you speak up</HA-preparatory> <IM-minimiser>just a little bit</IM-minimiser>?

This example is designed to be illustrative only (the tag labels are unnecessarily long).

Culpeper and Archer's (2008) study of requests is relevant here. Their primary aim was to determine which features were more prototypical of late Early Modern English requests (based, once again, on the *Sociopragmatic Corpus*). Their secondary aim is more pertinent for this paper, however, as they also assessed the applicability of parts of the CCSARP framework to requests in this period. They were able to confirm that "Blum-Kulka, House, and Kasper's (1989) "broad" categories of directness are indeed applicable […] and thus can be seen as "universal" in some sense" (Culpeper and Archer 2008: 79). But they go on to highlight a "fundamental problem" with associating CCSARP categories of directness with head acts (to the neglect of supportive moves) – in this period at least – especially "if we are concerned with explicitness as opposed to directness in Searle's sense" (Culpeper and Archer 2008: 79). This is because "support moves can become pragmaticalized so that they not only "support" another element signaling the illocutionary force but they themselves actually signal the illocutionary force". They argue, for example, that it is difficult to imagine that *prithee* (which was strongly associated with requestive acts in the late Early Modern period) "would not have been taken in many contexts as evidence of the illocutionary force [of a request] on its own" (Culpeper and Archer 2008: 79).

Turning to another pragmatic area, virtually no corpus annotation work has tackled what the speaker implies and what the hearer infers, that is to say, the infer-

[9] The label "alerter" is unfortunate for a category that includes terms of address. Terms of address do far more than alert the addressee; they are more like support moves in that they often pragmatically support the head act.

ential processes usually discussed with reference to Grice's Cooperative Principle (1975) or Sperber and Wilson's Relevance Theory (1986). However, Archer (2002) offers an analytical framework that allows for a quantitative investigation of (the various ways in which participants broke) the Gricean maxims within the historical courtroom. Grice (1975) identified four maxims (Quality, Quantity, Relation and Manner) that, taken together, specify what participants have to do in order to converse in a maximally efficient, rational, co-operative way (i. e. speak sincerely, relevantly and clearly, while providing sufficient information). Grice also suggests that, as interactants, we can manipulate these maxims in order to generate an implicature (i. e. cause our interlocutor to look for an additional meaning beyond the surface level meaning). Archer (2002: 10) uses Gricean maxims as annotation categories. She also added two additional categories, "coop" and "ambig", which signal surface level cooperation and uncertainty respectively. This scheme was used to investigate surface and deeper level "cooperation" (or the lack of) in historical courtroom discourse.

Of course, the lack of formal correlates and the sheer complexity of the inferential system place a very heavy burden on the corpus-based analyst. One thing to bear in mind here is that the annotator is not supplying absolute values to segments of data, but an interpretation that it has a particular value. McEnery's (1995) argument, in the context of computational pragmatics, is therefore relevant here. Developing an idea first posited by Leech (1983), McEnery (1995: 37) contends, first, that inferencing should be seen as probabilistic, and, second, that Grice's (1982) own "deeming" process appears to confirm this:

> Given that complete understanding is *impossible*, Grice says that the generation of approximations to meaning will lead to the interpretation of an utterance being the *optimum* realisation of the meaning of that utterance. Grice says that these approximations are ones that ought to be deemed to "satisfy a given ideal even though they do not, strictly speaking, exemplify it" – that is utterances may be taken to mean one thing, even though some uncertainty may exist as to whether they definitely do have that meaning. So one may not, strictly speaking, in any model of intention, say that A meant C. But contextually it is legitimate for us to *deem* that A meant C […]

4.2. Corpus tools for pragmatics exploitation

Throughout this paper, we have hinted at the difficulty of automatically identifying pragmatic phenomena (see, e. g. 2–2.1, 3.1.2–3.1.3, and 3.2.2–3.2.3). This does not mean that all language phenomena are impossible to annotate automatically. A focus on formal categories, found using procedures such as (hidden) Markov modelling for instance, is helping to ensure that POS taggers become increasingly robust (Jurafsky et al. 2014). In contrast, much of the pragmatic phenomena we have discussed to date are functional categories. This tends to mean that they are "fuzzy" and/or can be realized by a range of different linguistic forms.

Automatic annotation is much more difficult, in consequence – if not impossible in some instances. There are what we might call "back-door" opportunities for finding pragmatic phenomena using automated tools, however. As noted in 3.2.3, Archer and Culpeper (2009) have used Wmatrix3, along with their sociopragmatic annotation scheme, to investigate keyness features, for example. Such explorations are possible at three levels within Wmatrix3 – word level, part-of-speech level and semantic-field level – as texts uploaded to this content analysis and comparison tool are automatically assigned part-of-speech tags and semantic field tags prior to the keyness method being applied. The part-of-speech tagger makes use of CLAWS4 software (a list of the 137 parts-of-speech, is available at: http://ucrel.lancs.ac.uk/claws/). The semantic field tagger (known as USAS) consists of twenty-one macro categories, which expand into 232 semantic fields (a list of the 232 "semtags" is available at: http://ucrel.lancs.ac.uk/usas/USASSemanticTagset.pdf).

In more recent work, Archer has suggested that the keyness approach is not the only means by which a tool initially designed to enable semantic field analysis might also be used to investigate pragmatic phenomena. In Archer (2014), she outlines an approach for investigating verbal aggression and related discursive phenomena based on targeting utterances or sentences using specific semtags: namely, speech acts (Q2.2), "good/bad" evaluation (A5.1+/–), "true/false" evaluation (A5.2+/–), "anger/violence" (E3–), (im)politeness (S1.2.4+/–) and "respect/lack of" (S7.2+/–). Archer is careful to point out that, although this approach has proven to be very fruitful, it provides potential indicators of verbal aggression only. As such, words and phrases captured by the semtags must be viewed in their context-of-use (i. e. re-contextualised by the researcher, using an expand context facility within Wmatrix3) so that false positives can be differentiated from genuine examples of verbal aggression. The approach also assumes that semantic fields share several similarities with a pragmatic space of inter-related speech acts, such as both being "analysed in relation to neighboring expressions" (Jucker and Taavitsainen 2000: 74).

A problem with using Wmatrix3 to explore diachronic data pragmatically is that it was designed with modern data in mind. As such, it cannot cope well with meaning change over time. In her own study of Old Bailey trial texts dating from the late eighteenth-century, for instance, Archer (2014: 278) noted a speaker's use of *politely* to describe the deftness with which he saw a thief pick someone's pocket. In this case, the meaning of *politely* aligned with the now obsolete sense, "smoothly", but Wmatrix3 wrongly assigned *politely* to the semtag, S. 1.2.4+, which encompasses extant senses such as having "consideration for the feelings of others".[10] One way of alleviating the problem of tag mis-assignment due to meaning change over time is to draw upon the Historical Thesaurus Semantic Tag-

[10] "politely, adv." *OED Online.* Oxford University Press, September 2016. 29 November 2016.

ger (HTST).[11] The HTST incorporates the aforementioned CLAWS and USAS annotation tools within Wmatrix3 with (i) a VARiant Detector (VARD) designed to link variant spellings to their modern equivalent (Baron and Rayson 2008), and (ii) HT codes derived from the *Historical Thesaurus of the Oxford English Dictionary* (HTOED). The VARD helps to eradicate tag mis-assignments due to spelling differences. The HT codes provide HTST users with access to 700,000 word senses arranged into 225,000 time-sensitive categories, thus ensuring that their annotation results are demonstratively more accurate over time than when reliant on Wmatrix3 alone.

Archer and Malory (2017) have recently developed three innovative means of analyzing instances of (im)politeness and other facework phenomena semi-automatically using the CQPweb interface of HTST. The first method makes use of portmanteau tags of two or more USAS semtags, which point users to, for example, language characterised by *threats* and *invective* (via Q2.2/E3–), *insult*, *mockery*, *ridicule*, *sarcasm* and *taunts* (via Q2.2/S1.2.4–) or *boasts* and *bragging* (via S1.2.3+/Q2.2), etc. An example of the S1.2.3+/Q2.2 portmanteau tag, taken from Archer and Malory (2017), involved the British Member of Parliament (MP), Michael Portillo, who stated "that the [then] Chancellor like[d] to swagger and boast about the working families tax credit" (S6CV0347P0, 6/04/2000) in the UK House of Commons. The second method makes use of specific HTOED classifications and/or HT codes, and can be effective in tracing name-calling that is based on a certain characteristic. By way of illustration, the HTOED classification, 01.02.01.02.01.03.02.01, can be used to highlight instances of the term, *moron,* in datasets such as (Historic) Hansard. Some uses of *moron*, by British MPs were descriptive (i. e. signalled mental impairment) but others functioned as a name-calling strategy (see, e. g. "The hon. Member is a moron", S5CV0623P, 16/05/1960). The third method highlighted by Archer and Malory engages in what they call "meaning constellation searches". These are searches made up of USAS semtags, HT codes and/or CLAWS part-of-speech tags, that is, both semantic fields and/or parts-of-speech. They include the "bad behaviour/accusation/speech act" meaning constellation, which identified hits such as the following in (Historic) Hansard, where an MP indirectly accused one of his counterparts of bias:

> When the hon: Member wants to throw cold water upon the stories of atrocities in Belgium, why he should always drag in his sneers about the Belgian atrocities in the Congo I leave it for the House and country to judge […] (S5CV0068P0_01653, 16/11/1914)

Archer and Malory found the meaning constellation search method to be the most effective of the three as it tended to point to more true positives, in percentage

[11] HTST was developed as part of the cross-university, AHRC/ESRC funded, SAMUELS project (grant reference AH/LO1OO62/1).

terms.[12] Meaning constellations made up of semantic fields with an explicit im/politeness association (e. g. (*dis*)*respect*, *praise*, *bad behaviour*, *contempt*, etc.) were especially prone to have a high incidence of true positives. As with Wmatrix3, it remains important for the researcher to check each hit returned automatically, regardless of the search method used, by viewing them in their specific context-of-use. For interactional phenomena like face threatening or face enhancing acts cannot be understood properly without fully appreciating how they are being used by the speaker, and received by relevant others, in their context-of-use.

5. Conclusion

In our 2008 paper on pragmatic annotation, we noted that "pragmatic annotation cannot be fully automated, though tagging can be computationally-assisted" (Archer, Culpeper, and Davies 2008: 25). This is still the case. We also noted that a means of disseminating information "about models people have devised, so that researchers can build on each others' work rather than, as it were, reinventing the wheel" (2008: 25) was largely lacking. We wrote the 2008 article, in the hope of making a small contribution to "spreading the word". It has been good, therefore, to see that there is growing evidence of researchers drawing upon, extending and/or comparing their own pragmatic annotation schemes with those of others (e. g. Lutzky 2008; Weisser 2014a). There is still much to do, however. A positive next step, for example, would be to see more chapters on pragmatic annotation in handbooks. Since 2008, a gold standard has not emerged, when it comes to pragmatic annotation, in spite of organisations such as EAGLES pressing for one. This is largely because researchers are still devising "pragmatic annotation schemes that meet their personal research objectives" (2008: 25). The fear that this will have the "unfortunate consequence that research efforts do not interface with one another" (2008: 25) is perhaps not well founded within this particular area of pragmatics, however, given our comment above about researchers increasingly using, further enhancing and comparing different pragmatic annotation schemes. Our own position, today, is that, if we are to continue seeking a "basic reference model", or models acting as a kind of gold standard, the criteria capturing "interpretative" categories or concepts must, first and foremost, be flexible. Such guidelines might emphasise the need to be systematic enough to ensure replicability (and, by so doing, ensure its usefulness to

[12] The desire to eradicate false positives (i. e. results which do not turn out to be genuine examples of facework) is what partly prompted the authors to begin simultaneously searching for a combination of (consecutive) HT_codes, or HT_codes plus semtags and/or POS tags.

others), the need to balance delicacy of categorisation with the ability to fill categories with a statistically meaningful quantity of members, and so on.

If we are called upon to write another pragmatics annotation paper ten years from now, we would like to be able to report that the types of schemes and procedures discussed in this paper are being applied to languages other than English. We would also like to be able to report many more approaches that focus on sociopragmatic features (as well as pragmalinguistic features). This means moving away from the co-text and/or form alone to investigate pragmatic functions, turn by turn, across whole interactions. As we highlighted in 2008, corpus annotation provides an extremely effective means of tagging pragmatic phenomena so that it can be analysed both systematically and rigorously, across interactions, with the aid of computers. We believe now, as we did in 2008, that this can only serve to strengthen the relationship between corpus linguistics and pragmatics, whilst nonetheless maintaining the view "that annotation should be regarded as an interpretative record only, so as to ensure that we do not over-state the importance of the annotation in relation to the text" (2008: 24). Last but not least, we would like to be able to report that some of the areas of pragmatics, flagged here as having the potential to be explored through corpus annotation methods, have realised this potential through the creation of innovative annotation schemes. This will ensure that the work around pragmatic annotation (and, perhaps corpus pragmatics more broadly) maintains the links with – and, importantly, is seen as being relevant to – more mainstream pragmatics.

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21. Historical corpus pragmatics

Irma Taavitsainen

Abstract: Historical corpus pragmatics had its beginning in the mid-1990s. The development of the field has been rapid, and the field at present is very different from its initial stages. New tools and innovative methods of analysis make it possible to answer more ambitious research questions, and sizes of historical corpora have grown from one and a half million to hundreds of millions of words. Contextualizing is essential in pragmatics: assessments from of the narrow linguistic co-text to the broad cultural context and sociohistorical developments are of special importance. At present, new challenges are being posed by Digital Humanities, paving the way to future trends.

1. Introduction

Corpus pragmatics is a methodological framework that can adopt either synchronic (including historical stages of language) or diachronic perspectives. It relies on empirical assessments of authentic language use employing digital corpora, i. e. principled collections of natural texts, compiled according to some clearly defined criteria, usually aimed at being representative of the target language variety. Historical corpus pragmatics investigates real language use of the past, as recorded in historical corpora, and corpus compilation and annotation are its cornerstones. Studies make use of computer techniques in different ways, utilising different retrieval tools and quoting supporting evidence. The scope is broad: from mainly qualitative corpus-based studies to quantitative assessments relying on advanced statistical methods. The range extends from lexico-grammatical features and collocations to semantic and pragmatic aspects of language use, unfolding discourse and representations of attitudes and ideology. Real language examples need contextualisation and explications of the sociohistorical circumstances of text production and parties of communication, which are essential for all pragmatic studies. Consequently, the patterns of language use under scrutiny are considered in their multilayered context for interpretation.

Historical approaches to corpus pragmatics differ somewhat from corpus pragmatic studies on present-day materials (see Aijmer and Andersen in this volume). This chapter discusses characteristics, pitfalls and achievements of historical corpus pragmatics and points out relevant differences between modern and historical studies. It takes time before the potentials of new methods are developed in full and researchers learn to apply them in an optimal

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way.[1] The available databases have developed a great deal within recent years (see below 7.1) and provide an abundance of material with easy access. Metadata are sometimes given, but mostly the linguistic forms are retrieved in isolation from their textual and sociohistorical contexts, which require special study. Applications to historical pragmatics need developing, as contextualisation may present even more problems in historical studies than in assessments of present-day language use. Since the early days, the methodology has advanced and research questions have become more sophisticated. Indeed, in 2015 historical corpus pragmatics was pointed out as "one of the latest (and most fruitful) synergies of pragmatics and corpus linguistics" (Clancy and O'Keeffe 2015: 236). In the following, I shall survey how the field has developed since the early days, and how corpus linguistic methods have been applied to historical data for pragmatic research questions. I shall demonstrate their range, give some case studies, discuss the present state of the art and finish with future challenges.

2. A survey of the early stages

2.1. First steps of historical corpus pragmatics

Modern corpus linguistic studies were first conducted in the 1960s, but pragmatic studies came to corpus linguistics later in the nineties and after the turn of the millennium (Rühlemann and Aijmer 2015), and historical pragmatics on a larger scale even later (Jucker and Taavitsainen 2014). Historical topics were introduced into corpus linguistics with the *Helsinki Corpus of English Texts* (HC hereafter), compiled in the 1980s and released in 1991. The new principled and structured digital database was received with enthusiasm, as it opened up new possibilities and inspired a wide range of pioneering studies, but applications of corpus linguistic methods to pragmatic research questions had to wait till 1995. Frequency counts were an innovative feature in pragmatic studies of the mid-1990s, and although the applications were simple, they marked a new way of doing linguistic research.[2] Statistical methodology was borrowed from the hard sciences with their criteria of replicability and objectivity, but do these requirements really apply to language studies on human communication? Corpus-linguistic searches are replicable, but

[1] For example, at the initial phase the first frequency counts were often given without context. There was a break with the philological tradition, perhaps on purpose to emphasise the "scientific" nature of corpus studies. But this has been amended and contextual assessments are an essential component in all corpus studies now.

[2] However, only few studies on digital corpora with frequency data are found in the inaugural volume of the new branch of study, *Historical Pragmatics: Pragmatic Developments in the History of English* (1995, ed. by Jucker).

interpretations of the results always contain a subjective element, and although frequency counts can provide an answer to pragmatic research questions it may be with a societal or cultural slant. They are better suited for some other branches, e. g. at the interface between semantics and pragmatics where they can show the pace of pragmatic processes when tracing changes of meaning. Most importantly, the two key concepts of pragmatics, variability and negotiability (Verschueren 1999: 59), bring their own dynamics to corpus linguistic studies. The underlying theoretical view in corpus linguistics is the variationist approach to language, in which language is considered a constantly changing entity, with current options providing the basis of language use (see e. g. Milroy 1992). The pragmatic notion of variability can be defined as the range of possibilities from which choices can be made at any given moment in the course of interaction. Such options are sensitive to momentary and situational changes that may alter or even reverse the meanings. Furthermore, interpersonal relations may change in the course of the interaction as each new utterance creates new context. In historical studies, negotiated meanings may not be replicable as such, and early periods have their own peculiarities that should be taken into account. From the pragmatic point of view, two different realisations of an utterance, even if similar in their surface structure, may not be saying the same thing at all, as subtle shades of meaning are created in each new context.[3]

2.2. Historical corpora and their developments

We have come a long way to reach the present state of historical corpus developments. The pioneer was the HC, and after it several single-register or single-variety corpora were created by the HC team members, with correspondence, medical and scientific texts and Older Scots being the most important ones (see below and CoRD[4]). These corpora include several, of what at the time were, novel features, such as sociolinguistic awareness of corpus design, metatextual apparatus, and even the "visual prosody", e. g. lay-out and hand(s) on the page, in the source material of the *Corpus of Scottish Correspondence* (Meurman-Solin 2013). Early milestones of historical corpus compilation were the *Lampeter Corpus* (1999) that focused on pamphlets of various topics from 1640 to 1740, a time that is marked by the rise of mass publication, and the *Zurich English Newspaper Corpus* (ZEN), a collection of early English newspaper texts from the late 17th and 18th centuries. ZEN inspired studies on communicative aspects of language use already in the 1990s, prior to its release in 2004. The historical dialogue corpus, *The Corpus of*

[3] The notion of pragmatic variables (Jucker and Taavitsainen 2012) could prove useful in a researcher's toolkit e. g. by correlating pragmatic principles to background factors, such as sociolinguistic parameters and contextual information.

[4] The Corpus Research Database CoRD at http://www.helsinki.fi/varieng/CoRD/

English Dialogues (2006, CED), records texts of interactive face-to-face communication and is specially designed for pragmatic research tasks (see Culpeper and Kytö 2010). It became available to researchers in 2006. Part of it has been enriched with sociopragmatic annotation and will be discussed in connection with "rich" corpora; this is an area where a great deal has happened in recent years (see below and Archer and Culpeper in this volume).

The three corpora of early English medical writing, *Middle English Medical Texts* 1375–1500 (MEMT, 2005), *Early Modern English Medical Texts* 1500–1700 (EMEMT, 2010) and *Late Modern English Medical Texts* 1700–1800 (LMEMT, forthcoming), serve as examples of the development of corpus thinking and rethinking, as each part is composed according to different principles, partly depending on the source material and partly on the advances in digital humanities. MEMT is mainly based on editions, as it was not possible to transcribe texts in manuscript repositories for several reasons. The corpus compilers checked the reliability, and transcribed some early texts made for historians' use. EMEMT is mainly based on *Early English Books Online* (EEBO) texts. This corpus was a pioneer in taking the first steps towards multimodality among historical corpora with facsimiles of title pages and an image gallery of book illustrations. It also includes links to EEBO (subject to subscription) enabling the end user to have direct access to the original pages. Marginal notes, underlinings and pointing fingers in the margins, to draw the reader's attention, are rare but they give direct evidence of reader response where extant. Such marks facilitate the pragmatic analysis of the appropriation of texts and ideas. Metadata in the text catalogue gives contextual information, and e. g. links to the online *Oxford Dictionary of National Biography* prompt corpus users to make their own explorations to background data. The third part of the corpus series, LMEMT, is mainly based on *Eighteenth Century Collections Online* (ECCO) texts in collaboration with the Text Creation Partnership (TCP). The corpus has been developed in a new direction, as the texts are XML coded with metadata, and its annotation system allows searches according to various parameters (manual in preparation by Hiltunen and Tyrkkö).[5]

3. Pitfalls of historical corpus linguistics at the initial stages and at present

It is pertinent to begin this survey by taking stock with the earlier phases of the discipline. Its "fallacies" serve to illustrate how much historical corpus research

[5] The medical corpus has inspired further corpora on other branches of science. *A Corpus of English Texts on Astronomy* (CETA) was released in 2012, and *the Málaga Corpus of Late Middle English Scientific Prose* can be accessed, too (see the Appendix).

has developed since the early days. The present pitfalls are very different, as will be shown below.

3.1. Early fallacies

An inspirational article by Matti Rissanen (1989), a pioneer in historical corpus linguistics, deals with problems associated with work on diachronic corpora. He formulated three core axioms: "The philologist's dilemma", i. e. the fear that corpora "might mean the wane of philologically oriented language studies" (1989: 16), makes studies one-sidedly quantitative and discourage the study of original texts; "God's truth fallacy" or the ill-guided trust that a corpus gives an accurate reflection of the reality "as we are not intuitively aware of its limitations in the same way we are with corpora containing present-day language" (1989: 17); and finally "The mystery of vanishing reliability" is connected with corpus annotation, and needs further explanation. The HC is divided according to chronology and text type, and sociolinguistic parameters are also given. This fine-meshed coding is "inversely proportional to the amount of evidence in each information area sampled" (1989: 18–19), and the reliability of the quantitative analysis may suffer if the occurrences in each category are only few.

These points were relevant warnings at the early stage against, on the one hand, overdue optimism and, on the other hand, overdue worry that the corpus revolution would turn to mere number-crunching. With hindsight we can say that developments have not gone to the envisaged directions. Philology has made a comeback, but in a different form, relying on the newest digital technologies. Basic philological work in editing manuscripts has experienced a new renaissance (see below). Corpus linguists have learned the limitations of their methods and do not place unwarranted trust in the results. The methodology has developed greatly, our present toolkit contains several applications, and researchers have learned to combine various methods for more reliable results. Quantitative and qualitative studies are both applied to data in the same study. This interaction serves as an important methodological innovation combining statistical assessments with data contextualised as thoroughly as possible. Rissanen's third point is valid and taught to learners of corpus linguistics the preliminary warning that reliable conclusions cannot be drawn on too few occurrences. Thus the old pitfalls have largely been amended, but new ones have come to light instead and new worries have replaced the early ones.

3.2. Present pitfalls

Pragmatic studies on historical data pose several challenges. Change is an inherent feature of language, and the assumption that identical lexical items express the same concepts, in the past as now, often prove erroneous, and backwards: identical surface forms can have different meanings and connotations in different periods.

For example, the adjective *outlandish* only started to develop a negative sense in the mid-sixteenth century; in Sir Thomas Wilson's *The arte of Rhetorique* its meaning is simply "foreign" (Kay and Allen 2015: 16). Functions change and meanings change, and several different processes have been identified. Grammaticalisation, pragmaticalisation and discursisation work in different ways, and they have to be taken into account already when planning a historical corpus pragmatic study. Lists of linguistic features in modern grammar books cannot be relied on as the sole point of departure, but rather the repertoire of features for past periods needs critical scrutiny. The items may not be relevant for the time under investigation and new features may have been added to earlier items. *The Oxford English Dictionary* (OED hereafter) provides a reliable point of departure, especially if combined with the *Historical Thesaurus of the Oxford English Dictionary* (Kay et al. 2009), which lists changes according to the semantic fields and records entries and exits of their lexical items.

Another major pitfall is connected with the fact that the early stages of languages exhibit a great deal of spelling variation. Early studies on HC had great difficulties with this feature, as tools like *A Linguistic Atlas of Late Mediaeval English* (LALME)[6] were not available and could not be consulted. Middle English shows geographical variation to the extreme, personal pronouns and other deictic elements display dozens of different forms in various parts of Britain, e. g. the second person singular occurs in more than 420 manuscripts from all over the country with up to seven different manifestations in several of them.[7] For corpus linguists, variation in spelling makes it difficult to retrieve specific constructions from the original versions of texts in a reliable way (unless each possible spelling is checked against wordlists). The current remedy to this problem is offered by normalised versions of texts. Corpus software programs designed for this purpose are now available and can be run through the data, but manual checking is required to ensure that the process goes right and correct forms are given as replacements of non-standard forms. The standardised texts are then used, instead of the originals, to secure that the computer performs the frequency calculations right. Automatic or almost automatic new tools have been developed for this purpose. The Variant Detector program (VARD)[8] was developed for Early Modern English, but the recent trend is to apply normalisation to later texts as well (e. g. in the Archer, *A Representative Corpus of Historical English Registers*, up to 1850; personal communication with the compilers). The default values work well for late eighteenth- and nineteenth-century texts, e. g. for standardising abbreviated endings (*'d*), but

6 The opus came out in four volumes in late 1986 and the electronic version was released in 2013. With a "fit technique" written texts can be localised with precision on the basis of their co-occurring spelling forms.

7 Other medieval vernaculars have the same characteristic.

8 By Alistair Baron. Version 2.5.4 available in 2016, http://ucrel.lancs.ac.uk/vard/user-guide/

for the earlier periods the program needs manual training and sometimes even translation at the initial stage. At the final stage, for quoting illustrative examples, the researcher should go back to the originals.[9]

4. Research questions

In the twenty years of historical corpus pragmatics research questions have developed from simple tasks to more elaborate and more diversified research agendas (see Taavitsainen and Jucker 2015). At first, studies were descriptive and focused mostly on the uses and meanings of single items, but soon topics expanded to larger entities, like pragmatic markers (Brinton 1996). Studies on pragmatic functions and motivations for language change are in accordance with the Anglo-American approach to historical pragmatics.[10] Research questions of this type are common in historical corpus linguistics and ratios of newer and older variants indicate the pace of change and help to pinpoint the time when the frequencies were reversed and periods of accelerated change occurred.[11] Lexical items provide the search words for these studies, as well as the starting point for other kinds of corpus linguistic searches in the early period. Most pragmatic research questions, however, pose severe problems and do not lend themselves to numeral measurements and statistical calculations for several reasons. The broader European view, also called the perspective view, enhances the societal context of language use in human interaction and states that any language feature can gain pragmatic uses.[12] Gradually in the 21st century the repertoire widened to utterances and larger pragmatic units like speech acts and responses to them. In these studies, methodologies for tracing utterances and their perlocutionary effects were developed in various ways. The first object of study was insults (Jucker and Taavitsainen 2000) and responses to them proved important, because they showed whether the utterance was perceived as an insult. Utterance pairs with the second part in kind were common in rituals. In another study, metacomments were paid attention to as means of detecting relevant loci for speech acts in discourse. An ethnomethodological approach charts

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9 It is important to keep the original and the normalised versions clearly apart, and this has been taken into account in EMEMT by carefully designing the corpus so that the layers cannot be confused.

10 Traugott defines the field as "usage-based approach to language change" (2004: 538).

11 The focus is on the history of pragmatic units in language and pragmatic explanations for language change especially in the processes of grammaticalisation. The Invited Inferencing Theory of Semantic Change (Traugott and Dasher 2005) charts predictable paths for semantic change across time.

12 Jucker (2008: 895) enhances the societal context; see also the discussion on historical (socio)pragmatics in Włodarczyk and Taavitsainen (2017).

how speech acts were talked about; relevant examples were detected by examining loci where the speech acts were mentioned by their labels, even if the words were not used performatively but descriptively (Taavitsainen and Jucker 2007).[13] Other expressives (greetings, compliments, apologies), requests and commissives (promises) followed in articles by various scholars in a collective volume on speech act history (ed. by Jucker and Taavitsainen 2008). Valkonen (2008) focuses on performative instances of promises with the appropriate speech act verbs in eighteenth-century prose, and Kohnen (2008) presents a report on directives throughout the history of English. This line of enquiry proved a good source for inspiration and is increasingly active.[14]

Preliminary results of historical corpus pragmatic studies already show a few tendencies. In meaning change the general trend is from more concrete to more abstract. Its two important stages are subjectification and intersubjectification; subjectification being the expression of the self, and intersubjectification the speaker's awareness of the other participant (Traugott and Dasher 2005: 20). In studies on more societal issues, emphasis is laid on discursive assessments with each additional utterance creating new context. The objects of study have also become more abstract than before, towards ideological representations and politeness studies (see below; Rayson 2015; Taavitsainen 2015).

5. Points of departure and retrieval tools

5.1. Top-down and bottom-up methodologies

Corpus linguistic studies on historical topics have mostly been conducted with the "top-down" (deductive) method. The point of departure is a linguistic feature identified as relevant for the research task in grammar books, thesauri and earlier studies. The occurrences of these features are then verified in previously unexplored data. Modal verbs or adverbs of various kinds are typical research items, and the questions may concern their increasing or decreasing ratios in tracing language change by relevant processes (cf. above). The alternative is the "bottom-up" (inductive) method, which is also called corpus-based, and relies on what the material yields. This method has gained ground in recent years, and it is also possible to combine the two.

In a recent study on stance by Whitt (2016), the research aim was to find out how writers encode their evidence for asserted propositions in EMEMT (1500–

[13] This method gave an incentive to develop the "sliding window" method for retrieving stance devices (see Landert forthcoming).

[14] The most recent contribution is an article by Jucker (2017).

1700) and to trace the decline of medical scholasticism in more detail than had been done in earlier pilot studies. In order to identify evidential markers in the EMEMT corpus, Whitt employed a combination of top-down and bottom-up analyses (see Pahta and Taavitsainen 2010: 563). A list of items identified in previous research on the topic provided the search words for the top-down method. The corpus categories that form the structure of the corpus provided an analytical grid for the top-down corpus searches. The assessment was complemented by a bottom-up survey through qualitative, close reading to verify additional items that carry the same or related meanings and to secure that nothing goes unnoticed. For this bottom-up study, close reading of 2,000 word extracts in fifty-year slots from each corpus category was done. The retrieved frequencies were normalised to a rate per 10,000 words to make them comparable. The results revealed frequently occurring constructions involving *that* clauses and *as X says* (cf. Gray, Biber and Hiltunen 2011). The corpus was searched for them as well, and a high number of relevant examples were found. In addition, morphologically related variants of the identified items were searched for. An analysis of variance (ANOVA) test was used to determine whether the differences in frequency among the periods were statistically significant ($p < .05$). In addition, Levene's test of homogeneity of variance, Kruskal-Wallis one-way analysis of variance, the Shapiro-Wilk test of normality, and the Mann-Whitney U-test were applied when pertinent (for further information of these tests, see the bibliography of Whitt's article). The hypothesis was that a gradual decline in markers of mediated scholastic information would be complemented by a significant increase in the use of markers of direct observation and inference through markers relating to information mediated by non-scholastic authorities and hearsay. The process was, however, more complicated. Scholastic thought declined significantly during the two-hundred-year period under investigation, but remained influential at least to some extent till the end. Old authorities came under increasing scrutiny among a variety of choices in the medical marketplace, but this matter warrants further investigation, in longitudinal studies of evidential markers in medical writing beyond the period in focus.

5.2. Corpus linguistic tools

Sophisticated modern corpus-linguistic tools have made new research paradigms possible with a rich array of applications. The repertoire extends from frequency analysis and wordlists to concordances and collocations, key-words, and n-grams that are not restricted to word pairs only but find strings of co-occurring words of varying lengths. They are among the most important tools in a corpus linguist's tool kit today. Wordlists provide a preliminary way of exploring the data and are often useful for researchers to glean the vocabulary for variants and synonyms as a preliminary orientation to their research tasks.

5.2.1. KWIC concordances

Keyword-In-Context (KWIC) concordances have surpassed numerical frequency counts. They have gained wide currency as a ready and useful way of getting acquainted with the material and demonstrating the narrow linguistic co-text. For example, we can see at a glance whether a word, such as *wish*, is a noun or a verb, as in

> u.^) $] O fie woman, what a wish is that? if (^Abigail^) had D2HOSNAW
> Fortunes, I repent em, And wish I could new ioynt and stren D2CWILKI[15]

It is also quick to detect whether the assessed form occurs in a direct speech quotation, an indirect quote or a narrative passage, and whether it occupies an initial position in a sentence or is added as an additional tag. These are essential pieces of information for pragmatic analyses. Negotiations of meaning become evident e. g. in the following lines, whether the word *sorry* is used in describing an emotional state or performatively in the speech act of apology, or ambiguously between the two:

thee; alass poor Man, I am sorry for him^). [$Miss then de	D5WBLAND
were going to gag us. I am sorry Sir, [$ (said he to (^Call	D5FDAVYS
im.^) $] Farewel, Sir. I am sorry I must leave you so soon,	D5CMILLE
leman! Why, she says she is sorry she could not send them so	D5CHOADL

Tools like AntConc (http://www.laurenceanthony.net/software) and WordSmith (http://www.lexically.net/wordsmith) allow navigation between text and search findings and their interpretations, which is needed for demonstration and guarantee of the accuracy of the quotation. In general, technical and methodological innovations have enabled researchers to carry out more complicated analytical tasks, sometimes resulting in "radically different perspectives on language variation" (Biber and Reppen 2015: 2). This statement is not specified more closely in the source, but it can be taken to refer to the historical dimension, especially historical corpus pragmatics as it is mentioned as one of the most versatile fields of corpus linguistics in the same book (see section 1).

5.2.2. Keyword analysis

Keyword analysis has already become one of the most frequently applied methods of corpus linguistics and has been applied to historical studies e. g. at the interface between historical sociolinguistics and pragmatics. The method is based on significance tests to distinguish significantly more frequent or significantly less

[15] The KWIC lines come from the CED (see the Appendix).

frequent words in the target corpus than in a reference corpus. The application of the method is easy as the computer performs the calculations, but the corpus user's own role begins by designing the study in a competent way, and it continues with the challenge of selecting the most appropriate reference corpus for the target corpus so that the comparison is sensible (like with like, not apples and oranges). After retrieving the evidence, the researcher's task is to interpret the Key word list as the mere words do not tell much but need to be grouped and their meanings need to be discussed within their multilayered contexts (see below).

5.2.3. Collocations

Collocations, i. e. the combinations of words that attract each other, have become one of the main objects of study at the interface between corpus linguistics, sociohistory, semantics and pragmatics. Collocations reveal word meanings and through them we can have access to semantic shifts, as well as to the negative or positive semantic prosody of a linguistic item. Consistent co-occurrence patterns of a word (to a degree greater than chance) also permit an assessment of sociohistorical attitudes.[16] Several ambitious research projects have been launched in this field lately. Phrasal structures and ready-made chunks are of interest to cognitive linguistics, and collocations can also be analysed to achieve insights into underlying ideologies.

In a study combining historical sociolinguistics with pragmatic contextual analyses of the examples to anchor them to their users, McEnery and Baker (forthcoming) study seventeenth-century collocations as expressions of attitudes used with reference to the criminalised poor. The first step was to identify words referring to the group in Early Modern English. Intuition is an unreliable source, and therefore official records were consulted, including British History Online, and the frequencies of relevant words in the corpus itself were taken as a guideline for inclusion into the list of search items. The data of the study came from EEBO that currently offers access to over 39,212 texts from the seventeenth century, amounting to just under one billion words,[17] and can be accessed via the Corpus Query Processor (CQP).[18] A technique was developed to trace meaning changes by looking at collocates over time. The four words *beggar*, *vagabond, vagrant* and *rogue* were repeatedly mentioned, not only in state legislation but in sessions rolls, state papers and county records, and they were also used to describe the criminalised poor. The frequencies were high enough to allow an analysis by the

16 See McEnery and Hardie (2012: chapter six).

17 The precise figure is 996,472,953 words, as available for the seventeenth century in version 3 of the EEBO-TCP corpus as used in this paper.

18 See Hardie (2012).

decades throughout the century. The occurrences were normalised to frequencies per one million words as a necessary step for comparisons of decades against one another. The results showed three different kinds of collocates. Consistent collocates have a stable relationship and always occur together. Second, words that can acquire collocates in the course of time are called initiating collocates. The third kind was named terminating collocates, i. e. lost within the study period. Further observations indicate that transient collocates cause a concept to develop, but are discarded soon after the debates are over. From the beginning of the seventeenth century onwards, *beggar*, *vagabond* and *rogue* all appear as strong collocates of one another, and they also collocate with *vagrant* throughout the second half of the century. At first sight the words may appear to be synonyms, but textual evidence of context shows them to be near-synonyms instead, as subtle distinctions can be discerned by exploring them in more detail. The method is versatile and can be developed further for even more purely pragmatic purposes.

5.2.4. Methods of statistical assessment

Methodological issues also include various statistical tests used in evaluating the significance of corpus findings. Mastering the discipline involves awareness of the tools to operationalise the research questions with appropriate methodology, which "corpus linguistics has only begun to develop" (Gries 2015: 50). A great deal has happened in this area since the early days. Simple significance tests with binary research settings, comparing A with B, were typical of the early phase, but sophistication has increased in statistical measurements and researchers use triangulation with several different methods to achieve more reliable results. A welcome property of the programs to many researchers is their readiness to perform statistical calculations and significance tests for us. The exploitation of corpus linguistic techniques has been made easy for the end-user, as it suffices to understand the purpose and the mechanism and to plan the research in a proper way; the more technical aspects are taken care of by the programs. In studies designed to answer research questions of diachronic pragmatics, scholars have been looking at the increase or decrease of linguistic features over time and their dispersions to indicate how evenly or unevenly the items are distributed in the corpus. For example, a recent corpus study on diachronic pragmatics[19] focused on phraseological variation of the adverb *so* followed by a delayed declarative content clause with adjectival, nominal or adverbial heads in EMEMT (1500–1700) (Hiltunen 2012).

[19] This branch of historical pragmatics investigates functional changes of linguistic patterns over time from the perspective of diachronic pragmatics, i. e. specific linguistic patterns are identified and their frequencies and co-occurrence patterns are studied as evidence for semasiological change (see Traugott and Dasher 2005: 100).

The results showed that the pattern is used for indicating degree, extent or manner and the trend was typical of learned texts, in descriptions rather than instruction. Dispersion studies of linguistic patterns seem to be a rising topic among historical corpus pragmatics, especially when combined with phraseological units in special registers or genres.

6. Contextualising language use

Pragmatics takes people into account: utterance context includes participant identities, their beliefs and intentions as well as their shared common ground, and provides clues to the interpretations of meaning (Levinson 1983: 5). Therefore it is of importance to ask the *wh*-questions *who, what, where, when,* and *why* (and *how*, too). Situational constraints determine which of the available variants is chosen (see above, variability and negotiability). The same expression can have different meanings in different situations and knowledge of the circumstances as well as speaker and addressee parameters are essential. Contextual mappings and illustrative examples are necessary in historical corpus pragmatic assessments and the overlap with sociolinguistics is considerable. But, as pointed out above, it is important to master the background facts of texts even prior to the study itself in order to formulate relevant research questions. Historical corpora are being refined with metadata that give ready access to sociolinguistic textual coordinates. The discourse locus of the feature is essential for the textual context, and therefore whole or at least longer stretches of texts are needed for assessing unfolding discourse, as the context changes with each new addition, and there may be several layers and several genres embedded in texts that lend their own colourings to the interpretations.

6.1. Genre context

In contrast to the concrete contexts of lexical co-occurrence shown e. g. in KWIC concordances, more abstract levels have become increasingly important for historical corpus pragmatics. Genres can be defined as groupings of individual texts that provide models for production and interpretation, guiding authors in their writing processes as well as audiences in making sense of the text, e. g. genre labels like “jests” guide the readers’ expectations. One reason why genres are taken into account more prominently than before is due to the insight that various developments take place at different rates within different genres (Taavitsainen 2016a). Furthermore, different genres may lend different colourings to word and utterance meanings. Thus genre contexts give essential clues for interpreting meanings. Irony and sarcasm are good examples of context sensitivity. Eighteenth-century prose abounds in ironical and satirical readings building on subtle techniques of

reversing the surface meanings by contextual clues, e. g. Jonathan Swift takes the satirical vein into its extreme, and in the following century Oscar Wilde was a master of adding ironical shades, turning compliments to insults and thanking to shrewd or even nasty comments with sugar coating.

6.2. Cultural context

In search of explanations for language change, the larger and more abstract contexts play an important role. Cultural aspects, including the thought style and the world view, with the position of man and his relation to the surrounding world, take the centre stage here: stance expressions changed as medieval scholasticism relying on the logocentric mode of acquiring knowledge by studying ancient authorities gave way to empiricism and observation as the mode of knowing in the early modern period.[20] It is, however, often difficult to find such correlations as past periods are more or less foreign to modern researchers.[21] The strangeness of past cultures and their textual products has received attention in the earlier literature with its " surprising otherness" and of literary texts that surpass "the original communicative situation" and acquire universal meaning (Jauss 1979: 182). Another (partly overlapping) quality of medieval texts is their "openness" (Bergner 1995), i. e. their inherent vagueness of meaning.[22] The quality of openness and vagueness is exactly what the above-mentioned strangeness of past culture refers to and it is not only a medieval feature but extends to more recent centuries. Shakespeare's plays exhibit the same fuzziness of sentence boundaries, and alternative readings may be possible as medieval texts often escape clear-cut clause divisions (e. g. Jucker and Taavitsainen 2013: 16). This feature presents one of the caveats that text editions pose as they may define the "correct" readings by editorial decisions (for a remedy, see below). Even later eighteenth-century irony and sarcasm remains hidden or obscure without explanations. With the demand of contextualization and an understanding of the special quality of medieval and other past literatures, we come close to philological scholarship that relies on textual interpretation, and the researchers' profound knowledge of the language form and culture.

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20 See the Scientific thought styles homepage for publications https://www.helsinki.fi/en/researchgroups/varieng/scientific-thought-styles-the-evolution-of-english-medical-writing.

21 From this point of view historical studies are related to cross-cultural research.

22 This vagueness is largely due to the loss of contextual knowledge and is a common feature in medieval texts. Old French was discussed by Fleischman (1990) and more recently by Schrott and Völker (2005).

7. Present trends of historical corpora and new challenges

Historical corpora were described as "long and thin" in contrast to "small and fat" or "small and tidy" in contrast to "big and messy" (Kohnen 2007, 2009), but the scene has radically changed in recent years. Two largely contradictory directions of corpus development have emerged.[23] Small and often purpose-built corpora are advocated as ideally suited for corpus pragmatics because of their contextual anchoring, especially as the analyses are often conducted by compilers of the data with "unique insight into the context" (Clancy and O'Keeffe 2015: 244). In historical pragmatic studies, philologically-oriented multi-layered corpora are somewhat comparable to modern spoken or multimodal pragmatic corpora which rely on rich contextualisations that enable micro-level assessments. The opposite trend is towards megacorpora that defy contextualisation in the traditional way, but open up new possibilities at the same time to historical corpus pragmatics with methodological innovations. In the following, I shall deal with these opposing trends and proceed according to a three-fold division into big data, rich data and uncharted data.[24]

7.1. Big data

In recent years megacorpora of large electronic text collections have become available to linguists. The sheer amount of data may pose practical problems and it is not possible to master the contents of texts in the same way as of smaller data sets. Contextualisation becomes more difficult with increasing size. HC contained some 1.6 million words while the *Corpus of Historical American English* (COHA) has 400 million words of text extracts from the 1810s to the 2000s.[25] Even larger historical datasets are available. The *Ngram Viewer* (http://books.google.com/ngrams/) relies on a database consisting of 361 billion words from millions of books from

[23] This discrepancy is what we called the "double binds" in our introduction to *Diachronic corpus pragmatics* (Jucker and Taavitsainen 2014: 12).

[24] This formulation echoes the three trends as the conference theme in "From data to evidence" in Helsinki in October 2015. I shall proceed in this order, although annotation has recently been pointed out as the "holy grail" of corpus pragmatics (Clancy and O'Keeffe 2015: 251), perhaps as the pragmatic research applications to big corpora had not been conducted at the time of writing.

[25] Whole texts are not available for copyright reasons; pragmatic analysis often needs more context. See Mark Davies's homepage http://davies-linguistics.byu.edu/personal/ and the corpus page http://corpus.byu.edu/.

1500 to 2000 scanned by the Google Books project (see Michel et al. 2010).[26] It has proved useful for overviews of developments.

As discussed above, researchers of historical corpus pragmatics have come to accept the demand of reading the original texts with care. McEnery and Baker (forthcoming), who focus on changes of collocations and constructions in a hundred-years' perspective (see 5.2.3), discuss the demand of close reading for contextual assessment in connection with the "big data" approaches to humanities. They advocate rich interaction between the examples retrieved by corpus linguistic techniques and large-scale characterisation of the data, cycling between close and distant reading. In their view, corpus searches lend a bird's eye view to the material, but the retrieved examples need to be scrutinised by qualitative reading.

The first big collections of digital historical texts were included in large literary databases in the Chadwyck-Healey collections (1996–2011). They provided interesting data for historical pragmatic research tasks, especially for historical speech act studies (see above), but there are obvious problems that hinder the application of corpus linguistic methodology in full. These literary corpora can provide data for lexical uses, but it is impossible to count the relative frequencies of linguistic features or to apply more advanced statistical methods. Thus the applicable methodology is necessarily a qualitative corpus-aided study. Arnovick's pioneer study (1999) traces the development of *good-bye* by the process of discursisation and presents exciting new evidence of the development by moving at the interface between language and literature. The problem of data retrieval for studies on historical speech acts is difficult (see above and Taavitsainen and Jucker 2008b). Literary databases are also being developed towards more user-friendly corpus-linguistic applications. Corpus descriptors or descriptive meta-data, with standardised text headers, are innovative devices created to aid researchers in finding appropriate data for their studies in the genre-based and genre-balanced, and even part-of-speech tagged version of the 34-million-word *Late Modern English Corpus* 1710–1920 (CLMET 3.0; see Diller, de Smet and Tyrkkö 2010).

Even more comprehensive data is provided by EEBO (v. 3, see above). Methods are being developed to collect, manage and interpret the data in their historic contexts (see above). ECCO provides an equally large database, and both have the advantage of bringing page images of almost all published books in English to the researchers' desks (subject to subscription). Other mega-data include online dictionaries, compendia and other electronic collections that open up huge visions as they allow access to almost all texts that have survived from a historical period. From the time before book printing, we have the whole extant Anglo-Saxon lit-

[26] The *Ngram Viewer* lists ngrams derived from these texts without any context. Pitfalls with the process of automatic scanning (OCR) may give rise to erroneous forms (see Jucker, Taavitsainen and Schneider 2012).

erature as an electronic *Dictionary of Old English Corpus*, and most of Middle English literature is available as text in the *Middle English Compendium,* although most recently published editions are not included. The OED can also be used as a corpus, though its examples are short consisting of one clause or sentence in isolation from their larger context.[27] It provides an important addition to English electronic resources and is particularly useful for historical pragmatic research tasks at the initial stages for checking the search items listed e. g. in modern grammars to avoid the pitfalls (see above).

7.2. Rich data

The term "rich data" refers to annotated corpora that contain more than the text itself for added value to the end-user.[28] Ambitious schemes of rich annotations to grasp the subtleties of language use have already been realised, to some extent, in several corpora to facilitate data retrieval for pragmatic purposes. Researchers have come up with innovative solutions. Such metadata about sociolinguistic parameters and information about pragmatic units have been integrated into corpora to allow direct access to relevant material. A section of the *Corpus of English Dialogues 1560–1760* with annotations is called the *Sociopragmatic Corpus*.[29] Tagging includes sociolinguistic information such as age, status and gender of the speaker and the addressee as well as of participant roles and relations. In contrast to part of speech analysis, which can be performed automatically,[30] pragmatic and sociolinguistic annotation has to be performed by hand (see Archer 2005). A similar tagging model has been applied to drama texts in the *Drama Corpus of Early Modern English*, comprising 242,561 words from 1500 to 1760 (see Lutzky and Demmen 2013). It has been used for some research tasks, e. g. for tracing the frequency distribution of the different forms of *pray* with the variables of social status and gender taken into account. The 50-million-word *Old Bailey Corpus* of court trials documents spoken English from 1720 to 1913 and allows similar research tasks to be performed thanks to its sociolinguistic tagging and mark-up of participant roles (see Huber 2007).

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27 Thus it was necessary to go beyond to the original publications to verify, e. g. the genre context and more subtle shades of meaning in the OED material provided by the *Historical Thesaurus* on the metaphorical uses of address terms (Taavitsainen 2016b).

28 HC was the pioneer in this respect, too, as it has sociolinguistic and generic information attached to it as descriptive metadata.

29 The principles of pragmatic annotation are discussed by Culpeper and Archer in this volume; see its bibliography for earlier work.

30 These taggers have been developed for historical corpora by the same team that devised the automatic spelling normalization tool VARD.

We are also witnessing the rise of a novel philological trend of historical pragmatics. Various types of annotation and mark-up have been added to manuscript texts, and in an ideal case the manuscript page images are also given. Multimodal assessments rely on textual lay-out features like line spacing, types of hands, graphs and other visual aids. Contextual assessments range from the narrow linguistic co-text to anchoring the text to the original audience and subsequent users through possible marginal notes and signs of wear, all the way to the cultural context. More recent innovations in corpus compilation and mark-up can be found, for example, in *An Electronic Text Edition of Depositions 1560–1760* (ETED, see Kytö, Grund and Walker 2011). It is a novel type of corpus, based directly on manuscript sources. Physical features of the text have also been included. This branch of study has inspired some projects as well (see Carroll et al. 2013). Manuscript repositories are adopting more liberal policies with image reproductions on their webpages, which encourages the study of manuscript pages in the digital age.

7.3. Uncharted data

A great amount of uncharted material still exists in manuscript repositories that offer plenty of opportunities for original research. Sources that have not been systematically charted may contain features that call for revisions in our present notions e. g. of language history periodisation and styles of writing. As an example of what uncharted data can yield, it is pertinent to refer to a scholastic commentary that had remained unnoticed until fairly recently. It has brought to light additional characteristics of highly learned vernacular scholastic argumentation (Taavitsainen and Schneider forthcoming). Another kind of uncharted material can be found in data that has been "edited" for other purposes than linguistic research and needs to be revised for linguistic investigations, e. g. the Old Bailey corpus was first used for historical research but the corpus for linguists has undergone meticulous checking for accuracy.

Most corpora including medieval materials rely on edited texts for their sources. Editorial practices are the target of a heated debate at present as it is the editors' judgments that are given in these texts, e. g. syntactic structures are framed with punctuation, but alternative readings are possible as well (Smith and Kay 2011; Kytö and Peikola 2014). The renaissance of manuscript studies extends to editing texts, and the field has become an important branch of digital humanities backed up by the most modern digital techniques. Philologically-oriented corpora are being created and remodelled with fresh principles as an answer to the demands of preserving the quality of "openness" that makes multiple interpretations possible; in an ideal case the editions would allow researchers to see the original manuscript pages and judge for themselves, but unfortunately this is not always possible for copyright reasons and high costs of image reproduction. In recent editions, simple transcriptions without editorial intervention are included, but an edited version of

the text that gives an informed interpretation is also given (see Taavitsainen and Fitzmaurice 2007; Honkapohja, Kaislaniemi and Marttila 2009; Marttila 2014).

8. Future trends: From present-day to historical

Diachrony includes the past, the present and the future. Language is an ever-changing entity, and corpora recording modern language use become historical in the course of time. The pioneer corpora of the 1960's, *Brown* and *London-Lund*, have changed from surveys of language use in the present to language use in the past, and new time slices have been added with the same compilation principles to show how language changes within 75 years (1931, 1961, 1991 and 2006). *The British National Corpus* is becoming historical as well, and the artificial division into present-day and historical corpora is being blurred even more than some decades ago. Present-day large corpora of different genres and varieties (e. g. COCA, GloWbE), and corpora created by web crawling (e. g. EnTenTen, UKWaC) will face the same transition into historical soon.[31] The pace seems to be even faster with internet genres, and newspaper materials are gathered to monitor corpora, where yesterday's papers present the most recent historical items of the past. These developments, among others, have brought forth a new way of looking at language where diachrony and synchrony are no longer separated, but seen as "essentially overlapping processes, and one cannot be understood without the other" (Aitchison 2012: 19). Researchers have come to realise that there is diachronic depth in present-day practices and language use needs context as it undergoes a dynamic process of variation and change every moment. Trends pointing to the future can only be predicted, if placed into perspective with the present and the past.[32]

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[31] For details of modern corpora, see Andersen in this volume.

[32] Creating a long-line perspective with the past, the present and the future is perhaps the ultimate goal of historical linguistics and thus relevant for historical pragmatics, too (see Lass 1997: chapter 1).

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Appendix: Historical corpora available for research

For a more complete list of historical corpora, see CoRD, http://www.helsinki.fi/varieng/CoRD/corpora/index.html.

General:

A Representative Corpus of Historical English Registers (ARCHER) Compiled under the supervision of Douglas Biber and Edward Finegan at Northern Arizona University, University of Southern California, University of Freiburg, University of Heidelberg, University of Helsinki, Uppsala University, University of Michigan, University of Manchester, Lancaster University, University of Bamberg and University of Zurich; see www.llc.manchester.ac.uk/research/projects/archer/.

Corpus of Late Modern English Texts (CLMET) Compiled by Hendrik De Smet, Hans-Jürgen Diller and Jukka Tyrkkö; see https://perswww.kuleuven.be/~u0044428/.

The Corpus of Historical American English (COHA) see http://corpus.byu.edu/coha/.
Eighteenth Century Collections Online (ECCO) see http://www.gale.cengage.com/DigitalCollections/products/ec co/ about.htm.
Early English Books Online (EEBO) see http://eebo.chadwyck.com/home.
Helsinki Corpus = The Helsinki Corpus of English Texts
1991 Compiled by Matti Rissanen (project leader), Merja Kytö (project secretary); Leena Kahlas-Tarkka, Matti Kilpiö (Old English); Saara Nevanlinna, Irma Taavitsainen (Middle English); Terttu Nevalainen, Helena Raumolin-Brunberg (Early Modern English); see http://www.helsinki.fi/varieng/CoRD/corpora/HelsinkiCorpus/index.html.

Correspondence:
Corpus of Early English Correspondence (CEEC) and its extensions
1998 Compiled by Terttu Nevalainen, Helena Raumolin-Brunberg, Jukka Keränen, Minna Nevala, Arja Nurmi and Minna Palander-Collin (Department of English, University of Helsinki); see http://www.helsinki.fi/varieng/CoRD/corpora/CEEC/index.html.
Corpus of Scottish Correspondence (CSC) Compiled by Anneli Meurman-Solin (University of Helsinki); see http://www.helsinki.fi/varieng/CoRD/corpora/CSC/index.html.

Science:
Corpus of *Early English Medical Writing* (CEEM) see www.helsinki.fi/varieng/CoRD/corpora/CEEM/index.html.
Middle English Medical Texts 1375–1500 (MEMT)
2005
Early Modern English Medical Texts 1500–1700 (EMEMT)
2010 see Taavitsainen and Pahta (eds.)
Late Modern English Medical Texts 1700–1800[33] (LMEMT) See Taavitsainen and Hiltunen (eds.) forthcoming.
A Corpus of English Texts on Astronomy (CETA)
2012 See Moscovich, Isabel and Begoña Crespo (eds.) Amsterdam: John Benjamins.
The Málaga Corpus of Late Middle English Scientific Prose Javier Calle-Martín and Antonio Miranda-García; see http://hunter.uma.es/.

Dialogues:
Corpus_of_English_Dialogues (CED) see www.engelska.uu.se/Research/English_Language/Research_Areas/Electronic_Resource_Projects/A_Corpus_of_English_Dialogues/.

[33] More information about LMEMT in the *ICAME Journal* 38, March 2014, 137–153 http://www.degruyter.com/view/j/icame.2014.38.issue-1/icame-2014–0007/icame-2014–0007.xml

Literature:
Chadwyck-Healey Literature Collections, Online (LION) see http://lion.chadwyck.com./.

Court room and legal settings:
An Electronic Text Edition of Depositions 1560–1760 (ETED)
2011 Kytö, Grund and Walker (eds.)
The Old Bailey corpus see http://www.uni-giessen.de/oldbaileycorpus/.

Newspapers and pamphlets:
The Lampeter Corpus of Early Modern English Tracts (LC) see http://www.helsinki.fi/varieng/CoRD/corpora/LC/index.html.
The Zurich English Newspaper Corpus (ZEN), see http://www.helsinki.fi/varieng/CoRD/corpora/ZEN/index.html.

Dictionaries and thesauri
Dictionary of Old English Corpus in Electronic Form (DOEC)
2004 Compiled by Antonette diPaolo Healey, Dorothy Haines, Joan Holland, David McDougall, Ian McDougall and Xin Xiang (University of Toronto); see http://www.doe.utoronto.ca/pub/corpus.html; for earlier versions, see http://www.doe.utoronto.ca/pub/pub.html; see, also, http://www.doe.utoronto.ca/.
The Historical Thesaurus of English, version 4.2.
2016 Kay, Christian, Jane Roberts, Michael Samuels, Irené Wotherspoon, and Marc Alexander (eds.) Glasgow: University of Glasgow; see http://historicalthesaurus.arts.gla.ac.uk/.
Middle English Compendium see http://quod.lib.umich.edu/m/mec/.
Oxford English Dictionary Online (OED *Online*) see http://www.oed.com/.
Oxford Dictionary of National Biography see www.oxforddnb.com.

22. Corpus pragmatics: From form to function

Karin Aijmer

Abstract: Corpus-pragmatic studies, in general, are form-based and they start with mapping words or constructions onto a range of functions. Examples of functional categories which need to be described in this way are discourse markers, interjections, address terms and hesitation markers. The availability of spoken corpora has now made it possible to study how structural and prosodic properties correlate with function and with the speech situation. The form-to-function relationship has been addressed in different theoretical frameworks both synchronically and diachronically.

1. Introduction

Pragmatics is concerned with how people use linguistic resources to address "problems of speaking, hearing and understanding" (Dingemanse, Blythe and Dirksmeyer 2014: 5). Assuming that there are lexical words or constructions which are oriented to these problems as their starting-point, we can ask questions such as: what are the communicative functions associated with a linguistic expression and how has the form or structure been adjusted to better fit the interactive functions the expression is intended to perform? Such questions are inspired by the availability of real, interactional data. According to Schegloff et al. (1996: 11), "real-time data have inspired a radical shift in the kind of question being asked. Scholars interested in the relation between form (grammar) and function are beginning to examine the probability that categories of grammatical description need to be made responsible to the categories appropriated to describing communicative interaction".

We now have access to a number of spoken corpora which can be used to study pragmatic phenomena on the basis of naturally spoken interaction (see for example Rühlemann and Aijmer 2015: 4). Corpus-based pragmatic studies are generally form-based, and they start by mapping words or constructions onto a range of functions. Examples of functional categories which need to be described in this way are discourse markers, interjections, vocatives, hesitation markers (*er, erm*), address forms, and expletives. An advantage of the corpus-based approach is that the forms can be studied with great precision with regard to frequency distribution, position, prosody, collocation and function. On the other hand, the method may perform badly "in terms of recall" (identifying all the examples of a particular function) (Rühlemann and Aijmer 2015: 10). In the following example (simplified

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from Dingemanse, Blythe and Dirksmeyer 2014: 6) *who?* has the function of initiating a repair of what was said in the preceding turn:

(1) A: oh Sibbie's sister had a baby boy
B: who?
A: Sibbie's sister
B: oh really

Speaker A produces a turn at talk that B treats as problematic by initiating repair in the next turn. The method has its advantages and disadvantages. While the form-to-function approach excludes by definition the ability to search for alternative ways in which the repair function can be realised (such as *huh?; what?; you mean* + noun), it has the advantage of providing a rich description of the function(s) of a particular form in many different situations and activities, and in different syntactic positions.

My contribution to this volume will focus on corpus pragmatics taking as an example, corpus-based form-to-function approaches to discourse markers in the first place, interjections, hesitation markers and address forms in the second place. I will consider the type of research question the approach merits, and I will discuss, by means of examples, the strengths and weaknesses of the method. In this approach, the overriding research question is how we can account for all the different interpretations that a specific linguistic form can receive in the speech situation, and to do this, we have to take a closer look at function and the context in which the discourse marker occurs in the corpus data. From a different angle, we also have to deal with the contribution of position, prosody, non-verbal features such as gesture, and turn-taking phenomena to the construction and interpretation of meaning.

The rest of the article is structured as follows. In section 2, I discuss the form-to-function-method in more detail relating it to corpus-based analysis and, in particular, its application to discourse markers. Section 3 argues and demonstrates that formal properties provide an entry into understanding the function of pragmatically interpreted elements. Section 4 discusses what we mean by function with regard to elements which are formally "inserts". Section 5 is concerned with the interaction between multifunctionality and context, and section 6 deals with the theoretical models which have been proposed to describe the complex relation between form and function. Section 7 discusses advantages (and shortcomings) of the corpus-pragmatic approach in relation to interjections, hesitation markers and address forms. Section 8 concludes with a summary and a discussion of the prospects of the corpus-pragmatic method for future research.

2. A corpus-pragmatic approach going from form to function

We have recently witnessed dramatic developments in the creation of new corpora and the use of corpus-linguistic methods. These developments have coincided with an interest in studying elements which have pragmatic or discourse functions in spoken language.

Many spoken phenomena such as discourse markers, interjections, vocatives, hesitation markers have defied a grammatical analysis because of their formal and functional properties. They are, for example, not integrated syntactically into the clause to which they are attached, they do not have a special form and they get their functions from the context where they are found. (See Biber et al. 1999: 1083–1095 for a more detailed classification of "out-of-the-clause elements".) On the other hand, they provide a challenge for linguists using corpora and corpus-linguistic methods. Corpora make it possible to describe the lexical elements on the basis of authentic examples and to describe their distribution and function in different contexts. However, in order to tackle the challenges, we need to define the elements which require a corpus-pragmatic method and establish some boundaries between the different types.

Discourse markers, for example, are notoriously difficult to define and to delimit from other spoken elements. Moreover, in spite of the recent boost in studies of discourse markers there is no agreement about terminology and what to include as discourse markers. All of the following terms (partly based on Clark 2004: 376), and many more, have been used to describe them: discourse markers (Schiffrin 1987; Östman 1981; Lenk 1998; Jucker and Ziv 1998), discourse particles (Schourup 1985; Aijmer 2002), pragmatic expressions (Erman 1987), disjunct markers (Jefferson 1978), discourse operators (Polanyi 1985; Redeker 1986, 1990), clue words (Reichman 1978), cue words (Grosz and Sidner 1986), cue phrases (Hirschberg and Litman 1987), discourse signals (Stenström 1989) and functional markers (Ghezzi and Molinelli 2014).

Another problem is what elements belong here. Heine (2013: 1208) states that the following items "are amongst the ones most commonly discussed and least controversial items classified as English DMs [discourse markers]": *after all, anyway, as it were, besides, however, indeed, in fact, instead, I mean, now, okay, so, then, I think, well, what else, you know, you see.* Discourse markers, however, are a fuzzy category and it is difficult to draw boundaries to other groups of spoken phenomena.

The use of spoken corpora has added to our knowledge of discourse elements and contributed to the development of a theoretical framework where they can be analysed. The area of research is broadening and steps are also being taken to use corpora and corpus-pragmatic practices to make a more systematic analysis of elements such as address forms (vocatives), interjections and hesitation forms in order to address deeper questions about the relationship between form, function and the communicative interaction. Corpus-linguistic methods, for example, are

newcomers in the field of hesitation markers and they show convincingly that it is not enough to analyse spoken phenomena on the basis of form or function alone (see further section 7).

3. Formal properties

3.1. Position

Until quite recently few studies looked at the formal features of discourse markers and related elements in detail, probably because it has been thought to be difficult to establish a link between formal features and function. Although it is possible that formal properties are unrelated to the functions of a lexical item, a more promising way forward is to assume that they are associated in some ways.

Thus looking at their position provides a way of analysing what lexical elements are doing in the discourse. Example (2) illustrates a common position of discourse markers initially at the edge of the clause:

(2) A: How long did you stay there
B: Well I had a month's study tour and then three months' exchange
(adapted from ICE-GB[1])

Well is placed outside the clause without any syntactic relations to the clause it introduces. This does not mean that it does not have a function. Quoting Kaltenböck and Heine (2014: 350), at a particular point in the discourse "the speaker may choose to step out of the confines of syntax and create an extra place of communication which caters for the immediate demands of the situation."

Corpus-pragmatic methods are suitable for analysing what lexical elements are doing in the clausal environment. On the other hand, the methods are less suitable to discuss the position of discourse markers in relation to turn-taking and the sequential discourse. The agenda for explaining the placement of out-of-the-clause elements in an interactional perspective comes instead from Conversation Analysis (CA) (e. g. Schegloff 1996; Sacks, Schegloff and Jefferson 1974) and interactional linguistics (Ono and Thompson 1995; Linell 1998; Golato and Golato this volume). In a CA perspective, discourse markers (e. g. *well*, *I think, I mean*) are inextricably associated with spoken discourse and have functions which can be explained with reference to the fact that language is produced by speakers in real time on a turn-by-turn basis. In the interactional perspective, the focus is transferred from the

[1] The British component of the *International Corpus of English*. See http://ice-corpora.net/ice/

tasks that discourse markers perform in a single utterance, for example to signal hesitation, to their role in structuring whole chunks of text. Their global discourse function can be illustrated by the following example:

(3) A: The funny thing is that none of the sort of
Nancy Mitford stuff <,>
Do I mean Nancy
I can never remember which Mitford is which
But anyway none of the U and non-U stuff
seems to have washed off on your mother at all
(adapted from the ICE-GB)

Anyway comes in at a point in the interaction where the speaker wants to resume the conversational thread after an interruption. She has just mentioned "the sort of Nancy Mitford stuff" and then becomes uncertain about which Mitford is meant ("Do I mean Nancy"). The interpretation of *anyway* as a marker of dismissal of what has just been said depends on its position in the larger sequential structure and not only on its position initiating a clause. In such cases a corpus can provide examples of extended discourse which can be the basis for analysing the marker in a particular function.

Although there may be a tension between the interactional and the corpus-based approach, it seems that the two methodologies can benefit from each other's company. Corpora can be used for investigating (and providing frequency information about) what a lexical element is doing in larger contexts in naturally occurring discourse, while the interactional discourse perspective helps us to understand why it performs certain communicative tasks.

Corpora can also be used to test and evaluate hypotheses about the uses and functions of pragmatic elements derived from what we know about spoken language and how it functions dialogically. One such hypothesis is that discourse markers are doing different things depending on where they are placed in the utterance. The example below illustrates *actually* in two pragmatically interesting positions, initially and finally, in the clause:

(4) Actually she is not as pretty as she might have been
She is not as pretty as she might have been actually
(adapted from ICE-GB)

The initial position has been regarded as the normal one for discourse markers (Schiffrin 1987: 328). The rightmost position (at the end of the clause), on the other hand, has often been neglected but is typical of certain discourse markers, such as tag questions in English, and many discourse markers such as *actually, anyway, then* have a variable position. We can take the issue of position one step further by considering why a discourse marker occurs in a particular position.

An assumption following from the property of spoken discourse, that it progresses from "left" to "right", is that the leftmost position (the left periphery)

should be preferred for other tasks than the rightmost one (Beeching and Detges 2014: 1). A discourse marker in the left periphery provides an opportunity for speakers to indicate that they are willing to take the turn, or it may be used to create topic-shift. In the rightmost position (the right periphery) a discourse marker may be a sign that the speaker wants to cede the conversational floor to the hearer or express hearer-oriented affect:

> [just looking at English] there does appear to be a basic difference between elements in the two peripheries. The left periphery is for elements with responsive functions […]. Markers in this position (e. g. *well, so, indeed)* seem to acquire text-structuring functions and (inter)subjective meanings, the latter marking affective components integrated into a reaction. Elements in final position, however, do not provide an initial guide to the hearer, but rather signal how the utterance is to be interpreted in a specific context (Haselow 2013: 418).

Beeching and Detges (2014) wanted to test the hypothesis that discourse markers are used in different positions depending on general discourse principles, such as subjectivity or intersubjectivity and associated interactional usages by including more languages.

The hypothesis that linguistic elements should pattern in the same way across languages was, however, shown to be too simple. The authors found that "some kind of asymmetry between left and right periphery does exist; it was shown that in most cases this asymmetry is a matter of frequency (and hence of degree) rather than being categorical and that the LP/RP (left periphery/right periphery) position interacts with both the core meanings of the items and prosody" (Beeching and Detges 2014:19).

Beeching and Detges concluded that more empirical research needs to be carried out to establish the complex relationship between position and function, which may involve several factors and frequencies rather than categorical differences. However, there seems to be sufficient corpus-based evidence (including cross-linguistic data) that the demands imposed by the circumstances in which the dialogic interaction takes place can be responsible for where in the utterance a discourse marker is placed.

3.2. Prosody

It is possible to study prosodic phenomena on the basis of corpora, such as the London-Lund Corpus of Spoken English, which contains a prosodic transcription of the conversations and the ICE-GB corpus (the British component of the International Corpus of English), which preserves the original audio recordings of the conversations. Using these resources it has been possible to describe many spoken phenomena with regard to accent status and intonation.

Out-of-the-clause elements or "inserts" as a class tend to be prosodically non-integrated in the utterance to which they belong, separated by boundaries that

can be marked by a pause or by the assignment of a nuclear tone. According to Kaltenböck and Heine (2014: 352) "they [outside-the-clause elements or what the authors refer to as "theticals"] are prosodically set off from the rest of the utterance by a separate intonation contour and pauses". On the other hand, we cannot generalize about individual inserts. An investigation of the discourse marker *well* by Altenberg (1987: 137), on the basis of ten spoken texts in the London-Lund Corpus of Spoken English, showed for example, that the marker was pronounced with a nuclear tone only in about half of the examples.

However, we need to delve deeper and study quantitatively how prosodic information (accent status, pausing, phrasing) is related to the meaning and function of discourse phenomena. The link between prosody and function is complicated because of the multifunctionality of discourse markers and related phenomena. Discourse markers, for instance, have been regarded as "cue phrases" which together with information about prosody and position can help the hearer to distinguish between different functions. An example is Hirschberg and Litman (1987), who examined the prosodic features of *now* to find out which features best disambiguated between the sentential and discourse uses. The importance of prosody to distinguish between different functions is illustrated by Ferrara's (2001) study of different types of *anyway.*[2] Ferrrara used a corpus of spoken narratives from sociolinguistic interviews focusing on the intonational patterns of *anyway*. She found that different tonal patterns can distinguish between three types of *anyway*, only one of which was defined as a discourse marker. The intonational differences between the three uses of *anyway* were both "recognizable and measurable" (Ferrara 2001: 129). The discourse marker *anyway* was most frequently used as digression marker. It was pronounced with a low pitch signalling a dramatic and attention-getting function.

Wichmann, Simon-Vandenbergen and Aijmer (2010) also focused on a specific discourse marker, viz. *of course* in order to study the interaction between form, prosody and function on the basis of corpora. The examples were analysed syntactically, semantically and pragmatically. The tokens were then categorized according to position in the tone group and intonational pattern. The results of the analysis showed that *of course* can have several different prosodic realisations consistent with the fact that it is multifunctional and can be placed in different positions. The authors also showed that prosodic choices can depend on a number of different contextual factors, such as speech style, situation, rhetorical goals, previous knowledge, etc. (Wichmann, Simon-Vandenbergen and Aijmer 2010: 47). Moreover, the corpus-based approach makes it possible to go beyond the synchronic analysis and establish a connection between form, prosody (for example accent status), position in the utterance, function and grammaticalization changes. *Of course* as a grammaticalized item (with the interpersonal meaning "as we/you

[2] Ferrara's (2001) analysis is based on research published in Ferrara (1997).

know") was, for example, shown to be unstressed, reflecting the fact that prosodic attenuation accompanies a loss or a weakening of meaning characteristic of grammaticalization processes.

In addition to prosody, non-verbal features are important for constructing and interpreting meanings and provide a challenge for spoken corpora and corpus analysis. The existence of multimodal corpora now makes it possible to describe non-verbal elements and how they are linked to form and function. As Carter and Adolphs (2008) point out,

> […] gesture and prosody are not forms of language in the same way as words or syntactic patterns or structural features of discourse organization, but they are both complementary and integral in several respects to forms of language. They play a significant role in the creation of meaning and, as we have shown, can be incorporated alongside forms of language as data for corpus analysis. (Carter and Adolphs 2008: 179)

The future looks bright for corpora taking into account gestures, head nods and body movements. Knight and Adolphs (2008)[3] used a multi-modal approach to study back-channels on the basis of the Nottingham Multi-Modal Corpus. Back-channels were defined as "any short item that did not appear to take over a speaker turn, and was not a response to a question" and illustrated by *yeah* (O'Keeffe and Adolphs 2008; quoted from Knight and Adolphs 2008: 180). The backchannels were classified into categories such as convergence tokens and information receipt tokens depending on whether they were used to mark convergence and to help maintain good relations, or as a response signal where one of the speakers controlled the conversation. In order to identify different types of head nods a coding scheme was developed which could account for the different types. Head nods, for example, were classified with regard to duration and a decision had to be made whether a small number of head nods in succession counted as the same nod or whether they should be coded as different nods. Knight and Adolphs' analysis showed that back-channels were more frequent with head nods than without them, and that when the backchannel had the function of a convergence token, the head nod was coded for longer duration than when it marked information receipt (Knight and Adolphs 2008: 186).

3.3. Collocations

Another aspect of the "external syntax" associated with inserts which needs to be taken into account in a corpus-based approach is their collocational properties. The co-selection of discourse markers is systematic and has the function to disambiguate markers which have many different functions, or to reinforce a function which is only weakly grammaticalized or emergent (Linell 2009: 322). It is therefore

[3] Based on research published in Carter and Adolphs (2008).

important to study not only single "out-of-the clause" elements but their combinations with other markers in different contexts and corpora. In the conversations in the ICE-GB (Aijmer 2013: 29), *well* as a discourse marker tends to collocate with *okay, now, at least, anyway*, as in (5), where the acceptance sense of *well* is qualified by *at least*:

(5) Oh well at least it looks better for us when there's nobody there. (ICE-GB)

In example (6), the collocation with *I mean* suggests that *well* is being used with the same meaning (self-monitoring or correcting):

(6) A: Well Xepe seems to love this idea of having a picnic but I'm not too sure about this
B: Not if you've had lunch
A: Because I'll have eaten anyway
Well I mean part part of the reason I am eating will be so that we don't have a picnic
(ICE- GB; quoted from Aijmer 2013: 33)

Certain discourse markers almost seem to require a collocating discourse marker to express a certain function. An example of this is *anyway* which was used together with another marker (*but anyway, well anyway, so anyway, and anyway*) in nearly all the examples in the left periphery in the ICE-GB (Aijmer 2016b).

4. Function

Function is at the core of a corpus-pragmatic approach to language. The corpus-based form-to-function method must, therefore, be evaluated with regard to its success to retrieve functions on the basis of form. However, we cannot search for a particular lexical form and expect to get only relevant hits ("one-to-one searching" Ädel and Reppen 2008: 2). *Well*, for example, is both a discourse marker and a manner adverbial with grammatical rather than pragmatic function. In this case the discourse uses can easily be distinguished from the grammatical uses. However, many pragmatic elements are multifunctional in the sense that they can have several different functions depending on the context or even several functions in the same context.

From a theoretical perspective multifunctionality raises the question whether functional interpretations should be dealt with at the level of *langue* (or semantics) or *parole* (pragmatics) (Hansen 2014: 152).[4] At the level of *langue* we consider conventionalized functions of a particular discourse marker and how they can be organized in a polysemous way around one or more core meanings. This

[4] For a discussion of other theoretical approaches to multifunctionality, see Fischer (2006a: 13–14).

is in line with the principle that "languages tend to avoid homonymy, and reserve one meaning for one form. There is no reason why a similar principle should not also be operative with respect to 'functions'" (Östman 1995: 102–103). At the level of *parole* a discourse marker can have a large number of different functions depending on its uses in the context (for example its occurrence in different activity types).

The corpora only provide raw material for the corpus-pragmatic analysis. In addition we need to define the functions that spoken phenomena can have. There seems to be a fairly general agreement that functions of discourse markers or related elements should be defined in pragmatic and discourse terms and that the functions have their origin in the tasks performed in the communication situation. However, it is far from clear what these functions are, what criteria should be used to identify them or the number of functions which provide the best descriptions.

The functions identified depend on the corpus data used for the analysis and on the particular "insert" we discuss. A framework for analysing the functions of discourse markers (or for other inserts) does not yet exist, and there is no agreement about the number of functions such a theoretical model should contain. Nevertheless many scholars have attempted to characterize the "macro-functions" or types of communicative tasks associated with the interpretation of the linguistic elements. The purpose is to define "a plausible number of well-defined identifiable readings" (Fischer 2006a: 3) ("paradigm functions" in Heine et al. 2013: 173) and the communicative domains to which they belong. Existing functional typologies suggest that attention should be given to at least interpersonal and textual functions although "richer" typologies have also been proposed. Östman (1995) has developed a model of discourse markers based on three different macro-functions (parameters "in accordance with which communication takes place: Coherence, Politeness and Involvement"; 1995: 104). Coherence has to do with cultural and social constraints we have to take into account when communicating (Östman 1995: 104). Politeness and Involvement (affective stance) are other general-behavioural functions of the model.

Fischer (2006b) considers a wider range of functions that discourse markers can have "commonly, and often cumulatively", including "functions with respect to the turn-taking system, the indication of discourse relations, discourse structuring, the regulation of interpersonal relationships, speech management, or politeness" (2006b: 430).

An influential framework for understanding the functions of discourse markers is inspired by Halliday's typology of language functions in the theory of Systemic Functional Linguistics (Halliday and Hasan 1976). Brinton (1996) argues that it is possible to describe the function of discourse markers on the basis of the interpersonal and textual functions identified by Halliday. Discourse markers in the interpersonal function would be concerned with "the social, expressive and conative functions of language" while elements with a textual function belong to

the text-forming component of language (cf. Halliday and Hasan 1976: 26–27). Speakers orient to these domains differently depending on the speech situation. In communication among friends, speakers may pay more attention to the interpersonal function than to textual coherence.

A related question which needs to be debated is how the functional domains or taxonomies should be applied to the empirical analysis of discourse markers in different text types and different languages or in other words, "which constraints should be grouped under which domain" (Fried and Östman 2005: 1760). Which functions, for example, belong to the textual domain and which functions are preferably placed under the interpersonal umbrella? Brinton (2008) suggests the following model:

> the textual functions include those of claiming the attention of the hearer, initiating and ending discourse, sustaining discourse, marking boundaries, including topic shifts and episode boundaries, constraining the relevance of adjoining clauses, and repairing discourse. Among the interpersonal functions are expressing responses, reactions, attitudes, understanding, tentativeness, or continued attention, as well as interactive functions, such as expressing intimacy, cooperation, shared knowledge, deference, or face-saving (politeness). (Brinton 2008: 17–18)

The categories proposed, the "right" number, and the labels used to describe them are based on our interpretation of what pragmatic elements are doing in discourse. However, many problems remain. As Lewis points out (2006: 57), some functions can be expressed by a large number of forms while others have only a few realizations. The functions proposed may be difficult to distinguish from each other and more work needs to done on linking function to formal properties such as position or stress and intonation.

5. The context

Many spoken corpora also contain information about activity type (text types) and sociolinguistic features relating to the speakers' age, social class and gender. As a result, we can take a further step and consider how function is associated with contextual variables. For example, discourse markers as well as hesitation markers and other inserts can be used in a variety of activities and situations. Moreover, their function is linked to the age, class and gender of the speakers.

5.1. Context defined

To begin with, the notion context needs to be discussed. What do we mean by context? How much of the context, and what features of the context should be included in a corpus-pragmatic approach to linguistic forms? In linguistic terms, context is defined narrowly in terms of the words surrounding a lexical item and

determining its meaning. However, we need a broader description of the context in order to describe the situational and sociolinguistic variability of pragmatic expressions. Context, however, is an obscure notion which is referred to differently depending on the theory and the phenomena it is used to explain. According to Schiffrin (1987: 3) contexts range "from cultural contexts of shared meanings and world views to social contexts through which definitions of self and situation are constructed, to cognitive contexts of past experience and knowledge" (Schiffrin 1987: 3). In a cognitivist framework, Croft and Cruse (2004: 102) propose that context puts constraints on utterance interpretation corresponding to what Clark (1996) refers to as the common ground of the speakers (the shared knowledge, beliefs and assumptions of the participants in the conversation). The following aspects of context have in common that they constrain the interpretation of the utterance.

(i) Previous discourse (what has been said immediately prior to a given utterance)
(ii) Immediate linguistic environment (co-text)
(iii) Type of discourse (the type of activity)
(iv) Physical context (the immediate surroundings in which the speech situation takes place)
(v) Social context (this refers to the kind of situation the participants are in and the social relations between them)
(vi) Stored knowledge (remembered experiences and knowledge which can have an effect on interpretation)

In anthropological literature we find a rich description of the socio-cultural dimensions of the communication situation such as the social identities of the interactants, their relationships to each other, activities (debating, story-telling), attitudes and feelings (Ochs 1996: 410). Social identity includes "all dimensions of social personae, including roles (e. g. speaker, over-hearer, master of ceremonies, doctor, teacher, coach), relationships (e. g. kinship, occupational, friendship, recreational relations), group identity (gender, generation, class, ethnic, religious, educational group membership) and rank (e. g. titled and untitled person, employer and employee)" (Ochs 1996: 410).[5] When a meaning is chosen in the interaction all of these contextual factors are potentially relevant. However, this categorization may be less suitable or too fine-grained for the analysis of discourse markers and related lexical elements.

Moreover, neither the cognitivist nor anthropological definitions are corpus-based and therefore mainly provide a wish-list for features which should be analysed on the basis of a corpus. Luckily, however, present-day spoken corpora provide a great deal of information about contextual factors which can be anno-

[5] On the linguistic indexing of activity (types) see section 5.2.

tated and used for the study of lexical elements which are interpreted in the context. Large spoken corpora such as the British National Corpus contain demographic information about the social situation and who the speakers are making it possible to study the distribution and frequency of lexical elements in relation to the coded social factors. Of particular importance in this regard is the association between discourse markers and the type of activity. As I will show below, it would in fact be difficult to understand many functions of linguistic elements in spoken language without considering their link to usage in different activities.

In the following sections, I will consider in more detail the contextual factors which are emphasised in corpus studies and the methods used by corpus linguists to describe discourse markers and other inserts in the context.

5.2. Form, function and the type of activity

The activity plays an important role for how discourse markers are used. The situational description can be conceptualized as frame ("communicative background frame", Fischer 2006b: 442) or as "(communicative) activity type", Levinson 1979; Linell 2010). Levinson (1979) defines activity type as follows:

> In particular, I take the notion of an activity type to refer to a fuzzy category whose focal members are goal-defined, socially constituted, bounded, events with *constraints* on participants, setting, and so on, but above all on the kinds of allowable contributions. (1979: 368, italics in the original)

Examples of activity types are informal conversation, telephone conversation and institutionalized activities such as classroom lesson and broadcast discussion.

The speaker and hearer have special social roles in the discourse (e. g. as teacher and pupil) and the turns follow each other according to an agenda specifying who says what to whom. Several spoken corpora (such as the London Lund Corpus of Spoken English (LLC) and the ICE-corpora (International Corpus of English) provide a categorization of text types which can be linked to activity types such as conversation, classroom lesson, broadcast discussion, parliamentary debates, legal cross-examinations. As a result, the frequency and distribution of pragmatic phenomena can be studied in different activities and compared across the sub-corpora. The following example from a broadcast discussion which is a part of the ICE-GB illustrates the use of the discourse marker *well* by the moderator of the discussion to invite a new speaker to take the conversational floor (cf. Aijmer 2013: 59).

(7) Moderator: Well our next witness is Judith Dawson who's a principal senior social worker in Nottinghamshire (ICE-GB Broadcast discussion, simplified)

The use of *well* initiating a turn in which a new speaker is brought into the discussion is linked to the speaker's role as moderator. The invited speaker, who is a social worker, has witnessed a case of child abuse, and the topic to be debated

is whether in such situations children should be removed from their parents. *Well* has a specialized meaning along with its general meanings which are described in relation to textual or interpersonal meanings.

A corpus-based approach demonstrates other functions of *well* constrained by the goals of the activity. In (8) *well* is used in a cross-examination with a specialized function. *Well* introduces a question asked by the examiner who already knows the answer:

(8) Examiner: Well did you understand from Mr Sainsbury that if you didn't have the money by the third of February it would cause problems (from ICE:GB)

Moreover, *well* was used for "activity-based" discourse functions with a punctuating function in sports commentaries on the radio (data from ICE-GB):

(9) Commentator: Dixon gets that cross in headed away well there by Kalatsakas and well finally hammered away deep into the Arsenal (ICE-GB)

A corpus-study can be integrated with approaches which are more closely associated with sociolinguistics and discourse analysis. Innes (2010) illustrates how a corpus analysis can be combined with Conversation Analysis and an ethnographic analysis to study pragmatic phenomena. Her data consisted of criminal jury trials in a New Zealand setting and featured many different participants (police witnesses, judges, counsel for the defense and for the prosecution). Following the lead from Conversation Analysis she found that the discourse marker *well* was more often used in initiations (e. g. challenges) than in responses (e. g. justifications). *Well* was used differently depending on the speaker's professional identity and women used it more than men.

5.3. Form, function and pragmatic variability

The interaction between form and the (sociolinguistic) context has generally been studied from a sociolinguistic variationist perspective rather than as a pragmatic phenomenon. The variationist approach has, for example, been used successfully to study the influence of sociolinguistic factors such as age and social class on pronunciation or grammatical variation. Attempts have also been made to widen the analysis to discourse phenomena. Dines (1980) proposed that the variationist approach could be extended to the analysis of "set-marking tags" such as *and that, and stuff like that.* The "sticking-point" for taking the variationist approach is that few variants can be distinguished which are semantically and pragmatically equivalent (Beeching and Woodfield 2015: 9). A more successful approach has therefore been to study the influence of sociolinguistic factors such as social class, age and gender on discourse markers in corpora which make such information available.

The use of corpora and a form-to-function approach are also compatible with the importance of studying pragmatic phenomena from the perspective of variabil-

ity. Pragmatic variability has been observed in many areas and levels of language and has come on the agenda recently within the new branch of linguistics referred to as variational pragmatics (Barron and Schneider 2009). Barron and Schneider draw attention to the fact that pragmatic variation (for example between different variants of the same speech act) can be related to the sociolinguistic context (in particular different regional varieties). Discourse markers have been much less discussed than speech acts from a variational perspective but can also be systematically related to sociolinguistic factors. Jucker and Taavitsainen (2012: 296), for example, suggested that a linguistic variable can be regarded as a "pragmatic variable" or a pragmatic unit which needs to be analysed with regard to sociolinguistic and other contextual factors:

> Realizational pragmatic variables are a special type of the linguistic variables described above, but with a focus on a pragmatic unit of a language instead of a phonological, morphological, or syntactic unit. Relevant examples are address terms (*tu* versus *vous* in French, for instance), discourse markers, different types of speech acts or different types of politeness strategies. (Jucker and Taavitsainen 2012: 296)

Pragmatic variables are indexically linked to sociolinguistic features in the communication situation such as age and gender and indirectly to features such as "youth" and establishing solidarity with the peer group. They need to be studied on the basis of corpora which enable the researcher to establish patterns of usage which connect formal and functional factors to sociolinguistic aspects such as regional provenance, age, gender and social class of the speakers.

The sociolinguistic angle has been present since the early days of corpus linguistics. Holmes (1986), for example, showed that *you know* requires both a functional analysis and a description of how the marker is used differently by men and by women basing herself on a corpus of New Zealand English (Holmes 1986:1). However, we are now beginning to get more and broader corpus documentation of the relationship between function and sociolinguistic factors. Andersen (2001) studied how teenagers from different London schools used the discourse marker *like* on the basis of the conversations in the Bergen Corpus of London Teenage Language (COLT). The discourse marker is illustrated in the example below (Andersen 2001: 208):

(10) Starts off a bit boring. First <u>like</u> twenty minutes and then it gets good (from COLT; Andersen 2001: 209)

The examples of *like* were classified with regard to the social factors gender, age, social class, ethnicity, and location (different London boroughs). This made it possible to link the function of *like* to the context. The pattern which emerged was that the prototypical user of *like* with a discourse marker function was "a white 17-year-old girl from the highest social class who attends the boarding school in

Hertfordshire" (Andersen 2001: 294). In a corpus-pragmatic approach we can go beyond the corpus data to explanation.

The teenagers' use of *like* can also be indexically linked to a particular social identity and values or norms associated with that identity. Andersen mentions, for instance, the effect of the marker to invoke politeness or solidarity since *like* may have the effect of the speaker avoiding sounding abrupt (Andersen 2001: 295). *Like* is also capable of invoking a set of more general socio-cultural values associated with adolescence such as post-modern, ironic and non-committal (Andersen 2001).

Corpus-pragmatic methods and the access to new sociolinguistic corpora have also made it possible to study innovative or emergent discourse markers according to several different sociolinguistic aspects. Torgersen and Gabrielatos (2009) studied *innit* and *you get me* in the Linguistic Innovators Corpus: the English of adolescents (LIC). The methodology combined corpus linguistics and sociolinguistics. The analysis took into account the relative frequency of the use of the markers as well as the proportion of speakers using the variants. The variables included were age, sex, ethnicity, place of residence (in London). Torgersen and Gabrielatos' analysis showed that *innit* and *you get me* were the most frequent tags and that they were used most frequently by male, non-Anglo, Hackney (a London borough) residents. *You get me* was most frequent in multi-cultural friendship groups.

More recently, Beeching (2016) employed corpus-linguistic and sociolinguistic methods to analyse the discourse markers *well, just, you know, like, sort of, I mean.* In order to analyse their distribution and frequencies with respect to the sociolinguistic variables social class, age and gender, she used the demographic part of the British National Corpus. The full BNC was, however, used for a genre-based analysis of the markers. By using the KWIC function it was, for example, possible to investigate bundles with discourse markers and perceive patterns in the way they were used in different genres (Beeching 2016: 61).

The choice of contextual features which can be studied by means of corpus linguistic methods is also becoming broader. Regional variation, for example, has been investigated on the basis of the corpora of national varieties of English within the ICE-project (International Corpus of English). The corpora, which include both speech and writing, are of the same size and compiled in the same way in order to make it possible to compare the frequency and function of the items examined. The comparison of *actually* in several sub-corpora of spoken English showed, for example, that the marker was more frequent in Hong Kong English and Singapore English than in British or New Zealand English and that it was used in different positions and functions in the varieties (Aijmer 2016a). On a deeper level, the study of the variation between national varieties gives rise to new questions concerning the importance of social and cultural norms to explain variation.

6. Combinations of form and function in selected theoretical approaches

In this section we go from corpus-based observations of pragmatic phenomena in spoken language to theory. Construction Grammar, for example, seems to be well equipped to give a rich description of both form and function of spoken phenomena in different contexts. Other approaches which are compatible with a corpus-pragmatic approach are thetical grammar and, more generally, descriptive grammars of spoken language. In Biber et al.'s (1999: chapter 14) "Grammar of conversation", elements which are placed outside the clause are described collectively as a class of inserts. Thetical grammar has the aim to describe phenomena which do not fit into Sentence Grammar. Biber et al.'s analysis of inserts and thetical grammar have in common that they are mainly taxonomic, while the constructional model is compatible with a dialogical or interactional view of spoken language.

6.1. Taxonomic approaches

6.1.1. Lexical expressions as inserts

Biber et al's (1999) approach is corpus-based and descriptive. The authors describe inserts as "a class of words" characterized by the fact that they are "stand-alone" elements which are unable to enter into syntactic relations with other structures (Biber et al. 1999: 1082). They are also referred to in semantic-pragmatic terms: "[s]emantically, they have no denotative meaning: their use is defined rather by their pragmatic functions" (Biber et al. 1999: 1082). Biber et al. also point out that they are difficult to translate and are often omitted since they are not part of the propositional content.

The defining features of (the most common members of) the insert category are then as follows:

(1) They may appear on their own, i. e. not as part of a larger grammatical structure.
(2) On the other hand, they may appear attached (…) to a larger structure, which may be a clausal unit or a non-clausal unit.
(3) They rarely occur *medially* in a syntactic structure.
(4) They are morphologically simple.
(5) They are not homonyms of words in other classes.
(6) Semantically, they have no denotative meaning: their use is defined rather by their pragmatic function.

(Biber et al. 1999: 1082, italics in the original)

Biber et al. (1999) discuss several classes of inserts, such as interjections, vocatives and expletives, both with regard to formal and functional features. They also make the observation that inserts are used with different frequencies in British and American English. However, they do not go beyond British and American English to other varieties.

6.1.2. Thetical Grammar

Thetical Grammar is another model analysing pragmatic phenomena both formally and functionally. The "theticals" are extra-clausal units such as vocatives, imperatives, formulae of social exchange and interjections (Heine et al. 2013: 155). The assumptions underlying the thetical view of (spoken) grammar are inspired by discourse analysis rather than by conversation analysis.[6] In other words, the focus is on "orthodox linguistic taxonomy" rather than on the tasks performed by linguistic elements in the discourse sequence. In line with this objective, Heine et al. are concerned with describing characteristic formal and functional features of the theticals. The grammar also has to reconcile the dichotomy between the linear progression of spoken communication and the interactional exigencies imposed by the speech situation. While sentence grammar is suited for presenting information in a linear format, thetical grammar is said to have "the entire situation in its scope: the speaker, the hearer, their relation to one another, to the text, and to the situation in which discourse takes place" (Heine et al. 2013: 194–195). The meanings of discourse markers and other theticals can for example refer to the speaker-hearer interaction or to the speaker's attitudes depending on which component is foregrounded in the situation.

6.2. Discourse markers as constructions

A constructional approach is used increasingly to study spoken phenomena (on Construction Grammar see e. g. Kay and Fillmore 1999; Croft 2001; Goldberg 1995). It can be combined with a pragmatic analysis of spoken phenomena in interactional and social contexts. The idea that discourse markers are linguistic constructions combining formal and functional properties has been taken up by Fried and Östman (2005), who welcome Construction Grammar as an opportunity to combine a description of the meaning (or functions) of discourse markers with a dialogical approach to spoken language.

Construction Grammar can be "easily enriched by introducing the parameters that are necessary for incorporating discourse-level information" and be used as a framework to give a "communicatively *and* grammatically adequate treatment of discourse markers (pragmatic particles)" (Fried and Östman 2005:1753; italics in the original). Fried and Östman's procedure is to consider how Conversational Analysis (CA) can be combined with Construction Grammar. Formally, as we have seen, discourse markers must be described with regard to their position in the

[6] "With reference to the distinction between discourse analysis and conversation analysis as proposed by Levinson (1983: 286), our concern is exclusively with the former" (Heine et al. 2013: 157).

utterance, collocational patterns and prosody. On the meaning-side, the construction can include information about constraints on the preceding and following discourse, the immediate discourse, types of activity in which a construction occurs, etc. The authors illustrate the constructional approach by drawing a functional map of what speakers need to know about the structure and meanings of question particles in a Finland-Swedish dialect (Solv) and in Czech. The following information, according to Östman (2006: 244), illustrates contextual constraints on the usage of the question particle *då* ('then') found in Solv: it is acceptable as a question in the linguistic community, men do not use it in *wh*-questions, the expected response is new, it has (im)polite functions with regard to distance/deference and it is not stressed. The construction can be thought of as a fairly abstract representation of the potential meanings of a particular discourse marker. In the concrete speech situation the construction's meaning or functional potential is exploited for carrying out recurrent discourse tasks by selecting the appropriate features.

To conclude, while corpus linguistic analysis aims to describe the formal, functional and contextual features of spoken phenomena, Construction Grammar adds a deeper understanding of how formal and functional features are motivated by a theory of spoken communication.

A constructional approach is also useful to compare discourse markers and related elements which belong to the same functional class and share some formal, functional or contextual features. We can for instance contrast the adversative markers *actually* and *in fact* on the basis of the example below from the ICE-GB Corpus (*actually* occurs in the original text). The markers are semantically related since they refer to actuality and truth but are used in ways where this meaning seems to have disappeared:

(11) A: But working in this group
It's different in terms of uhm the way that you have to dance
Actually you have to be much more honest about what you're doing
(adapted from ICE-GB; Aijmer 2013: 112)

Actually and *in fact* would both have the meaning elaboration in this example further indicated by their structural position and stress. In a constructional analysis we can show both in what respects they are similar and how they differ.

	In fact	*Actually*
Formal features		
Position	Most frequently initial	Most frequently medial
Prosody	Both stressed and unstressed Occurs with pauses	Both stressed and unstressed Does not occur with pauses
Typical collocations	*But*	*Well*, *and*, *but*
Function		
Textual	Primarily elaborative	Primarily adversative
Interpersonal	Taking up an argumentative stance	Tentativeness
Style	Formal	Solidarity
Specialized meanings	The use in cross-examinations by the examiner to ask questions to which both the speaker and the hearer know the answer	The use in the classroom by the tutor to present explanations in a particular order

(based on Aijmer 2013: 124)

Figure 1: Formal and functional features of *in fact* and *actually*

There is not a categorical difference between *in fact* and *actually,* but they are related in complex ways which also involve frequencies. With regard to their formal properties *in fact* and *actually* are both positionally variable, but *in fact* is more frequent initially. Prosodically only *in fact* occurs with pauses. *But* is most typical as a collocate of *in fact* while *well* frequently co-occurs with *actually.* The contexts in which *in fact* and *actually* are used are both textual and interpersonal. The markers can be elaborative, as in the example above, or adversative, although *actually* is more frequently used with adversative function. On the interpersonal level, *in fact* is rhetorical and argumentative while *actually* tends to be tentative. Other differences have to do with politeness or style. A distinction can, for example, be made between the more formal *in fact* and *actually* which marks solidarity. In addition, both markers have specialized meanings depending on the activity type, as illustrated by the use of *in fact* in cross-examination questions and *actually* introducing explanations in the classroom.

Summing up, there has been a growing interest in establishing a framework which is compatible with corpus-linguistic descriptions of spoken elements and what we know about interaction and the use of language in an ethnographic and sociolinguistic perspective. The theoretical models discussed in this section have in common that they do not focus either on form or function but analyse discourse markers and related elements as units of form and function (inserts, theticals, constructions). Constructional approaches, in particular, have also been influenced by directions taking a conversation analytic or interactional perspective on language function.

7. Extending the analysis to other areas of research where the corpus-pragmatic framework is suitable

The discussion in this section will turn to some other spoken phenomena which are important in pragmatics, discourse and interaction. These are interjections, address terms and hesitation signals. They have in common with discourse markers that they are best described in a corpus-pragmatic perspective taking into account formal, functional and contextual factors.

7.1. Interjections

Interjections have been described as "relatively conventionalised vocal gestures (or more generally, linguistic gestures) which express a speaker's mental state, action, attitude or reaction to a situation" (Ameka 1992: 106). They are special because they can represent "sounds" (*tskt, ouch*) and can be prosodically prolonged as illustrated by *ooh* and *oooh*. From a different perspective interjections have been referred to as "those little words or 'non-words' whose main characteristic is being (phonologically and morphologically) anomalous" (Cuenca 2000: 29 with reference to Ameka 1992). Their anomalous properties can, however, be explained if they are treated as units of form and function in a corpus-pragmatic approach.

The features needed to define them range from formal ones (morphological, prosodic, position in the utterance) to a specification of their functions and contextual constraints. Like discourse markers they are "non-conformist" in that they do not enter into syntactic relations with other word classes (Crystal 1992: 190; cf. also Markus 2014: 118). They can stand alone or in the left periphery of the utterance as inserts (Biber et al. 1999). Another feature characteristic of the way they are used is that they can combine with other interjections or discourse markers (e. g. *oh god, oh I see*).

Oh seems to be a good example of how function can be linked to formal and contextual factors and explained in an interactional perspective:

(12) A: I was in a pub we were at the Covent Garden Festival
B: m
A: and he was there and he was with- he was working for the chap who wrote Martin Luther's crusade for the People
B: O\h (pause) Edward Somerset
A: that's right
(simplified example from the London-Lund Corpus of Spoken English; Aijmer 2002: 121).

Oh is typically associated with the expression of emotions such as surprise or pleasure. However, this is only one of the functions that it can have. The fact that

it occurs initially in the utterance pointing backwards in the context goes a long way towards determining other functions of *oh* in the interaction. In the example above, for example, it occurs after a statement when a previously uninformed speaker (Speaker B) receives new information or suddenly remembers something (Heritage 1984). *Oh* in this function is also linked to prosody; it is a separate tone unit (as indicated by the following pause) and it is pronounced with a falling tone (cf. Aijmer 2002: 109). Similarly Local (1996) draws attention to the relationship between *oh* as a news receipt and a falling pitch movement (Local 1996: 180–183).

As with discourse markers we also need to take into account how features of the social activity affect the ways in which the interjection is used. Norrick (2008), for example, found that interjections were used in conversational narratives by the teller of the story in prefaces justifying the "tellability" of the story and by the listener as a stand-alone marker signalling 'active listenership' as in the following example:

(13) Gloria: didn't give the people enough time to get off the train. Elizabeth and about four or five other people.
Matthew: gosh
Gloria: couldn't get off and they had to go to the next station
(example taken from Norrick 2008: 448)

7.2. Hesitation markers

Hesitation markers have been studied mainly by psycholinguists. If we want to find out how "hesitators" are actually used we need a corpus-based approach taking into account frequencies, formal and distribution and pragmatic interpretation. The example below illustrates the use of a hesitation marker as an insert outside the clause:

(14) Oh yes Oh erm, but er, you know, wh – whether it'll be a good thing (British National Corpus)

As pointed out by Clark and Fox Tree (2002: 79; Tottie 2011: 175), lexicographers have been slow or unwilling to recognize the status of *er* (*uh)* and *erm* (*um)* as words. It can, however, be argued that hesitators are conventional just like words and that the patterns relating forms to their recurring function should be described in a systematic way on the basis of corpora.

Both formal and functional features are needed to characterize hesitators. They perform functions related to turn-taking in the discourse activity and they can be described both by their invariant meaning 'I am thinking' (Fischer 2006b: 432) and with regard to placement in the utterance and prosody. Like discourse markers and interjections, they frequently co-occur with other discourse items (*er you know,*

well erm). They are found in many different positions depending on their function in the discourse.

Corpus-based methods have shown that hesitation markers or "planners" (Tottie 2011), such as *er* and *erm*, perform a wide range of uses controlling and organizing discourse depending on formal factors such as position. Time needed for planning or word search is an obvious function of *er/erm* in the online production of discourse, but *er/erm* can also have interactive functions as suggested by previous work. Kjellmer (2003) referred to the role of hesitation markers in turn-taking, attracting attention, highlighting significant elements in the utterance and correcting part of the utterance (cf. Gilquin and de Cock 2011: 153).

Formal factors such as position are important clues to function. In a study of hesitation phenomena in the British National Corpus, Rühlemann (2007: 161) observed that "the different distributions across utterance positions are correlated to the functions *er* and *erm* perform in discourse". In utterance-initial position *er/erm* is said to serve as a "turn-bidder" by means of which the speaker signals his/her willingness to take the turn. Utterance-internal *er/erm* is a means for holding the turn while turn-final *er/erm* can be seen as a "turn-yielder".

The functions of hesitators are also sensitive to interaction type. Tottie (2016) found a wide spread of *er/erm* frequencies over the texts in the Santa Barbara Corpus of Spoken American English (SBCSAE). However, there were differences depending on the type of activity and the speaker. A task-related interaction in a small-claims court with the judge "summarizing claims and striving for precision, and litigants also weighing their words" contained more examples of *er/erm* for planning than conversation (Tottie 2016: 102).

Hesitators can also have a special role when they are used by fictional characters. Jucker (2015a) discussed *uh* and *um*[7] in their functions as planners in the *Corpus of Historical American English* (*COHA*) in examples where the authors used these elements in a more deliberate way to characterize speakers. The most important function of *uh* and *um* was hesitation and planning but they were also used in some examples by the authors to signal that "certain utterances are somewhat embarrassing or awkward for the speaker" or "that a speaker who uses a planner actually is lying" (Jucker 2015a: 176).

In another study Jucker (2015b) investigated the high frequency of hesitation signals in a mock science fiction text known for its eccentric characters and bizarre conversations. The many hesitations and drawn-out spellings of *uh* and *um* were shown to reinforce the characterizations of the fictional characters rather than describe their speech thus providing a rich data source for literary pragmatics.

7 *Uh* and *um* are the American correspondences of British English *er* and *erm*.

7.3. Address terms

Address terms or vocatives are words used to address a person in the interaction. They are often neglected since they can so easily be omitted from the sentence without any change of the propositional content. They have special formal and functional properties which can be explained by considering them as constellations of form and function.

Both formally and functionally they are distinguished from discourse markers and interjections. Formally they look like nouns, but as address terms they have a special position in the utterance. Address terms such as *man, darling, sir, guys, mate, dude* are typically added to the beginning or end of the clause as inserts. They can also stand alone and they frequently occur with other elements as in *hey man.*

The interpretation of address terms depends on what they are doing in the local discourse as well as their function in the broader social situation. Biber et al. (1999: 1112) take a closer look at "vocatives" (their term) and suggest that they can be classified as endearments (*darling, dear*), kinship terms (*mom*), familiarizers (*mate*), first names, title and names, honorifics (*sir, madam*). The types have different frequencies with the highest frequency of first names and they are placed initially or finally depending on the length of the clausal unit to which they are attached. They have an attention-getting function but they may also serve the function to maintain and reinforce relationships between the speaker and the hearer. In terms of sequential positioning they are used both to open a communicative act (or a sequence of acts) and in closing sequences.

An initial address form can, for instance, be used in the context of greetings. It can also have "the function of clearing space for a lengthy turn" (Leech 1999: 117) or introduce a new topic. In the face of challenges or disagreements the vocatives have a softening function.

More generally, we also need to describe, in sociolinguistic terms, who uses a form such as *mate, man* or *guys* and the situations in which they are used. Rendle-Short (2010: 1216), for example, says that *mate* as a form of address in Australian English: "can be used to most people, whether you know them or not, but one should be more cautious addressing women over fifty by 'mate' as they report that they do not like the term".

Summing up, there is a large number of phenomena which are unique to spoken language but would be abnormal in the perspective of written grammar. Such phenomena can, however, be described in a corpus-pragmatic approach which explains lexical expressions and constructions in the light of principles according to which interaction takes place. Here belong a large number of items which have in common that they have certain formal and functional properties and need to be described in a form-to-function perspective (as inserts, theticals or constructions)

8. Conclusion

For a long time corpus linguistics and pragmatics were separated by their different areas of research. Corpus linguists were mainly occupied with grammar and lexicography and developed statistical methods to better deal with large amounts of data. Scholars interested in pragmatics, on the other hand, were concerned with describing the use of language for communication on the basis of conversational data. More recently there has been a "rapprochement" between the two disciplines reflected in the use of corpora and corpus-linguistic methods to describe how lexical units are assigned functions in the speech situation. The shared area of research has broadened as witnessed by the overview in this article where I have aimed to show how corpus methods can be used to study the forms and functions of pragmatic elements and how new corpora provide data for the sociolinguistic turn in pragmatics. The corpus-pragmatic method can be used both to analyse spoken data and to address problems of methodology involving their form and function. Corpus findings have much to contribute to the analysis of pragmatic phenomena by providing information about their distribution in different positions, collocations, prosodic patterns, frequencies in different text types, etc. In particular, the corpus-pragmatic procedure is capable of dealing with complex form-to-function relations which are not categorical but involve frequencies.

The drift of this article has been to argue that we need to combine corpus findings with a dialogic view of the interaction in order to find a motivation for the similarities or symmetries between form and function. However, this may well be a long-time project requiring spoken corpora for many different languages and the analysis of the use and functions of many different pragmatic items.

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23. Corpus-based function-to-form approaches

Anne O'Keeffe

Abstract: This chapter sets out to explore the options for function-to-form research in the context of corpus pragmatics. Corpus-based function-to-form research approaches are used in pragmatics research to explore speech acts and related phenomena, using the function rather than the form as the starting point. Corpus studies more commonly begin with a form and, in pragmatic studies, work towards the functional analysis of these forms (i. e. form-to-function approach). However, when looking at a particular speech act, it can be challenging to find it in a corpus using form-based searches. It is possible to look at a dataset manually so as to code all instances of the speech act in the corpus, however, there is a threshold of corpus size beyond which this becomes implausible. Other systematic options and solutions have emerged such as using Illocutionary Force Indicating Devices (IFIDs) (e. g. *sorry* for apologies), typical features (e. g. positive adjectives, such as *beautiful,* for compliments) and metacommunicative expressions (e. g. using the word *compliment* to retrieve compliments). The paper will also look at some emerging approaches based on using collocational profiles of IFIDs to identify speech acts in very large corpora.

1. Introduction

Within what is termed the "empirical turn" in linguistic research (Taavitsainen and Jucker 2015), corpus linguistics (CL) has spread its application to many sub-fields as well as remaining a robust sub-field in its own right. As Ädel and Reppen note, however, in relation to CL's paradigmatic dominance, "some subfields are more amenable to corpus-linguistic methodology than others" (2008: 1). Pragmatics is one of the sub-fields to take on this data-driven empirical methodology even though it already had established means of collecting empirical (elicited) data, mainly through Discourse Completion Tasks (DCTs) and role-plays, which are especially widespread in the context of the study of contrastive second language pragmatic competence (Blum-Kulka et al. 1989; Sasaki 1998; Billmyer and Varghese 2000) (for more on DCTs, see chapter 9, this volume). Bringing a CL methodology to pragmatic studies is not without its challenges, as this paper will discuss. The default analytical approach inherent in CL is to move from frequencies of forms to their functions (via an inductive process). In other words, it takes a primarily form-to-function approach to analysing data (see Aijmer, this volume). For those involved in the study of pragmatics, and especially speech acts, and related

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phenomena, the norm is to work in the opposite direction, starting with a specific pragmatic function and, through means of carefully designed elicitation tasks, to work from the function under investigation to the forms which are typically used. This is referred to as a function-to-form approach.

Through its inductive process, Aijmer (this volume) notes that taking a form-to-function approach means that the forms can be studied with great precision with regard to frequency, distribution, positions, and collocations with different functions. Rühlemann and Aijmer (2015) point out, however, that the form-to-function approach can be weak at identifying all of the instances of a particular function, as it is form driven. So, on one hand, while CL aligns well with the core principle of pragmatics that meaning is not a stable counterpart of linguistic form, this is also its weakness when using a form-to-function approach. This challenge is referred to by Taavitsainen and Jucker (2015: 12), who say that while pragmatics has embraced the "empirical turn", and other developments in linguistics over the years, "corpus linguistics came into pragmatics later" because, "core features of pragmatics studies, such as negotiation of meanings, speech functions, and variability of language use with momentary shifts in interpersonal relations, are harder to catch with corpus methodology than lexical or morpho-syntactic features" (see also Romero-Trillo 2008; Brinton 2012; Rühlemann and Aijmer 2015). Romero-Trillo (2008: 2) refers to CL and pragmatics as being fields that were "parallel but often mutually exclusive". However, as more CL researchers draw on pragmatics to help analyse their data, and more pragmatics research questions are addressed using corpus data, we are now at the point where we talk about "corpus pragmatics" as an emerging field (see Jucker 2013; Rühlemann and Aijmer 2015).

Within the new coinage of "corpus pragmatics", more consideration is being given to how best to use CL for pragmatics research. Rühlemann and Aijmer (2015) explain that corpus pragmatics combines the key methodologies of both fields. They point out that the traditional vertical reading of corpus data (typically in concordances) needs to be balanced with the more horizontal reading of the contextual details that are required to fully understand pragmatic phenomena (see also Rühlemann and Clancy forthcoming). However, this vertical and horizontal balance presupposes that one begins by searching for a form and that one then works towards the balanced and contextualised analysis of its function(s) (i. e. form-to-function). This paper takes as its starting point the more traditional function-to-form research route of pragmatics analysis and considers this opposite methodological route in the context of corpus pragmatics. We will consider whether CL is fit-for-purpose for this traditional approach within pragmatics research. Essentially, given the importance of continuing the functional investigation of language in use, especially through the study of speech acts, there is a need to consider how, whether, and how best, this work can be done using CL methodologies. Lutzky and Kehoe (2017a) problematize this in relation to the study of speech acts and other

pragmatic phenomena in large corpora. They say that, for the most part, speech acts cannot be identified automatically due to the fact that:

1) forms may be produced in a potentially infinite number of ways and,
2) forms which are prototypically associated with a specific speech act (e. g. *sorry*) may also be attested with other functions (e. g. *a sorry state*). (Lutzky and Kehoe 2017a: 38)

As a result, according to Lutzky and Kehoe corpus studies of speech acts, and related phenomena, tend to be conducted using smaller manually annotated corpora and, tend to "resort to manual forms of analysis, or to adopt eclectic approaches, focusing for instance on specific speech act verbs" (2017a: 38).

In recent studies, this conundrum is being addressed and solutions and workarounds are emerging, as we shall discuss below. To begin with, we shall cast a cautious eye on the use of corpus data in the study of pragmatics. Then, we shall explore possible approaches for function-to-form research within the context of corpus pragmatics for both small and large datasets.

2. Some caveats of corpus data for the study of pragmatics

On one hand, it might seem so obvious that anyone wanting to investigate a pragmatic feature nowadays would first go to a corpus and start by looking at forms and frequencies related to that feature. CL seems to offer so much more in terms of language range and distribution across speakers or writers than data elicited from role-plays or DCTs. Often these corpus data are readily (and often freely) available, in abundance. There are some caveats, however, in terms of the seeming wealth of naturally-occurring language that is available for pragmatics research.

2.1. The challenge of functional diversity and ambiguity

With the abundance of naturally-occurring language data (in electronic form) comes the downside for pragmatics research in the form of functional diversity and ambiguity. A corpus, by its nature, is a sizeable sample of language. A corpus of one-million words of language is considered "small" (O'Keeffe, McCarthy, and Carter 2007: 4). Corpora of fewer than one million words are usually individual enterprises where one researcher has gathered data of a very specific nature to address a particular research question. The boon of corpus quantity brings with it the downside of having a greater remove, as a researcher, from contextual detail and richness which is core to the analysis of pragmatics. Let us consider a brief example: if we opt to look at the speech act of apology, we could immediately look up the direct speech act by searching for a prototypical Illocutionary Force Indicating Device (IFID) for apologising, such as *sorry*, in a corpus. For the purposes of this example, I will use The Limerick Corpus of Irish English (LCIE), a

one-million word corpus of spoken Irish English, mostly entailing recordings from casual conversations between family and friends (see Farr, Murphy and O'Keeffe 2004 for a detailed description).

In the sample of one million words, corpus software will instantly find 363 occurrences of *sorry.* In so doing, we have taken one form associated with a speech act and we hope that it generates, or "recalls", instances of the act. Unfortunately, this is only the beginning of the challenge. Because pragmatics takes as its starting point the notion that meaning is not "a stable counterpart of linguistic form. Rather it is dynamically generated in the process of using language" (Verschueren 1999: 10), we cannot, of course, assume a direct correlation between the form and its function as an apology. As example (1) illustrates, the IFID proves unreliable as a means of recalling all, and only, instances of apologies. In this example, the search word, or IFID, *sorry,* is functioning not as an apology but as a request for clarification used by the listener:

(1) <$1> and <$2> mark speakers one and two, respectively. Two sisters are talking. One sister, <$2>, is telling a story about a derelict house.
<$2> In the window when I was down there.
<$1> **Sorry?**
<$2> There was these kinds of bags of sugar in the window.
<$1> Yeah yeah.
(LCIE)

In order to analyse apologies further in this corpus, there is a need to find a workaround. It may mean: 1) manually sifting through all the instances of the form *sorry* to eliminate any that are not related to an apology routine, or 2) "down-sampling", that is, taking a smaller sample of the data and reading this manually to identify all instances of apologies (extended over a number of turns, possibly) and then annotating these so that they can be analysed with the aid of automated tools as well as through qualitative functional analysis. In essence, in taking a pragmatic function, in this example a speech act, as a starting point, it might seem like one has a head start with a large corpus of data (relative to traditional datasets in pragmatics), but because of the lack of a one-to-one relationship between form and function, it is far from straightforward. This challenge, as noted by Lutzky and Kehoe (2017a: 54), has meant that "scholars resorted to smaller data samples (e. g. Koester 2002; Garcia McAllister 2015)" as well as "eclectic analyses of common forms or patterns associated with a speech act (see e. g. Aijmer 1996; Deutschmann 2003; Taavitsainen and Jucker 2007; Adolphs 2008)". Alternatively, others have used metacommunicative expression analysis (see e. g. Jucker et al. 2012; Jucker and Taavitsainen 2014, who use the term "compliment" to retrieve performative instances of compliments) (see Lutzky and Kehoe 2017a: 54). These processes, Lutzky and Kehoe (2017a: 54) point out, generally demand "stages of manual microanalysis to separate unwanted hits from examples with specific pragmatic functions". As we shall detail below, Lutzky and Kehoe (2017a; 2017b), Jucker

and Taavitsainen (2014) and Deutschmann (2003), among others, offer plausible solutions for analysing speech acts in large corpora. Firstly however, it is important to consider the longer established approach of eliciting speech act data in the field of pragmatics, using Discourse Completion Tasks (DCTs) and how these compare with corpus data.

2.2. Breadth of form at the expense of contextual depth

DCTs have long been the orthodox method of investigating speech acts (Flöck and Geluykens 2015). They elicit responses to given situational prompts. This methodology, moving from function to form, has been the norm in pragmatics and, as Flöck and Geluykens (2015) note, this longevity is for good reason. Using a DCT means there is no ambiguity of context because the functional scope of the instrument will have been predefined and will therefore control the context and conditions very carefully, including the gender, age, social and interpersonal relationship, and so on, of the speakers. For example, the DCT could be streamlined to gather apologies in the context of a student apologising to a college professor for being late to class. It could say that you have never met the professor before or that you have met before and that this is not the first time that you have been late with an assignment. This gives a contextual concentration and richness that provides a narrowed range of the forms used in this specific context, with confined conditions. Some would argue that this concentration, or narrowness, of DCT data is its weakness (see Schauer and Adolphs 2006; Flöck and Geluykens 2015) and that it is in stark contrast to using a corpus where one can avail oneself of a much broader range of forms and contexts in a much larger sample of naturally-occurring data. However, despite the abundance of data usually available in a corpus, it is often at the cost of being far removed from the context unless the data has actually been collected by the researcher. In large corpora, there will be detailed metadata on each recording, but this may not be readily accessible and may not be fully completed.

In terms of illustrating the contextual challenges of looking at speech acts in a corpus, let us again take as our example the speech act of apology and look at it using the LCIE. If we use the IFID, *sorry,* as a "way in" and sift through the occurrences so as to identify all instances of *sorry* functioning as the speech act of apologising, we are at the mercy of the corpus design as to how much background data we can access about who made the apology, what their interpersonal relationship with their interlocutor(s) was, what the power semantic was between the speaker and interlocutor(s) (e. g. symmetrical or asymmetrical), what led to the apology (it may or may not be obvious from the data), plus a variety of other possible contextual data. LCIE has metadata on each of the interactions which were recorded so we know certain details such as gender, age, relationship, educational background, place of birth, place where currently living, and so on. However, in

the meanderings of casual conversation, as an outside reader of a conversation, one might struggle to contextualise some instances of apologies. Extract 2 is not untypical of what one will find in a corpus of casual conversation. The researcher, as well as finding out the contextual information from the speaker-information metadata database, needs to read a lot of the preceding interactional context to work out that there is a story being told, among friends, amid the interruptions, background noises, overlapping turns, unintelligible syllables, truncated words. In extract 2, with most of the mark-up removed to aid legibility here, it is still challenging to reconstruct the context of the apology, but we can guess that the three friends were chatting. One speaker, <$1>, is trying to tell a funny tale, speaker 3, <$3>, is aiding her narrative with response tokens to show listenership (e. g. *yeah*), and speaker 4, <$4>, is distracted by something (most likely what's on the television in the background) and interrupts the telling of the story by making an aside comment in relation to her observation (*Ah look what yer one's makin aren't they lovely?*). She (speaker <$4>) then apologises for this interruption (*Sorry Joanne finish your story*) and the story continues:

(2) <$N> represents a speaker in order of appearance in the recording, + represents an interrupted utterance, = represents a truncated utterance
<$3> Yeah.
<$1> < clanging sound > <unintelligible word>
<$4> What were ya doin in Tramore?
<$1> Oh we just went down we ended up just ya know+
<$3> Goin out and havin a few drinks.
<$1> +yeah wha= ?
<$3> I said Joanne and Philip do funny things.
<$1> We do weird things.
<$4> **Ah look what yer one's makin aren't they lovely**?[1]
<$3> Wha= ?
<$4> **Sorry Joanne finish your story**.
<$1> So < laughing > so < two syllables unintelligible > went in and said can I have a breast of chicken without the bra < laughter >.
(LCIE)

This example illustrates the contextual lacuna that a researcher can experience when working with corpus data while on the other hand, it clearly shows a richness. The main advantage of using a corpus is the immense breadth it can offer in terms of the range of forms that are used across so many contexts, individual language users in their different roles, their varying statuses, educational and social backgrounds, ages, genders, and so on. However, though you have ready access to the

[1] *Yer one* is an Irish English slang form of *your one*, meaning 'that woman', which is functioning here as a personal deictic reference.

form (which you elect to search for), you may not have access to the contextual variables from whence it came.

Clearly there is a trade-off between the breadth of forms that corpus data can offer a researcher and the details of context and conditions within which these forms occurred. In contrast, by using a DCT, one can carefully define the context and its conditions, but this is at the expense of breadth of form, as Figure 1 illustrates:

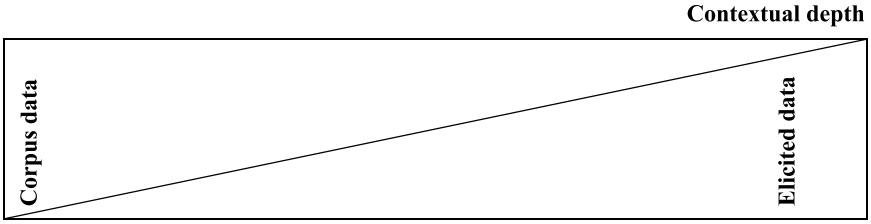

Figure 1: Form versus context in corpus versus elicited data

We will return briefly to this point below when we look at two studies that have directly compared DCT and corpus data (Schauer and Adolphs 2006 and Flöck and Geluykens 2015).

The temptation to move away from even attempting to find solutions for using function-to-form approaches is strong given the allure of big data. Let us now consider some caveats about big data options in the study of speech acts and related phenomena.

2.3. Big data caveats

Taavitsainen and Jucker (2015: 18) issue an important warning, amid the big data trend, "[t]his unprecedented increase in data size accentuates the problem of the right balance between the amount of data and the contextualization of the data. Often the researcher has to opt for one and sacrifice the other". With such data stores at one's finger tips, it is easy to see how form-focused research, driven by the weight of data sample size, could become the preferred route for researchers interested in investigating some aspects of pragmatics. Given the importance of understanding the contextual provenance of a form in the study of pragmatics, it is crucial that the limitations of big data results be understood. Tantalisingly large databases can give immediate results across centuries of data though without the metadata that one would associate with a corpus. The best-known example, at the time of writing, is the *Google Books Ngram Viewer*, which gives instant access to the frequency of ngrams of up to five words in a corpus of over 5 million books (500 billion words), published over the last 500 years, or so (currently from 1500 – 2008).

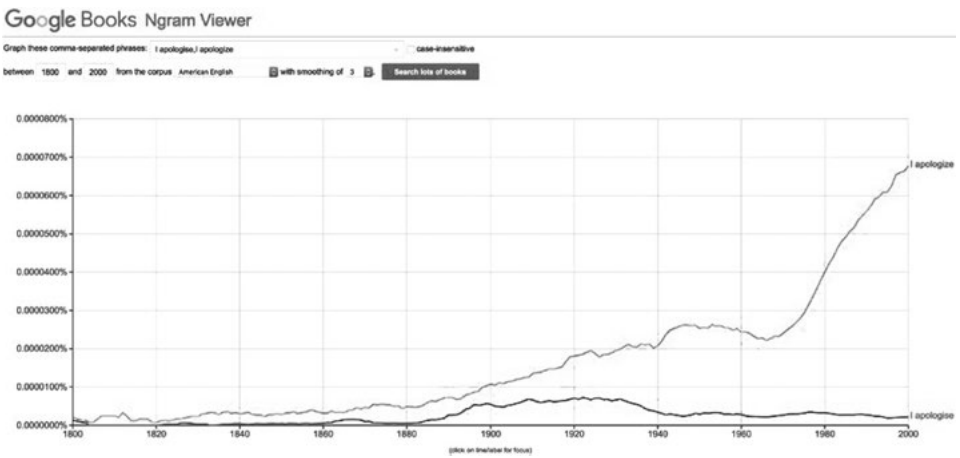

Figure 2: *I apologise* and *I apologize* in American English books 1800 – 2000 *Google Books Ngram Viewer*[2]

As Taavitsainen and Jucker (2015) note, for historical pragmaticists, it offers a fascinating exploratory tool. For example, we can instantly look up the frequencies of *I apologise* and *I apologize,* between 1800 and 2000, in both American and British English books. We can see that *I apologize* has a frequency of 0.7 PMW in American and 0.25 PMW in British English (Figures 2 and 3):

However, this is a database, and we must be mindful of the major limitation that it has: we are without any context for the occurrences of these forms, and so while it is interesting as an exploratory tool, it is clearly contextually devoid. It is best treated as an interesting starting point, a "ready reckoner" of forms over time but it is of little or no value to the investigation of how these forms actually function(ed).

Another corpus that is of use for diachronic analyses is the *Corpus of Historical American English* (COHA), developed by Mark Davies, Brigham Young University. It was launched in 2010 and covers data from 1810 to 2009. As Fringinal et al. (2014) note, COHA is a "smaller" mega-corpus, standing at 400 million words and its creator argues that the substantial difference in size does not affect reliability of results when these corpora are compared. The COHA comprises data from the registers of fiction, non-fiction, magazine and newspaper. It is accessible, free of charge, via the Corpus of Contemporary American English interface. As Taavitsainen and

[2] Source code: <iframe name="ngram_chart" src="https://books.google.com/ngrams/interactive_chart?content=I+apologise%2CI+apologize&year_start=1800&year_end=2000&corpus=17&smoothing=3&share=&direct_url=t1%3B%2CI%20apologise%3B%2Cc0%3B.t1%3B%2CI%20apologize%3B%2Cc0" width=900 height=500 marginwidth=0 marginheight=0 hspace=0 vspace=0 frameborder=0 scrolling=no></iframe>

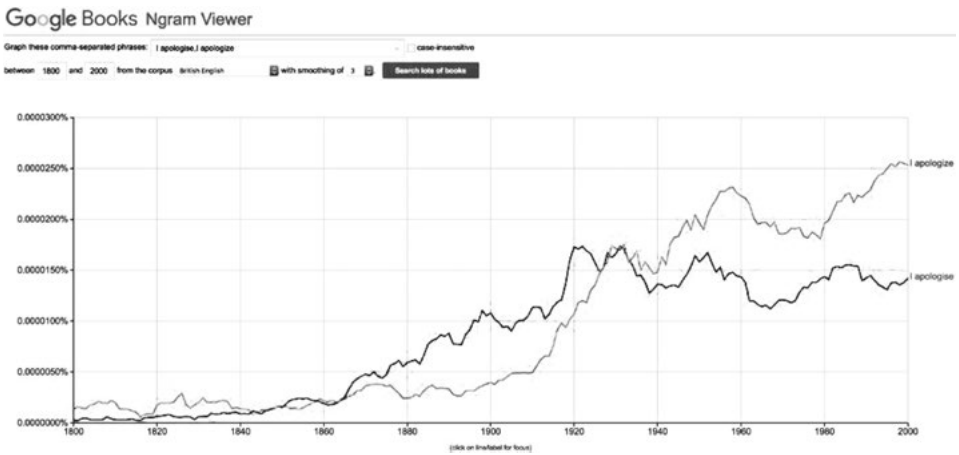

Figure 3: *I apologise* and *I apologize* in British English books 1800 – 2000 *Google Books Ngram Viewer*[3]

Jucker (2015: 18) point out: "This allows for detailed and fascinating information on the frequency of even extremely rare ngrams". However, in respect of pragmatics research, it comes with similar caveats in terms of the degree of contextual information the researcher has available to them.

We will now examine two studies that focus in detail on the impact of how data was collected on the output and findings in relation to function and form in the study of speech acts.

3. Evidence from studies comparing speech act data from DCTs and corpora sources

Schauer and Adolphs (2006) and Flöck and Geluykens (2015) are two studies which compare the benefits and challenges of using corpus data versus DCTs in the investigation of pragmatic function. These studies help us better understand the complexities of the issue.

Schauer and Adolphs (2006) investigated expressions of gratitude using a DCT of eight scenarios with 16 native speakers. They then used the forms that emerged

[3] Source code: <iframe name="ngram_chart" src="https://books.google.com/ngrams/interactive_chart?content=I+apologise%2CI+apologize&year_start=1800&year_end=2000&corpus=18&smoothing=3&share=&direct_url=t1%3B%2CI%20apologise%3B%2Cc0%3Bt1%3B%2CI%20apologize%3B%2Cc0" width=900 height=500 marginwidth=0 marginheight=0 hspace=0 vspace=0 frameborder=0 scrolling=no></iframe>

in the DCTs as a basis for corpus searches. They envisaged the corpus data as being able to provide detailed insights into expressions of gratitude employed by "a wide part of the population in casual conversations between friends and family, while the DCT scenarios were designed to represent situations that a specific group (in this case university students) were likely to come across during a sojourn in the target environment" (123–124). They used the Cambridge and Nottingham Corpus of Discourse in English (CANCODE), a five-million-word database that was collected between 1994 and 2001 (see McCarthy 1998 for a description of this corpus). In all, nine forms emerged from the DCT for the expression of gratitude: *Thanks, Cheers, Ta, Thank you, Thanks a lot, Thanks very much, Thank you so much, Nice one,* and *Cheers sweetie* (Schauer and Adolphs 2006: 125). All but one of these forms, *Cheers sweetie,* were found in the corpus data though to differing degrees (in terms of frequencies). The three most frequent forms that appeared in the DCT were *Thanks, Cheers* and *Thank you* and these forms were also the most frequent, though in reverse order, in the corpus data where *Thank you* was by far the most frequently used form.

Schauer and Adolphs (2006) cite the length of the turn in which gratitude is being expressed as the main difference between the elicited and the corpus data. Importantly, they note that because the DCT is so focused and controlled within predetermined conditions, as discussed, it usually generates single utterances rather than stretches of interaction. The corpus data gives a broader contextual picture of the stretch of discourse that involves the act of expressing gratitude rather than a single utterance of gratitude. For example, as mentioned above, *thank you* is one of the top three DCT forms identified and the most frequent form in the corpus when compared to the other DCT-generated forms and yet, the corpus also tells us that its use can stretch over a number of turns in what Schauer and Adolphs (2006) call a "gratitude cluster".

Extract (3) from the BNC shows an example of a gratitude cluster in a conversation between a parent and a child. While it is not clear what the thanking relates to, it is interesting to observe how the thanking spreads across many speaker turns:

(3) <$1> … **Thanks** very much.
<$2> **Cheers** Dad. Put away your er luggage. <$E> pause </$E>
<$1> <$E> unclear </$E>.
<$2> Er **cheers**. <$E> whispering </$E> … <$E> unclear </$E>. <$E> laugh </$E>
<$E> pause </$E>
<$1> **Cheers**. Right. Okay.
<$2> **Thanks very much**.
(BNC)

Schauer and Adolphs (2006) note that because DCT data is normally based around single utterances, this can distort the overall reality of speech acts which are typically negotiated and developed over a number of turns in a dynamic discourse

event. An important point to bring in here is that Taavitsainen and Jucker (2015: 17) forecast that, in the future, speech act analyses will more consistently focus on the interaction between participants and how speech act values are jointly negotiated and established in the interaction moving from a one-dimensional focus on single utterances and their meaning to negotiated meaning within the dynamics of real-time interaction.

Schauer and Adolphs' (2006) finding that the forms generated by the DCT methodology were less complex in nature in comparison to corpus data is borne out in Bodman and Eisenstein (1988) and Yuan (2001). Additionally, studies such as Hardford and Bardovi-Harlig (1992) on rejections comparing DCTs and authentic discourse from advertising and Beebe and Cummings' (1996) study on refusals found that DCTs contained fewer semantic formulae and negotiating strategies and were overall less complex and more direct. However, Flöck and Geluykens (2015), in their study of directives, found DCT data to be more indirect and to contain more downgrading modifiers than real spoken data to which they were compared. However, Flöck and Geluykens (2015) reviewed the findings from eight comparative studies (including those cited above) and concluded that the findings were far from convergent.

Flöck and Geluykens (2015) investigate directive speech acts in three datasets:

– A sample of spoken data taken from the British component of the International Corpus of English (ICE): they manually retrieved instances of directive speech acts in the spoken component of the ICE-GB, which consists of 100 transcripts (each 2,000 words) of face-to-face and telephone conversations, between participants of mostly "low social distance".
– Elicited written data collected using DCTs: these were elicited in scenarios where fictional characters had low social status and low power relations. Flöck and Geluykens (2015) suggest that these elicited data and the corpus data are maximally comparable because they have a close genre and micro-social match-up.
– A small corpus of business letters: these are part of the Antwerp Corpus of Institutional Discourse (Geluykens and Van Rillaer 1995) and due to confidentiality constraints, there is no demographic information available.

All of Flöck and Geluykens' (2015) data are from native British English speakers and were collected within the same time span. They randomly selected 235 directive speech acts from each data set and these were then categorised according to a uniform coding system (encoding a pragmatic profile of the act). They conclude that the DCT data exhibited significant differences compared with the spontaneous data. They note the greatest degree of difference from the conversational directive speech acts in almost all aspects of their investigation (e. g. percentage of direct head acts, conventionally indirect head acts, indirect head acts, downgraded

head acts, ratio of downgraders per head act, percentage of mood imperatives with *please*, number of downgrading modifiers and total number of upgrading modifiers). Interestingly and importantly, they note that spontaneous non-elicited data is far from homogeneous. They found strong evidence of the influence of the conditions of use and genre (though further investigation was beyond the scope of their study). This led them to stress that "we should at least allow for the possibility that the type of illocution influences the production choices language users make" (Flöck and Geluykens 2015: 34). They go on to note, however, in relation to speech act variation that other speech acts, such as thanking, might be more routinized and stereotypical. They say that, "what seems clear is that corpus pragmatics in the widest sense of the word has a major role to play in unravelling some of these complex issues" (Flöck and Geluykens 2015: 34).

It is of great importance to the evolution of corpus pragmatics that we see a continued research of this nature where the output from different methodologies for data collection are closely scrutinised so as to arrive at enhanced understandings of the value and limitations of methodologies within the area of pragmatics. Leaving aside how data is collected at this point we turn now to the practicalities of how best to analyse data in a function-to-form approach.

4. Function-to-form approaches to corpus research

Ädel and Reppen (2008: 2–3), in the introduction to their edited volume, summarised four approaches to using a corpus for corpus-based form-to-function investigations of discourse (listed below). Ädel and Reppen (2008) point out that these approaches often overlap and there is iteration within any of these strategies. Nonetheless, they are useful to consider as core investigative strategies and more pertinent to the present study, we need to consider, what are the equivalent strategies or approaches that one might take if one is interested in the opposite investigative route, namely function-to-form. Ädel and Reppen's (2008: 2–3) four approaches to form-to-function corpus analysis:

- One-to-one searching: where there is a 100% match (or recall) from the search item to relevant hits; for example, you seek to investigate the use of noun phrases in a sample of data. In a Part-Of Speech (POS) tagged corpus, this will generate full recall of all noun phrases. If you wished to look at all instances of *Thank you*, again this search would result in a full recall of forms.
- Sampling: this involves using one or more search item(s) that are good examples of the linguistic phenomenon in question. In pragmatic terms, this means using IFIDs, for example. As discussed earlier, one could search for *sorry* so as to sample possible instances of apologies.
- Sifting: if you engage in sampling, you will most likely need to sift through the

sample to isolate the forms/instances that you are interested in. For example, through sifting you can eliminate any instances of *sorry* that are not functioning as apologies. However, this process is limited in that you will not find instances of apologies that do not use *sorry*.

– Frequency-based listing: this is the purest corpus approach where you take a bottom-up approach and start by looking at the frequencies of forms in your corpus and work from there in terms of their patterns and meanings. Many frequency-based studies of corpus data end up with pragmatic conclusions to explain differences in frequencies and patterns across contexts of use but they set out from the baseline of frequency results of forms.

Here we will attempt to lay out the possibilities for function-to-form corpus analysis. As with the aforementioned strategies for form-to-function research, they will often overlap.

4.1. Approach 1: One-to-one searching in a pragmatically annotated corpus

In the case of function-to-form analyses, being able to conduct a one-to-one search of a pragmatic function, in a pragmatically-annotated corpus, so as to recall all of its instances of a given speech act is what O'Keeffe, Clancy and Adolphs (2011) referred as the "holy grail" for corpus pragmatic research. Now, corpus tools and annotation systems are emerging which show that this is, and will increasingly be, possible (cf. Culpeper and Archer, this volume). It ultimately means that a pragmatic function, for example a speech act such as offers, apologies and so on, could be recalled automatically because they have been annotated within the corpus and are thus retrievable, in one-to-one searches, using the appropriate tools.

As Rühlemann and Aijmer (2015) summarise, the growing body of pragmatically annotated corpora include:

– speech acts (Stiles 1992; Garcia 2007; Kallen and Kirk 2012; Kirk 2016)
– discourse markers (Kallen and Kirk 2012; Kirk 2016)
– quotatives (Kallen and Kirk 2012; Kirk 2016; Rühlemann and O'Donnell 2012)
– participation role (Rühlemann and O'Donnell 2012)
– politeness (Danescu-Niculescu-Mizil et al. 2013)

Rühlemann and Aijmer (2015) speculate that the reason why pragmatic annotation is not yet widely used is that the form-function mismatch of most pragmatic phenomena means that automative assignment of tags will often lack precision and manual laborious annotation is unavoidable. The work of Weisser (2015) offers some hope in the form of semi-automating the process of speech act identification using the Dialogue Annotation and Research Tool (DART). This tool, through carefully determined multiple syntactic structure features and mode (e. g. modals, adverbials, conditionals, etc.) as well as complex computational tagging,

can identify speech acts in task-oriented dialogues from the Trains and Trainline corpora (see Weisser 2015). Weisser shows that the tool is able to generate a high number of accurately labelled speech acts, within this very defined context. These categories yielded a speech act taxonomy that included: conventionalized, dialogue-managing, information- or option-seeking, information-providing/responding, directive-seeking/providing, (dis)agreeing/acknowledging, informing, and commitment-indicating. For this tool to be further developed, Weisser stresses the need for corpora to have available more information, at transcription phase (e. g. syntactic structure, roles of the interlocutors, and prosodic description). This is borne out by the work of Kallen and Kirk (2012) on the ICE Ireland corpus, which we will look at in greater detail.

Kirk and Andersen (2016: 294–295) outline some of the challenges of pragmatic annotation, not least of all the fact that when real spoken language is transcribed, it is reduced into a pragmatically-bereft form (as alluded to above). Kirk (2016: 300) notes that transcriptions record "the locutionary act of producing forms and constructions, but 'what is heard' (i. e. the illocutionary force or intent, and its processing as the perlocutionary effect) is only extrapolable from the transcription". These deficiencies make it even more challenging to superimpose pragmatic annotation onto existing corpora of spoken language.

What is not encoded in conventional lexico-syntactic transcriptions are indications of the pragmatics operating in an utterance: the illocutionary force or intent (the speech act status), the perlocutionary effect, the upholding or breaching of the Gricean co-operative principle, the politeness strategy invoked, the attitude of a speaker to the message of the utterance being made (pragmatic stance) or to the hearer of that utterance (face negotiation), and so too its potential impact. Much of what speakers utter is determined by a speaker's attitude towards what they are saying and towards the person(s) to whom they are saying it (Kirk and Andersen 2016: 294–295).

Crucially, they note that understanding these deficiencies is a key to the ongoing development of pragmatic annotation: "The more linguists come to understand about those interpersonal, intersubjective, communicative ways, the more new layers may be added to the linguistic structures which have been conventionally represented hitherto" (Kirk and Andersen 2016: 295).

Of interest is the SPICE Ireland corpus because it is an example of a spoken corpus which has been pragmatically annotated and so it offers a model for how one-to-one searching can be made possible in a function-to-form approach to corpus pragmatics. SPICE Ireland is part of the International Corpus of English suite (Kirk et al. 2011; Kallen and Kirk 2012). It contains just over one million words, entailing 15 discourse situations, as well as 17 written domains. The 15 discourse situations comprise 626,597 words and all were annotated pragmatically. The annotation scheme comprises five components: the speech act status of each utterance in the corpus, based on Searle's (1976) categories of illocutionary

acts, tone movements, discourse markers, utterance tags, and quotatives (see Kirk 2016: 306). Speech act status, for instance, is marked with pairs of angled brackets (based on the system used in COCOA conventions for pairs of opening and closing angle brackets for the representation of a speech act, see below). The annotation surrounds the span of an utterance which contains a speech act, i. e. with a code in angle brackets before the utterance, concluding with a backslash. An appropriate code is used to represent the type of act based on Searle's (1976) taxonomy (Kirk 2016: 302):

<rep> … </rep> for "representatives";
<dir> … </dir> for "directives";
<com> … </com> for "commissives";
<exp> … </exp> for "expressives";
<decl> … </decl> for "declaratives"

Four other codes that were deemed necessary (Kirk 2016: 302):

<icu> … </icu> for "indeterminate conversationally-relevant utterances"

These are used to mark a broad range of minimal responses, back-channel utterances, or "other elements of speech which are relevant to the maintenance of discourse coherence or continuity, but which lack a discernible function as a speech act" (Kirk 2016: 309).

<soc> … </soc> for "social expressions"

This code is used for social expressions such as greetings, leave takings, and other interactive expressions fall into this category (for example the closing exchange in telephone conversation).

<xpa> … </xpa> for utterances not analysable at a pragmatic level

Kirk (2016: 310) notes that the SPICE annotation tool requires every utterance to be glossed for pragmatic value, "yet it is inevitable in a large corpus of naturally-occurring data that many utterances will be impossible to categorise as speech acts or conversational moves of one kind or another". In such cases, this code is used to show that an utterance lies outside the pragmatic frame of analysis.

<K …> … </K …> for "keyed" utterances.

Kirk (2016) notes that the data of ICE-Ireland provide clear examples where speakers are not being literal, but rather use the form of one type of speech act to commit an act of a different type. Kirk followed the work of Goffman (1974) on frame analysis, and devised a <K> code for such utterances, where they are treated as "keyings" of a primary speech act. He provides the following example which, Kirk (2016: 310) notes, "takes the syntactic form of a commissive (undertaking to send the listener a bill), but it is not intended as one" rather is it uttered by the judge

who has just given off-the-record advice to a barrister. Kirk (2016: 310) provides the interpretation "that it has the function of a directive – an utterance made in order to provoke laughter. The humour itself derives from the speaker's intentionally anomalous use of the syntactic form of a commissive when it is understood that the commissive is not in this case genuine":

> <ICE-NI-LEC-P2A-061$B> <#> <**dirK**> Yeah* <,> I'll 1sEnd you my 2bIll% </**dirK**> <&> laughter </&> (Kirk 2016: 310)

The scale of pragmatically annotating such a substantial sample as SPICE Ireland (in terms of spoken language) seems challenging, to say the least, but there are also examples of work where researchers who are using much smaller and more contextualised datasets have been able to engage with a similar level of pragmatic annotation for their particular purposes. A case in point is the work of Milà-Garcia (in press). In this work, agreement and disagreement in spoken Catalan are the focus and the data has been annotated for this purpose. This allows the researcher a total recall on all stretches of discourse (which have been coded) involving either an agreement or a disagreement. Garcia McAllister (2015) offers more interesting samples of studies where speech acts have been investigated using corpora where various workarounds have been found, especially using smaller samples which we will now consider in greater detail.

In sum, pragmatic annotation offers a possible solution for function-to-form research but it comes with limitations: 1) it is enormously time-consuming and labour intensive (and thus expensive) and, realistically, this will be a major barrier to its mainstreaming; 2) due to the inherently fuzzy and discursive nature of speech acts, decisions of interpretation are dependent on the annotator's interpretation within the bounds of his/her understanding of the contextual conditions of the speech event; and 3) because of these constraints, it is best applied in small scale studies, where the researcher is conducting the annotation and has an indepth understanding of the contextual variables and conditions.

4.2. Approach 2: Sampling, searching and sifting

As Rühlemann and Aijmer (2015) point out, pragmatics researchers are used to dealing with small amounts of text and analysing these "horizontally" (taking in all contextual factors) but, they note, "even small specialized corpora contain far more words than could possibly be read and analysed by any one researcher in the same way as the select texts which pragmaticists are used to working with" (Rühlemann and Aijmer 2015: 6).

An approach that can make function-to-form research more manageable is to randomly sample from a corpus so as to analyse pragmatic function within that smaller dataset. When the dataset has been made more manageable, the researcher can then read it qualitatively and sift through it to find all instances of a particu-

lar pragmatic phenomenon. Garcia McAllister (2015) details a study where she down-sampled a percentage of different data types from a larger corpus so as to investigate the speech act category of directives. Garcia McAllister drew down data from the spoken component (1.6 million words) of the TOEFL 2000 Spoken and Written Academic Language Corpus (T2K-SWAL) (2.7 million words in total), which was collected via audiotaped recordings of conversations, business interactions, and lectures that took place in a university setting (see Biber et al. 2002, 2004). She narrowed her dataset to the following contexts of use (percentages of her down-sample are in brackets): service encounters (39.3 %); office hours (32.3 %), study groups (28.3 %). She then had a data sample of 42,797 words, which she manually sifted (and listened to the audio recordings) to identify, code and annotate all instances of directive speech acts. Through her coding system (see Garcia McAllister 2015), she was able to then apply corpus tools to assign further linguistic and contextual information to each utterance that she had identified as relevant to her study and to provide a data set listing each utterance and its corresponding descriptors. Among other findings, she identified the role of each situational context in predicting the type of speech act used, for example, service encounters were found to be characterised by a high frequency of requests for information, services and payment, suggestions and putting interlocutors on hold. Reflecting on the process and methodology, she notes that the most difficult part was identifying speech acts in corpora and annotating them: "It took many hours of listening to audiotapes and reading transcripts to code all of the utterances analyzed in this study" (Garcia McAllister 2015: 45).

McCarthy and O'Keeffe (2003) offer another example of a study where researchers used a down-sample from a larger corpus and then sifted manually through the sample data to identify and pragmatically categorise the item which was the focus of their study. This paper sought to explore the pragmatic functions of vocatives in conversation. One of the datasets under scrutiny, a small 55,000 word corpus of radio phone-ins, was manageable enough in size to manually sift through to find and functionally classify all vocative occurrences. The other dataset was the Cambridge and Nottingham Corpus of Discourse in English (CANCODE), a five-million word corpus of spoken English (see McCarthy 1998). It is obviously implausible to look at all instances of vocatives in such an amount of data. The solution was to generate a word frequency list to find the most commonly used vocatives in the corpus. Kinship terms, *Mum(my)* and *Dad(dy)*, were also included since a good deal of the casual data was family-based. The next step was to run concordances of the high frequency names/address forms. A cut-off of a maximum of five uses of any one name/address form as vocative was set as a restriction on the corpus search (McCarthy and O'Keeffe 2003). Through this process of sifting, a total of 100 extracts involving vocatives were identified for further analysis. Among other findings, they noted a high degree of use of vocatives in the context of hedging. The vocative was neither syntactically nor semantically

necessary, but it served often to build relationships ("relational"), downtone challenges, adversative comments or in disagreements. Additionally, vocatives were also often found to be a core feature of badinage (McCarthy and O'Keeffe 2003), especially in the casual conversational data. The functional results from the CANCODE data down-sample could then be compared with the radio phone-in results once the latter were normalised to percentage results (i. e. so that results were both out of 100):

Table 1. Breakdown of functional types of vocatives across a random sample of 100 from CANCODE and a percentage ratio of all vocatives in *Liveline* radio phone-in (McCarthy and O'Keeffe 2003: 177)

Function	**CANCODE (out of a 100-vocative sample)**	**Radio Phone-in (%)**
Relational	30	7.7
Topic Management	21	9.0
Badinage	19	3.0
Mitigator	15	10.3
Turn Management	11	11.2
Summons	4	0.0
Call Management	0	58.6

The following examples, (4) to (6), of where the radio phone-in caller uses the presenter's name (*Marian*) illustrate the use of vocatives where they are superfluous to the transactional context of the radio phone-in but they aid the pragmatic smooth running of agreements and evaluations:

(4) <$2> Yes indeed Marian ah I'd I'd have to agree wholeheartedly with him. (LCIE)
(5) <$2> That's right Marian. (LCIE)
(6) <$2> It is indeed Marian because ah you know again I think that people are … (LCIE)

In the institutional data (radio phone-in), vocatives had an important call management function, which included changes in footing (Goffman 1979) from the audience to the caller. Example (7) illustrates this function. When the caller's name is used (*Austin*), this is the point at which the presenter (*Marian*) changes her footing (speaker alignment) from the audience to the caller:

(7) <$1> Now to a couple that had very very difficult Christmas this year however all's well that ends well ah **Austin** good afternoon to you.
<$2> Good afternoon **Marian**.
<$1> Your little boy went back to playschool yesterday?

<$2> Yesterday that's right.
(LCIE)

In a follow-up study, Clancy and O'Keeffe (2015) used the results of the functions of vocatives identified in the 55,000 word radio phone-in and compared these with an even smaller dataset of 12,500 words of conversations between friends and family (see Clancy 2015). This dataset was small enough to allow for the sifting and sorting of all 161 instances of vocatives in the data. Once these were classified according to their function, it allowed for the comparison of vocative use in the institutional context of radio phone-in (where pseudo-intimacy was replicated, see O'Keeffe 2006) and the intimate discourse of family and friends. Again, the results from the family and friends data, in line with McCarthy and O'Keeffe (2003), showed that vocative use was much more common in casual conversation between family and friends and that it played a key downtoning role in the context of mitigation, among other relational functions.

These case studies, along with many others, show the benefit of careful and principled sampling from existing corpora, especially where you can access metadata about the speakers and the situation. This then makes scalable the manual sifting through these data so as to pragmatically categorise all instances of your research focus.

4.3. Approach 3: Using existing research findings as "seeds"

Another important means of looking at pragmatic functions is to use existing research findings as the "seeds" or starting points. It is important to stress that there is so much research output already in existence on so many aspects of pragmatics, not least of all speech acts, from the many years of work that has preceded corpus pragmatics. These studies provide very useful starting points for search items in corpora. The first of these studies, Schauer and Adolphs (2006), has already been discussed above, in terms of its comparative findings. Here, we will focus on its methodology. Schauer and Adolphs (2006) take the DCT output from eight scenarios involving 16 native speakers as their starting point for corpus searches of the speech act of expressing of gratitude. In other words, they used the forms that emerged in the DCTs as a basis for their corpus searches. They say that they opted to start with the DCTs as their source of corpus search items because they wanted to control the variables of the context for the scenarios. In doing so, they were able to make their output from the corpus comparable with that of the DCTs and this, as we have discussed, led them to some important methodological insights. The important methodological point here that we can draw from this study is that DCT results for a given speech act, routine or situation, can offer seeds for searching corpus data and in so doing one generates a comparable dataset and one will gain insights into how these forms are used across turns.

Another example of this use of existing research as a seed is a study by Cheng and O'Keeffe (2015) where they sought to investigate vague language approximator forms (e. g. *about seven, seven or so, at least seven*) within one corpus (inter-culturally) and also to compare the forms across with another variety of English (cross-culturally):

- Inter-cultural comparison of two sub-corpora of the Hong Kong Corpus of Spoken English (HKCSE) (a total of 216,942 words): a Native Speaker sub-corpus of 108,760 words and a Hong Kong Chinese sub-corpus of 108,182 words;
- Cross-cultural comparison of the results from the inter-cultural comparison of Hong Kong data with results from Irish English, using the one-million word Limerick Corpus of Irish English (LCIE).

Cheng and O'Keeffe were keen to investigate the degree to which these forms and their pragmatic functions were universal within and across two varieties of English. This task was too enormous to undertake for all vague language (VL) items which are not tagged in either corpus so they narrowed their focus to one type of vague language which was already described in previous research, namely Channell's (1994) approximator + number (n). They used the search items from Channell's research: *about, around, round, approximately, or, or so, at least, at most, less, more, under* and *over*. These searches had to be disambiguated through manual concordance sorting so as to arrive at only the relevant structures that contain the search items and "n" and/or "m" (where "n" refers to a number and "m" refers to a multiplier of the number, e. g. five (n) or ten (m) minutes). Following Channell's (1994) model, the HKCSE sub-corpora and LCIE were examined in detail. In summary, they found that on the surface, approximator + number (n) seemed to be a universal feature in terms of form and distribution, with no significant quantitative differences emerging either from the inter- or cross-cultural analysis. However, they note that when they looked qualitatively at what the approximators were referring to in their context of use, they found variation in terms of their distribution (e. g. approximation with time and calendar periods was the most common context). For this phase of the analysis, the researchers used a random sample of 100 items from each of the three datasets (in the manner detailed in approach 2). This close qualitative analysis also led to insights about cultural implicitness (especially within family interaction).

Reflecting on their methodology of using an existing model of forms based on existing research, Cheng and O'Keeffe say that it allowed them to work within its syntactic parameters to search through corpora for instances of one specific form of VL. They say that "while it did involve a lot of manual sorting through concordance lines to eliminate non-VL instances, it was not by any means an insurmountable task" (2015: 374).

4.4. Approach 4: Solutions for larger corpora

Solutions proposed above are limited to smaller scale corpora or to small samples drawn down from larger datasets. Let us now showcase some studies that have used strategies to identify speech acts in larger datasets.

4.4.1. Using Illocutionary Force Indicating Devices (IFIDs)

The seminal work of Deutschmann (2003) set out to examine apologies in British English using the 10 million word spoken component of the BNC. As he details, these spoken data involve a total of 4,705 speakers. From this, he isolated only those dialogues produced by speakers whose age and gender were available in the metadata. This sub-corpus comprised 5,139,082 words produced by over 1,700 speakers.

As Deutschmann (2003: 17–18) explains, the investigation was limited to explicit apologies which appeared in the form of IFIDs. Thus, his study focused on "expressions containing variants of the words *afraid, apologise, apology, excuse, forgive, pardon, regret* and *sorry*". Using the BNCweb Query System, the results were then downloaded to an Excel database for manual analysis. By sifting through the results, utterances which functioned as explicit expressions of apologies were identified. Once the data was "cleaned" of all non-apologies, each instance was analysed in the context of the conversation where it was originally uttered so as to classify it functionally and pragmatically. Where available, speaker metadata, such as gender, age, social class and the person being addressed, were also noted in the database for each apology. In addition, where possible, other contextual variables were also logged, such as the conversational setting (formality level), conversation type and the number of participants in the given interaction. Details were also entered for each apology on the power relationship and social distance of the interlocutors. With this level of meta-detail, Deutschmann was able to generate some very detailed results on how, when and by whom apologies were performed.

Deutschmann's analysis identifies three overall functional types of apologies: real (prototypical) apologies, formulaic apologies and face attack apologies. What is significant also in this study is that the author sheds light on the link between his corpus-based approach and its results in comparison to other studies which used different approaches. In other words, he explores the correlation between research design and scope of results. The scale of Deutschmann's study allows for robust correlations between apologies and variables, such as gender, age, social class, formality level, group size and genre. For instance, he was able to show that:

- Younger speakers apologised far more often than older speakers; and
- Speakers from middle class backgrounds apologised more than working class counterparts.

As Woodman (2005: 316) notes, one of Deutschmann's most novel findings was the correlation between group size and apologies:

> the more participants in an interaction, the higher the rate of apology. This meant therefore that genres such as meetings, classroom contexts, job interviews had more frequent rates of apologies than genres associated with smaller sizes, for example medical consultations and historical interviews (see Deutschmann 2003: 161).

Deutschmann's findings in relation to power relations and social distance showed that the more powerful the speaker, the higher their rate of apology and conversely, the lower the power of the speaker, the lower the rate of apology.

Woodman (2005: 316) in reviewing Deutschmann's (2003) methodology summarises the advantages of this approach by saying, "[t]he obvious advantages of using a computerized database such as the BNC are the sheer scale of the data and the fact that the language occurred naturally". Woodman (2005) continues, "[t]he disadvantages lie in the lack of crucial information in connection with the delivery of the apologies (such as body language and prosodic features), in the inevitable inaccuracies involved in the transcription process, and in the lack of any psychological contextual information about the participants (e. g. perceived gravity of offense, degree of affection between participants)". The important achievement of the painstaking work of Deutschmann is that it showed the scale of what can be done in using a large corpus for the analysis of a speech act in a systematic manner. Additionally, other studies can now "stand on the shoulders" of the work of Deutschmann because he has offered such a detailed starting point for anyone interested in looking at apologies in corpus data.

Lutzky and Kehoe (2017a) and (2017b) are examples of two studies which have built on the work of Deutschmann (2003). They both explore apologies in the diachronically-structured *Birmingham Blog Corpus* (BBC), which spans 2000–2010 and is 630 million words in total. In Lutzky and Kehoe (2017a), for example, they begin with Deutschmann's eight core apology IFIDs (see above) and their goal is to arrive at a collocational profile of these items so that they can be used for automatic attestation of apologies within their very large corpus.

Lutzky and Kehoe (2017a) begin with a sub-corpus of 95 million words of blogs, plus 86 million words of readers' comments. Using the apology IFIDs and their lemmas (e. g. *pardon/pardons/pardoned/pardoning*), they generate all occurrences in the data, without distinguishing between apology and non-apology at this stage. This meant that their initial findings included many non-apology items, for example, all instances of *afraid*, not just *I'm afraid* in the context of an apology.

Their next step was to conduct a detailed word frequency profile of the collocates of each of their initial search items. The collocate had to occur within the top 100 most frequent times and it had to be within a span of four words to the left or right of the IFID. For example, the collocates of the IFID *apologise* included items that occurred next to the search word, such as *profusely,* as well as collocates

that were up to four words to the left or right of it, for example, *inconvenience* or *advance*. They used a z-score to rank significance of collocational pairings relative to collocate frequency and corpus size. For instance, they give the example of *profusely:* this has the highest z-score though its raw frequency is relatively low. Though *profusely* is a relatively rare word (occurring 348 in the dataset), 30 % of all of its occurrences are as a collocate of *apologise* and thus it has a high z-score.

By building a profile of the collocates of all of the IFIDs in this manner, Lutzky and Kehoe (2017a) were then able to aggregate the collocates across all of the IFIDs to identify the "shared collocates" (see Lutzky and Kehoe 2017a: 46–47). This showed some interesting patterns, for example, the pronoun *I* was a shared collocate of seven of the eight IFIDs (it was not a collocate of *apology* within the four word parameters set for the study) while *ignorance* only collocated with *pardon, excuse* and *forgive*. Interestingly, the reason for apologising within this genre (blogs) was reflected in this list of shared collocates, such as *spelling, typos, poor, quality* and *English*. Additionally, Lutzky and Kehoe (2017a) identified the items which were strong collocates with a given IFID but did not appear within the top 100 most frequent collocates of any other IFID. Among their findings in this set of results was the strikingly colloquial items that uniquely collocated with *sorry*, such as *oops, aww, hugs, sucks, hon/hun* (short for the endearment *honey*). They further investigated *oops* in Lutzky and Kehoe (2017b) and asserted that it could be added to the list of IFIDs for apologies in blogs.

Lutzky and Kehoe (2017a) and (2017b) offer a fascinating insight into new and evolving ways of investigating speech act phenomena in very large corpora. By profiling the similarities and differences in the collocational patterns of several IFIDs, Lutzky and Kehoe (2017a: 54) show that "functional overlaps" and "divergences can be revealed, which can in turn be used to increase the incidence of relevant examples in the search output". This ultimately means arriving at greater precision in the automated retrieval of speech acts in large corpora. The authors strongly advocate the place and merits of manual analysis, but they note, "our methodological approach allowed us to streamline the search for the fairly routinized speech act of apology in our blog data" (Lutzky and Kehoe 2017a: 54).

4.4.2. Using genre-specific search inventories from smaller samples

Kohnen (2008), in his work on directives over text and time, offers an interesting bottom-up methodology which essentially involves moving from a search inventory drawn from a micro-analysis of a representative genre sample of sermons to extracting forms from a large-scale diachronic corpus. For Kohnen, the first step was crucial. It involved manually sifting through a pilot dataset of church sermons to identify all possible forms of directives. Kohnen concedes that this "by hand" approach is "extremely labour-intensive" (2008: 296) but it generated a plausible

search inventory that formed the basis of his study and which is useful for others who wish to investigate this speech act. In the initial process, there was some iteration as the pilot micro-analysis was scaled up to a broader representation of the genre – e. g. also looking at prayers, church letters, etc. Kohnen (2008: 296–7) notes, "[t]his microanalysis will probably reveal similar as well as different manifestations of the speech act, enriching the initial list of manifestations. It will also give an account of their frequencies and distribution across time".

The next step was to select manifestations of directives and their distribution in larger multi-genre corpora so as to further refine the inventory and test their frequency and distribution. This iterative process led to a principled inventory of forms in a genre-specific historic context. Over time, it shows the profile of a speech act within a genre and ultimately offers a robust means of moving from a micro-analysis of a speech act in a small representative sample of a genre to a largescale analysis in a diachronic dataset. Kohnen (2008: 297) reflects that by using this approach, "we could find out about genre-specific profiles and about speech-act conventions which may or may not apply in certain genres, and we could trace the development of these phenomena in the history of English". Jucker and Taavitainen (2013) observe that Kohnen's method will provide most reliable results for those patterns that are most frequent and most conventionalised. They note, however, that it is far less reliable for rare and creative patterns and that it also relies on the availability of a sufficient amount of data which is relevant and which is spread across the period of investigation. For Kohnen (2008), this approach worked well because there was a consistent sample of sermons, and related texts, over time.

4.4.3. Using searches of typical lexical or grammatical features associated with a speech act

Another interesting approach to analysing a speech act in a corpus is found in Taavitsainen and Jucker (2008). They sought to examine compliments in three historical corpora. Faced with the challenge of how to retrieve these, they used as their workaround adjectives that express positive evaluations, that is search items such as: *beautiful*, *nice*, *great*, *lovely*, and lexical strings, such as *really nice*, *really great*, *well done*, *like/love your*, *what a*, *you look/'re looking.* Reflecting on the process, Jucker and Taavitsainen (2013: 107) note that while this process did provide relevant hits, it also returned a lot of passages that were not relevant to the research focus.

The scale of their research, in terms of breadth of sources and span of time, meant that they were able to make a number of interesting statements about compliments in an historical context. For example, in Early Modern and Late Modern English, compliments were found to be gendered. Both male and female authors were found to use compliments in their writing but female characters received praise for their look(s) and often turned these down as flattery. On the other hand,

in the case of males receiving compliments, they accepted them, by bowing. They note that this aligned with social norms of the time.

While most compliments were related to physical appearance and possessions, interestingly, Taavitsainen and Jucker (2008: 218) found only a few instances of compliments about food and they speculate that perhaps this is due to "the social norms, protagonists being mostly upper class and not directly associated with the preparation of meals".

4.4.4. Using metacommunicative expressions

Focusing the development of compliments in American English from a diachronic perspective of almost two hundred years, Jucker and Taavitsainen (2014) used both the 400-million-word *Corpus of Historical American English* (COHA) and the 425-million-word *Corpus of Contemporary American English* (COCA). Building on Taavitsainen and Jucker (2008), they developed a systematic approach to the analysis of compliments using a "metacommunicative expression analysis" (Jucker and Taavitsainen 2014: 258). In essence, this approach entailed using the search term *compliment* to retrieve performative, descriptive and discursive instances of the act. This method was a useful starting point even though the term was mostly not used as a compliment. The process allowed the researchers to negotiate the value of a given act or to describe someone as having paid a compliment. In this process, their first step was to narrow their sample across a spread of five sub-corpora of selected decades within the sample period. These were sampled based on the number of instances of *compliment*. Subsequently, coders used the extended contexts of the node occurrence to categorise and code compliments for variables such as, type, complimenter, complimentee, object of the compliment, compliment response, as well as logging the genre in which it occurred. In their analysis, they distinguished between personal compliments and ceremonious compliments and found that in the historical data, more than 90 % were personal compliments. Within that profile, they noted a steady decline in the use of ceremonious compliments, over time. Their analysis offers details on the distribution of the gender of the complimenter and complimentee and compares that with the contemporary data sample from COCA. This showed that males were in the role of complimenter between 70 and 85 percent of the time in the historical data while in the COCA sample, this statistic fell to 67.1 percent. In terms of the gender of complimentee role, there was a balance, apart from the earliest dataset (1820/1830), where males also received the majority of the compliments. The object of the compliment showed a consistent pattern across the centuries where most compliments were given on people's personality/friendship and on their ability/performance.

In looking at how compliments are responded to in contemporary American English, it has been shown that they are normally accepted (see Chen 1993). Jucker

and Taavitsainen (2014) were keen to test this historically through their coding of the response to the compliment within their dataset. They found that, "acceptance of compliments remained more or less stable for the first four periods under investigation [1820/1830, 1870,1900] but it is clearly higher in the most recent period [1990/2000], in which it has reached more than 70 per cent" (Jucker and Taavitsainen 2014: 273). They speculate that this significant rise in acceptance may be connected with social and cultural changes, or perhaps a change in literary styles.

Reflecting on the metacommunicative expression analysis methodology that they deployed in this study, Jucker and Taavitsainen (2014) note that it has strengths and weaknesses:

> It allows the systematic analysis of a specific speech act in large corpora, and thus it provides a way to investigate synchronic differences or diachronic developments which would be inaccessible to other methods of investigation. On the other hand, the method mostly retrieves accounts of a particular speech act rather than the actual speech acts, and statistical results based on such accounts may be misleading. In the case of compliments, for instance, the retrieved passages may contain a disproportionate amount of problematic compliments, such as utterances whose status is unclear to the participants. Such problematic compliments may, of course, differ in systematic ways from a large number of unproblematic compliments that are given and received in a graceful manner without any need to explicitly talk about them (Jucker and Taavitsainen 2014: 274).

5. Conclusion

There is no going back to the days before corpora; corpus pragmatics will only grow stronger amid advances in annotation models, resources and tools. It is important that within this rapid stream of progress that we are not tempted to see easily generated computations of forms as a substitute for the qualitative depth that is needed to fully understand how the meaning of these forms manifests in context. Taavitsainen (this volume) recalls the caveats of Rissanen (1989) in the early days of historic corpus linguistics. Rissanen could see that diachronic corpora offered so much to the field of philology and had so much optimism in terms of what the power and scope of CL could bring but he flagged the concern that "the corpus revolution would turn to mere number-crunching" (Rissanen 1989: 17). Though Rissanen's fears did not materialise for historic corpus linguistics, it was and still is healthy to be mindful of these words. Corpus pragmatics is at a relatively early stage and there is so much potential for both form-to-function and function-to-form approaches (and indeed a combination of both). It is important for this developing sub-field that we reflect more on how methodological approaches can be enhanced through the development of more pragmatic annotation tools, search and retrieval protocols and resources. Amid the endless growth in data size and ease of availa-

bility, we need to keep mindful of the fact that pragmatic insight often starts with small-scale scoping work, such as we have seen in the work of Kohnen (2008), Weisser (2015) and Garcia McAllister (2015). We also see that "corpus toiling" pays off. The painstaking work of Deutschmann (2003) has facilitated development in IFID collocational profiling by Lutzky and Kehoe (2017a and 2017b) or the insights which Taavitsainen and Jucker (2008) gained in the analysis of compliments using typical features of positive adjectives to aid recall led to further refinement in later work on metacommunicative expressions (see Jucker and Taavitsainen 2014).

All of these "small-scale" steps, in the larger scheme of mega-corpora, are leaps in our understanding of the intricacies of building corpora that are fit for the purpose of both form-to-function and function-to-form approaches to research. An important lesson from successful examples of corpus-based function-to-form work to date is the link between the level of detail and consistent of the corpus metadata and the depth and scope of the results that have been generated about a given speech act, or related phenomenon (Deutschmann 2003 is a good example of this). The importance of gathering context-rich metadata should not be missed by those who are designing a corpus of any scale. The capturing of the subtleties of any given context will make the dataset more fruitful for pragmatics research for centuries to come.

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24. Corpus-based metapragmatics

Michael Haugh

Abstract: Metapragmatics encompasses the study of displays of awareness on the part of users and observers of language about their use of language. In this chapter, it is argued that corpus-based approaches to metapragmatics are uniquely positioned to advance such studies, as it allows for interpretive (horizontal) and statistical (vertical) methods of analysis to be successively applied to the analysis of metapragmatic data. The different ways in which corpora have been used to study metapragmatic labels with respect to the broader metacommunicative lexicon of which they form a part are discussed, alongside studies of metapragmatics in use, that is, the use of these metapragmatic labels in situated contexts. It is then argued, building on a case study illustrating how claims of non-serious intent (e. g. *just kidding, only joking*) can be studied from a corpus-based perspective, that studies in corpus-based metapragmatics necessarily involve carefully interweaving horizontal and vertical methods of analysis. The chapter concludes with a call for further corpus-based metapragmatic studies across different languages.

1. Introduction

Metapragmatics is concerned with the study of reflexive awareness on the part of participants in interactions, and observers of interactions, about the language that is being used in those interactions. In other words, it involves analysing the ways in which we display awareness of our use of language through the various ways in which we use language to refer to our use of language.

Consider the following excerpt from a phone call taken from the CallFriend corpus, in which Jess (F1) has called her friend Cathy (F2). Jess is telling Cathy about an assignment she is completing for a class at college.[1] Jess has already established with Cathy prior to this excerpt that their conversation is being recorded for research purposes.

[1] http://talkbank.org/browser/index.php?url=CABank/CallFriend/engn/engn6015.cha. The excerpt is reproduced here according to CHAT transcription conventions (see Appendix) as they are used in Talkbank (MacWhinney 2000). We will revisit the same example transcribed using more detailed CA (Conversation Analysis) transcription conventions in example (3) in section 5.

https://doi.org/10.1515/9783110424928-024
In: A. H. Jucker, K. P. Schneider and W. Bublitz (eds.). (2018). *Methods in Pragmatics*, 619–643. Berlin/Boston: De Gruyter Mouton.

(1) CallFriend: engn6015: 3:08

102	F1:	I wrote a children's book (0.4) and (0.6)
103		I'm really happy with the entry notes, and like,
104		I did this for my final project, in this class, and [you can].
105	F2:	[uh huh].
106	F1:	basically you can do anything, it's for this children's literature class
107		so the rule, of thumb→
108	F2:	+≈they'll hear→
109	F2:	they're recording us→
110	F2:	I'm just kidding [Go on, hhh hhh hhh I'm just kidding]→
111	F1:	[hhh and] and now I'm going to illustrate it↗

What is notable here is that after warning Jess in lines 108–109 that others will hear what Jess has just said in line 106, Cathy goes on to claim she is *just kidding* (line 110). This claim to be *just kidding* refers back to her prior warning in lines 108–109, and thus constitutes a display of metapragmatic awareness on Cathy's part. In claiming to be *just kidding* she construes this warning as a tease that should not be taken seriously, with shared laughter in lines 110–111 displaying a joint understanding on both their parts of just that. However, this kind of interpretive analysis, albeit one grounded in the responses to participants to (just) prior talk through which they display their understandings of that talk, raises a number of broader questions for linguistic pragmaticians.

Cathy is certainly not the first person to claim to be *just kidding*. A search of any corpora of spoken or digitally-mediated talk reveals this to be a common collocation in English. This raises questions about what it "means" to be *just kidding*, and whether it differs from the meaning of other related terms, such as *only kidding*, *kidding*, *just joking*, *only joking* and so on. What Cathy and Jess take *just kidding* to mean here likely depends on their own encounters with this particular collocation, and how it is used by speakers of the variety of English with which they are evidently both familiar, namely, General American English, specifically that variety used in the Upper Midwest where the recording took place. The second question raised here concerns what Cathy is (taken to be) "doing" through her claim to be *just kidding*. From Jess's response in lines 111, in which she first laughs and then proceeds to return to her prior telling about the class project, it appears that this claim to be *just kidding* not only construes the prior utterance as a form of non-serious teasing, but also invites laughter and a subsequent return to serious talk (Haugh 2016b). Given the split-second timing here in the to-and-fro of this interaction, it appears that what this claim to be *just kidding* is doing is readily recognisable to both these interactants. The broader questions for research in metapragmatics are what underpins the recognisability of these kinds of metapragmatic labels not only for these participants, but for us as observers of this interaction, and how does their use in these kinds of metapragmatic comments shape our understandings of not only particular interactions, but our social reality more

broadly. Given metapragmatics is centrally concerned with studying language use that reflexively takes language use as its object of interest, it is no surprise that the analysis of various forms of metalinguistic awareness plays a key role in proceeding to answer such questions.

In this chapter, we consider the contribution that corpus pragmatics can make to advancing our understanding of the metapragmatics of different languages and varieties therein. The contention will be that methods and approaches developed in corpus pragmatics are perhaps of even greater import than they are to the study of pragmatics more generally. This is because the use of various metalinguistic "forms" is the primary means by which participants and observers can display metapragmatic "awareness" about their use of language. The identification and analysis of the functions of linguistic forms across large tracts of data is, of course, the raison d'être of corpus pragmatics. For that reason, corpus-based metapragmatics is arguably uniquely placed to contribute to the ongoing advancement of metapragmatics more generally, particularly as we move towards a pragmatics that treats pragmatic variation both within and across languages as a serious object of analysis in its own right (Schneider 2017; Schneider and Barron 2008).

We begin, in the following section, by briefly introducing metapragmatics as a field and its growing inter-relationship with corpus pragmatics. In section three, we move to consider studies that use corpora to examine what different tokens in the metacommunicative lexicon are taken to mean both within and across interactions. We then discuss, in section four, metapragmatics in use, that is, studies that use corpora to examine what invoking metapragmatic labels in situated contexts is taken to be doing in those interactions. In section five, the various methodological strands that were identified in the two prior sections are drawn together in a brief case study that discusses how claims to non-serious intent (e. g. *just kidding*, *only joking* etc.) can be studied from a corpus-based perspective, and the issues that arise in undertaking such studies. The chapter concludes by outlining the importance of undertaking further research in corpus-based metapragmatics.

2. Metapragmatics and corpus pragmatics

In its broadest formulation, metapragmatics is concerned with "the language user's reflexive awareness of what is involved in a usage event" (Verschueren [1995] 2010: 1). This reflexive awareness is what affords multiple layers of interpretation and evaluation in communicative interaction, as first outlined in Ruesch and Bateson (1951), and subsequently Bateson's (1972) highly influential theory of metacommunication. This broader sense of metapragmatics amounts to a (meta) theory of pragmatics itself (Caffi 1994, 1998; Hübler 2011; Mey 2001). However, in a more narrowly focused sense, metapragmatics encompasses studying the ways in which users display reflexive awareness of their use of language through uses

of language that reflexively refer to their use of language (Culpeper and Haugh 2014; Kádár and Haugh 2013; Hübler and Bublitz 2007; Hübler and Busse 2012). In the latter case, the focus is on how we can gain insights into how people both conceptualise and evaluate aspects of their social worlds through studying metapragmatic uses of language in which users are explicitly directing attention to their use of language through their use of language.

Reflexivity and awareness are thus two key concepts in metapragmatics. Reflexivity refers to the way in which one level of interpretation of language use by users is interdependent with other levels of interpretation, while awareness involves directed attention on the part of users towards particular pragmatic objects. Niedzielski and Preston (2009) suggest the latter varies in its degree of salience and accessibility for those users (and indeed observers) of language in use. Various forms of metapragmatic awareness have been discussed (Coupland and Jaworski 2004; Hübler 2011; Hübler and Bublitz 2007; Mertz and Yovel 2009),[2] but two of particular relevance to corpus pragmatics mirror those originally noted by Bateson (1955) himself, namely, metalinguistic awareness and metacommunicative awareness. Metalinguistic awareness refers more generally to the ability to treat language itself as an object of reflection through recourse to metalanguage (that is, language about language), while metacommunicative awareness refers to the ability to treat communication itself as an object of reflection through recourse to metacommunication (that is, communication about communication)

In the example above, for instance, the claim to be *just kidding* involves a particular form of metalinguistic awareness where the focus is on the ways in which language is used to communicate with others, or what is sometimes termed metapragmatic or metacommunicative awareness. The collocation *just kidding* we discussed in section one is thus representative of a particular "form" of metalanguage that is concerned with our use of language, which scholars have variously termed metapragmatic labels (Culpeper and Haugh 2014), metacommunicative expressions (Jucker and Taavitsainen 2014), or metacommunicative lexicon (Hübler 2011). Notably, the "use" of this particular instance of metalanguage in this situated context contributes to shaping the interaction in particular ways, both in relation to the social action being accomplished here (i. e. a tease), and how the producer proposes it should be interpreted (i. e. as non-serious, playful, jocular etc.) and thus evaluated (i. e. as "non-impolite"). The use of metapragmatic labels to accomplish social actions in this way are variously termed metapragmatic comments (Culpeper 2011), metalinguistic comments (Davies 2011), meta-utterances (Hübler and Bublitz 2007), and so on.

The importance of metalinguistic awareness on the part of users for metapragmatics is premised on the fact that "metalanguage also creates, structures, and

[2] See Culpeper and Haugh (2014: 240–258) for a useful summary.

forms language and ongoing speech" (Mertz and Yovel 2009: 250, original emphasis). The use of metalanguage by both participants in, and observers of interaction thus plays a key role in structuring understandings of our social world. As Jucker (2013) points out, "discourse on these elements, the discourse on politeness or the discourse on a particular speech act, such as compliments, can give us important insights of an ethnographic nature. It tells us how people *evaluate* these elements" (2013: 15, original emphasis). This is arguably important since to reflexively refer to one's own use of language or that of others is itself a social action where users are directing our attention to issues of (moral) accountability and evaluation. The moral bases of these evaluations are, of course, not conceptualised or practised in the same ways by users of different languages, and varieties therein, and so what is regarded as "(in)appropriate", "(im)proper" or "(im)polite" use of language is subject to considerable synchronic and diachronic variation both cross-linguistically and cross-culturally.

As Hübler and Busse (2012) note, metapragmatic uses of language arise through people "abstracting from individual phenomena and treating them as tokens of a type" (2012: 1), specifically, where people become "aware of what they do when they communicate" and wish to "share details [of this] with other group members" (2012: 2). This means that over time the metacommunicative lexicon itself both shapes and is shaped by ongoing interactions across users who identify with a particular language, or variety therein. Systematic study of metapragmatic labels and metapragmatic comments thus offers us a way forward out of a pragmatics that has been dominated to date by the scientific metalanguage of English (Culpeper and Haugh 2014; Haugh 2016a).

At this point, the potential for corpus pragmatics to contribute to this endeavour should be becoming apparent. Corpus pragmatics in the broadest sense involves "studies of language use that employ large, computer-readable collections of language" (Jucker 2013: 1, this volume). An important characteristic of studies in corpus pragmatics is that they typically integrate horizontal and vertical forms of analysis (Rühlemann and Aijmer 2015: 12). Horizontal analysis involves employing qualitative methods to examine the function(s) of particular linguistic forms in their locally situated, sequential contexts. Vertical analysis, on the other hand, involves employing quantitative methods to identify recurrent patterns in the use of particular linguistic forms across different discourse contexts. The integration of these perspectives is generally accomplished in an iterative manner, in which the focus is on examining the co-textual patterns of a linguistic item or items (Clancy and O'Keeffe 2015: 235). The iterative process by which the analyst examines the functions of particular linguistic forms arguably allows him or her to move "beyond important but surface observations of lexico-grammatical patterns to allow a more nuanced interpretation of these patterns taking into consideration who uses them, where they were used, for what purposes, and how this use has changed over time" (Clancy and O'Keeffe 2015: 235–236). This iterative research

process confers significant advantage on studies in metapragmatics where what is accomplished through locally situated metapragmatic comments is shaped, in part, by what those participants understand to be meant by the metapragmatic label being used, and in part, by what using that metapragmatic label in that type of discourse context typically accomplishes.

In sum, corpus-based metapragmatics involves the study of metapragmatic labels and metapragmatic comments as they arise in corpora using a combination of interpretive (horizontal) and statistical (vertical) methods of analysis. The advantage therein is that we are able to not only examine how particular persons on certain occasions conceptualise and evaluate what they are doing with language, but also how such conceptualisations and evaluations are accomplished across groups of persons. In the following two sections, we move to discuss studies of metapragmatic labels and metapragmatic comments that exemplify just how this may be done.

3. Corpus-based approaches to the metacommunicative lexicon

A key focus of research in corpus-based metapragmatics has been on the metacommunicative lexicon, that is, expressions that denote communicative concepts (Hübler and Busse 2012: 2; Jucker and Taavitsainen 2014: 12). The key foci of the metacommunicative lexicon can be broadly summarised as falling within one of the following three groups (Culpeper and Hardaker 2016: 126; cf. Jucker and Taavitsainen 2014: 12):

1. Pragmatic acts and activities (e. g. *apologise, compliment, joke, tease, threaten*)
2. Inferential acts and activities (e. g. *allude, hint, imply, mean, insinuate*)
3. Evaluative acts and activities (e. g. *aggressive, considerate, friendly, polite, rude*)

Pragmatic acts and activities refer to the social actions, and structured sequences of actions within more extended activities, that participants are (taken to be) accomplishing. Inferential acts and activities refer to pragmatic meanings, that is, what participants are (taken to be) referring to, presuming, saying, implicating, inferring and so on. Finally, evaluative acts and activities refer to the interpersonal attitudes and evaluations participants are (taken to be) instantiating (Culpeper and Haugh 2014: 267).

There is, of course, inevitably some degree of overlap and such lists are not exhaustive, given metapragmatic labels represent first-order, lay categorisations of the various kinds of acts and activities that can be accomplished in conversational interaction. However, while one cannot generate a theoretically coherent taxonomy from corpus-based analyses of metapragmatic labels, such studies do nevertheless offer penetrating insights into the conceptual and evaluative fields

which do much to structure social reality for users. Hübler and Busse (2012) suggest, for instance, that these sorts of metapragmatic labels "may encapsulate cultural models of communication rooted in particular practices of socio-culturally defined people", and so "unpacking past contextual meaning of metacommunicative lexemes comes close to what Geertz (1973) would call a 'thick description'" (2012: 8). Such points have also long been made by scholars working within the Natural Semantic Metalanguage (NSM) tradition (Wierzbicka [1991] 2003). Such meanings are thus clearly of relevance when we start to examine various kinds of pragmatic phenomena across languages, and varieties therein.

Taylor (2016a), for example, demonstrates that the conceptual scope of *irony* and *sarcasm* in (British) English and *ironia* and *sarcasmo* in Italian are not synonymous by explicating how their meanings not only overlap but also differ. Such linguistic nuances are important. If being *ironic* or *sarcastic* amongst (British) speakers of English is not regarded as exactly the same thing as being *ironico* or *sarcastico* amongst speakers of Italian, for instance, then studies that attempt to examine cross-cultural differences can be confounded by underlying conceptual differences in our object of study. There is evidently a pressing need for further studies that map the conceptual scope of metapragmatic labels across different languages and varieties therein if pragmatics is to avoid the ontological limitations that inevitably arise from relying on English (or even other major languages) as the scientific metalanguage of choice (Haugh 2016a).

Notably, work to date in corpus-based metapragmatics has largely been focused on English. This is due, in part, to the ready availability of corpora in English. But it also reflects an attempt by those researchers to draw attention to the culturally loaded nature of the metacommunicative lexicon in English (albeit just as is the case with all languages). Such studies have offered insights into the concepts indexed by particular metapragmatic labels in different varieties of English by examining their relationships with other expressions in the co-text (i. e. syntagmatic relationships), or with other expressions in the same semantic field (i. e. paradigmatic relationships). In both cases, the key tools for analysis include examining the relative frequency of occurrence of different metapragmatic labels, concordance analyses of the textual environments in which they occur, and cluster analyses of the other expressions with which their collocational behaviour co-varies in systematic ways.

A syntagmatic perspective examines collocates of the expression in question found in the co-text. In so doing it offers insights into its "semantic preference", that is, the set of lexical items with which it recurrently collocates (Bednarek 2008: 121), and thus its "semantic prosody", that is, the "aura of meaning with which a form is imbued by its collocates" (Rühlemann 2013: 291, citing Louw 1993: 157). Culpeper's (2009) study of "impoliteness"-related metalanguage in the 2 billion word Oxford English Corpus offers an exemplar of this kind of perspective. Culpeper (2009) initially found that while *rude* is a very high frequency lexeme (18,387 tokens), *impolite* is a very low frequency one (871 tokens). What this suggests is

that these terms vary significantly in their degree of salience for ordinary speakers of English, and thus so do their connotations. *Impolite*, for instance, appears to have a "more formal, a more highbrow flavour" (Culpeper 2009: 77). Systematic examination of collocates of *rude* and *impolite* using Word Sketch (Kilgarriff et al. 2014) – which forms part of a suite of analytical tools offered in Sketch Engine[3] – highlights further differences between these two metapragmatic labels. While *rude* tends to be associated with items that link speakers and their talk, *impolite* is associated with items that link hearers with someone else's talk (Culpeper 2009: 77). In other words, the focus of *rude* is on the speaker and their behaviour, while in the case of *impolite*, the focus is on the effects on the hearer of the speaker's talk or behaviour. What this goes to show is that attempts to assign technical meanings to particular terms in pragmatics can be undermined by the conceptual baggage that such metapragmatic labels inevitably carry in ordinary discourse, a problem that has long been noted by politeness researchers (Watts, Ide and Ehlich 1992).

A paradigmatic perspective identifies recurrent patterns in the semantic prosody of members of a semantic field. In so doing, it offers insights into how members of a semantic field "co-determine one another semantically" (Hübler and Busse 2012: 5). Such relationships are generally examined along two axes: semantic opposition (antonyms) and semantic similarity (synonyms). Systematic studies of semantic fields are thus important since metapragmatic labels clearly do not exist in isolation, but are inevitably related in various ways to other labels. Such research is also important because the relative diversity of such sets is arguably an indication of what social value is placed on the communicative aspect to which they refer. Hübler and Busse (2012) suggest that "as a rule of thumb, we could say the more diversified the set is, the higher is the social significance of the communicative aspect of its members" (2012: 5). This is likely because a more diverse set of metapragmatic labels enables users to make increasingly fine-grained distinctions in their descriptions of a particular aspect of social reality.

A recent study by Culpeper, O'Driscoll and Hardaker (forthcoming) in which they compare clusters of collocates associated with *polite* in British and American English offers an exemplar of the paradigmatic perspective on the metacommunicative lexicon. Using the Distributional Thesaurus (Kilgarriff et al. 2014) – another tool offered in Sketch Engine – they examined similarities and differences in the collocational clusters associated with occurrences of *polite* in the American and British English sub-corpora of the Oxford English Corpus. As Kilgarriff et

[3] For further information about how Word Sketch works, see https://www.sketchengine.co.uk/user-guide/user-manual/word-sketch/. An important feature of Word Sketch is that it enables the analyst to aggregate concordances automatically into collocational groups rather than reviewing them manually. However, it is currently limited to the analysis of single lexemes rather than phrases.

al. (2014) explain, the Distributional Thesaurus tool identifies and aggregates the number of grammatical relationships a particular word shares with its collocates. On that basis, a "word cloud" of collocates can be produced, as well as a numerical index of the relative extent to which these different words can be clustered together.[4] While similarities between the clusters of collocates associated with *polite* in the American and British data were evident in Culpeper et al.'s (forthcoming) study, interesting differences also emerged. For instance, the *sensible* cluster (*straightforward, reasonable, convincing* etc.) was closely associated with *polite* in the British data, but not in the American data. They also noted that *respectful* constituted its own distinct cluster with respect to *polite* in the American data, with that cluster including *compassionate, supportive, constructive, humane*, a finding that in Culpeper et al.'s (forthcoming) view suggests that *respectful* has somewhat different connotations in American English to those in British English.

Much of the most important work in corpus-based metapragmatics on the metacommunicative lexicon to date has been undertaken by historical pragmaticians, with a particular focus on metapragmatic labels associated with interpersonal evaluation. Nevalainen and Tissari (2010), for instance, analysed the collocational properties of three sets of "politeness" words in the 2.2-million-word *Corpus of Early English Correspondence* (CEEC): (a) *civil*, *civility* and related words; (b) *polite*, *politeness* and related words, and (c) *courteous*, *courtesy* and related words, while Jucker, Taavitsainen and Schneider (2012) analysed politeness related vocabulary across the eleven centuries of the Helsinki Corpus. A notable finding in the latter study was that *courtesy*-related vocabulary was most prominent in the period of Middle English (1250–1350). This offers clear evidence that the relative salience of particular metapragmatic labels within the metacommunicative lexicon can vary significantly over time, and is suggestive of larger cultural changes that can be traced over time through methods in corpus-based metapragmatics.

However, despite the common focus on "politeness" in such studies, there is also an emerging strand that has focused on other dimensions of the metacommunicative lexicon. Taylor (2015, 2016a, 2016b), for instance, has examined inferential acts, in particular understandings of *irony* and *sarcasm* across British English and Italian, as we previously noted. In another important strand of work, Culpeper and Hardaker (2016) studied speech acts that were named by users in a corpus constructed from Yahoo Q&A using the UCREL Semantic Analysis System (USAS) tool.[5] What emerged was that apart from the frequent use of speech act labels

[4] For further information about how the Distributional Thesaurus works, see https://www.sketchengine.co.uk/user-guide/user-manual/thesaurus/. Similar to Word Sketch, one current limitation of the Distributional Thesaurus is that it is limited to the analysis of single lexemes rather than phrases.

[5] For further information on USAS, see http://ucrel.lancs.ac.uk/usas/.

associated with *ask, question* and *tell*, as might be expected in this discourse context, other more interpersonally sensitive speech act labels emerged as also being relatively frequent, including *blame, advice*, and *apologise* (2016: 128). They then went on to examine, in more detail, specific instances in which these speech act labels arose in order to tease out possible differences across the different varieties of English represented in the Yahoo Q&A corpus.

Yet despite the existence of these seminal studies, corpus-based studies of the metacommunicative lexicon are still on the whole relatively small in number, and so there is clearly much more cross-linguistic work required. What has clearly emerged from studies to date, from a methodological perspective at least, is that in order to undertake studies of metapragmatic labels, relatively large corpora are required. In some instances, specialised corpora can be constructed in which there are expected to be a greater than average number of tokens of the expression in question. The generalisability of findings about the metapragmatic label(s) studied in the latter case remains, however, more open to question. Another key methodological point to have emerged is that while traditional frequency counts and semi-manual examination of concordances can offer us useful insights, tools that enable researchers to statistically aggregate collocates enable analyses across much larger datasets to be undertaken. For that reason their use is advocated where possible. Finally, while most corpus-based studies of the metacommunicative lexicon tend to start with vertical analyses of large sets of data, almost all of them supplement these more quantitatively-oriented analyses with an analysis of the usage of particular tokens in situated contexts. The latter analyses have demonstrated that users may accomplish different understandings of particular metapragmatic labels that vary in their degree of granularity for particular, locally situated purposes (Haugh forthcoming).

Corpus-based studies of the metacommunicative lexicon evidently have much to contribute to better understanding the conceptual and evaluative fields through which we co-constitute our social worlds. However, given understandings of metapragmatic labels vary in their degree of granularity across different speakers and different occasions, corpus-based studies of the metacommunicative lexicon using relatively abstracted sets of data arguably need to be complemented by studies that examine how such metapragmatic labels are put to work in interaction. It is thus to a consideration of corpus-based studies of metapragmatics in use that we now turn.

4. Corpus-based approaches to metapragmatics in use

Metapragmatics in use involves studying the ways in which participants utilise metapragmatic comments to explicitly "intervene" (Hübler and Bublitz 2007: 1) in ongoing talk. In so doing, a variety of different kinds of pragmatic work can be accomplished. Metapragmatic comments may be deployed, for instance, in order

to "influence and negotiate how an utterance is or should have been heard, or try to modify the values attributed to it" (Jaworski, Coupland and Galasiński 2004: 4). The example we considered in the introduction to this chapter, where one of the interactants claimed to be *just kidding*, constitutes an example of just that. Notably, these kinds of metapragmatic interventions not only contribute to structuring understandings of what is being accomplished by particular talk, but have important moral implications as well. To accomplish something as non-serious by claiming one is *just kidding*, for instance, amounts to a proposal that one is not accountable (or at least less accountable) for the real-world implications of what is meant here (i. e. the content of the tease), and should be evaluated by the target accordingly (e. g. as "non-impolite") (Haugh 2016b). To study metapragmatics in use thus involves examining both the sequential mechanics of such interventions, as well as their interpersonal and moral implications. A guiding question in any study of metapragmatics in use is thus what is being accomplished through the employment of a particular metapragmatic comment in a locally situated context. What corpus-based studies of metapragmatics in use can add to this line of research are systematic ways of identifying recurrent practices associated with different kinds of metapragmatic comments.

Hübler (2011) suggests that there are a number of different analytical foci available to researchers undertaking corpus-based studies of metapragmatics in use. The first concerns the "object" of the metapragmatic comments. These range from more generic topics, such as the "norms of conversation", including "participation in conversation", through to more specific objects, such as the pragmatic acts, meanings, attitudes and evaluations, and so forth that are being accomplished by those users at that moment of interaction (or in a prior interaction). The second concerns the interactional "function" of the metapragmatic comment, that is, what is being accomplished through intervening at that point in the interaction. While metapragmatic comments are commonly associated with attempts to prevent or repair misunderstandings, or to secure particular understandings, their functions are, as Hübler and Bublitz (2007) point out, much more varied than that. Indeed, they are often associated with attempts to manage identities, evaluations of self and others, and interpersonal (dis)affiliation. The third locus of analysis concerns the "target" of the metapragmatic comment, that is, whose talk or conduct is the object of attention. As with all communicative interaction, there can, of course, be multiple targets at play. Finally, analysts can focus on the "form" of the metapragmatic comments themselves. These range, according to Hübler (2011: 111–113) from categorical or modalised assertions and questions through to reported talk, including echoic repeats of prior talk.[6]

[6] On most accounts of metapragmatics, adverbials and other pragmatic markers, are also included in this list. However, given that corpus-based approaches to discourse markers

We can see how these different analytical loci coalesce in the following excerpt from an interaction where two Australians are getting acquainted. Emma has been talking about her acupuncture business for some time up until this point in their conversation.[7]

(2) AGA: ERCH: 13:31

263 E: much better he's gonna get we'll just keep going with
264 it and see how (0.3) how we go
265 C: mmm
266 (0.4)
267 E: mmmm
268 C: right. ↑what got you into it? like (0.8) what made you
269 think acupuncture [( )]
270 E: [THIS IS ALL ABOUT ME] THIS
271 CONVERSA(H)TION
272 C: yeah well whatever
273 E: .hhhh u:m
274 (1.5)
275 E: ↑oh. (0.6) >is that a< timer?

Emma's utterance in lines 270–271, which is delivered at a markedly louder volume, is an example of a metapragmatic comment directed at norms of conversation, particularly those associated with the activity of getting acquainted, where there is a general orientation to reciprocity (Haugh and Carbaugh 2015: 481–482). What is notable here is that while the object of the metapragmatic comment is a fairly generic one, the interactional work it accomplishes here is clearly locally situated. In this case, Emma seems to be attempting to head off the inference by Chris that she likes talking about herself and has no interest in him. What is also interesting to note here is Chris's response in line 272 where he displays "unease" with the way in which Emma has topicalised his ongoing questioning of her. The conversation breaks down at this point (lines 273–274), with Emma subsequently asking whether their recording time is up (line 275). This is all the more notable given there has been no breakdown in progressivity in their interaction thus far. It appears, then, that metapragmatic comments not only orient to potential interactional "troubles" in conversation, but may themselves occasion such "troubles".

Corpus-based studies of metapragmatics in use can draw from either purpose-built corpora or pre-existing corpora (or a combination of both). Tanskanen's

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and other such forms are examined in depth elsewhere in this volume (Aijmer, this volume), they are not discussed further here.

7 This example is taken from the Australians Getting Acquainted (AGA) corpus. See the appendix for a list of the CA transcription conventions (Jefferson 2004) being used here.

(2007) study of metapragmatic comments that arise in electronic mailing lists and discussion boards is an example of the former. In her study, Tanskanen assembled a corpus of interactions from two mailing lists (*Linguist List* and *Women's Studies List*) and two discussion boards (*Dachsie's Bulletin Board* and *Yahoo! Message Boards*). She then identified instances of metapragmatic comments that oriented to the "effective" management of discourse in her corpus through a primarily discourse analytic-driven process. A key finding from her study was that in computer-mediated interactions, at least in these contexts, participants use metapragmatic comments to either assess the degree of (in)appropriateness of their own posts or those of others, or to clarify their own posts where they perceive some misunderstanding to have occurred.

Increasingly, however, researchers are drawing from pre-existing corpora as well. In cases where the corpus in question is large and well-structured, this confers a greater degree of generalisability on the findings of the study in question. Jucker and Taavitsainen (2014), for instance, undertook an analysis of the occurrence of the speech-act label *compliment* in the 400 million word *Corpus of Historical American English* (COHA) (Davies 2012), and in a sample of the 425 million word *Corpus of Contemporary American English* (COCA) (Davies 2009).[8] These tokens were then double-coded as to whether they were referring to instances of "personal" or "ceremonious" compliments, along with noting the gender of the complimenter and the complimentee. One intriguing finding from this study was that in the historical dataset taken from COHA there was a greater proportion of reports of men issuing compliments. This contrasts with previous findings that women compliment more frequently than men in American (Placencia and Lower 2013; Wolfson 1983) and New Zealand (Holmes 1988) varieties of English.

In another study, Skalicky, Berger and Bell (2015) examined the functions of claims to be *just kidding* (and related expressions) in interactions amongst American speakers of English. Their collection of 1,200 tokens was assembled from a number of different corpora, including the 425 million word *Corpus of Contemporary American English* (COCA) (Davies 2009), the 385 million word American English component of the 1.9 billion word *Global Web-based English Corpus* (GloWbE) (Davies 2015),[9] the 250,000 word *Santa Barbara Corpus of Spoken American English* (SBCSAE) (Du Bois et al 2000–2005),[10] the 250,000 word *CallFriend American English* corpus (Canaven and Zipperlen 1996a, 1996b),[11] and the

[8] These corpora are freely available at http://corpus.byu.edu/coha/ and http://corpus.byu.edu/coca/, respectively.

[9] This corpus is freely available at http://corpus.byu.edu/glowbe/.

[10] This corpus is freely available at http://www.linguistics.ucsb.edu/research/santa-barbara-corpus.

[11] This corpus is freely available at https://talkbank.org/access/CABank/CallFriend/engn.html and https://talkbank.org/access/CABank/CallFriend/engs.html.

1.8 million word *Michigan Corpus of Academic Spoken English* (MICASE) (Simpson et al. 2002).[12] The various functions of claims to be *just kidding* were then coded as instances of "inoculation" (i. e. against negative reactions from the target), "repair" of failed humour, "return to serious", and "setting up a new joke". A notable finding from the quantitative analysis of these different functions was that "repair" was not as common a function of the expression as generally expected, with "inoculation" being the most common across the different corpora. Another interesting finding was that using *just kidding* to set up a new joke by subverting the target's expectations through following this claim with an extension of the previous joke was largely restricted to communications in digitally-mediated settings (i. e. the GloWbE corpus).

There is now a growing body of corpus-based studies of metapragmatics in use. For the most part, corpora are used primarily as a source of data in such studies, given the relative ease with which metapragmatic comments can be identified across large tracts of data. Once a collection of metapragmatic comments in a particular discourse context is assembled, the next step typically involves qualitative analysis of their functions, and subsequently coding of these functions across the collection. The latter is generally expected to involve more than one coder to avoid overly idiosyncratic interpretations of the dataset. Once the dataset is coded, the researcher can then examine whether there are recurrent patterns in the metapragmatic comments themselves, or explore correlations with particular social or discourse variables.

It is perhaps inevitable that corpus-based studies of metapragmatics in use are more qualitatively-driven than the studies of the metacommunicative lexicon that we discussed in the previous section. However, like all corpus-based metapragmatic studies, the analytical process is nevertheless firmly iterative, as it generally involves a combination of vertical and horizontal methods of analysis. The extent to which the former or latter drives the analytical process is a function of the specific research questions of the analyst (Jucker 2009). Striking a balance between the two, however, is not always a straightforward matter.

In the following section, we move to consider some of the methodological challenges that arise when undertaking corpus-based metapragmatics, as well as to discuss in more detail the iterative analytical process that is a feature of such studies. The vehicle for this is a brief case study that focuses on the metapragmatics of claims to non-serious intent amongst American and Australian speakers of English.

[12] This corpus is freely available at https://quod.lib.umich.edu/m/micase/.

5. The metapragmatics of claims to non-serious intent: A case study

A key feature of the methods underpinning corpus-based metapragmatics, as with corpus pragmatics more generally (Clancy and O'Keeffe 2015: 235; Rühlemann and Aijmer 2015: 12), is that it should be a fundamentally iterative process that integrates horizontal and vertical approaches to analysis. One issue that we have skirted around, however, is "which" analytical approaches should we be attempting to integrate? Such choices are often driven by practicalities as one can only choose from methods with which one is familiar with (or at least has the resources to learn), as well as by one's own individual proclivities as a researcher (Walsh 2013). However, as the other chapters in the volume in which this chapter appears attest, there is a wide range of methods from which one can choose. Indeed, drawing from a range of different methods is invariably a necessity in pragmatics, given it is not realistic to hope that a single method can address all the possible research questions in the field (Jucker 2009).

In the case of corpus-based metapragmatics, while the array of quantitative methods are perhaps more clearly circumscribed, as we discussed in the previous two sections, it is less obvious which qualitative approaches to the interpretation of metapragmatic data might be employed alongside these vertical approaches. It is also not always made clear by researchers the extent to which quantitative analyses drive qualitative analyses, and vice-versa, in their studies. Finally, the ecological validity of drawing from different methods can come into question in some cases. As researchers it is important to bear in mind the epistemological assumptions underpinning different methods, and to assess the extent to which they are consistent with each other. Indeed, in cases where the latter are not consistent, problems can result in relation to the extent to which data are readily transferable and analyses readily reconcilable between the different methods.

In order to begin considering some of these issues in more concrete terms, in the remainder of this section we will use previous studies of claims to non-serious intent (*just kidding*, *just joking*, *only kidding*, *only joking* etc.) in everyday interactions amongst American and Australian speakers of English (Haugh 2016b, 2017; Skalicky, Berger and Bell 2015) as a focal point. We will begin by first considering their status as metapragmatic labels, and what a corpus-based approach might offer to furthering our understanding of them. We will then move to consider how the use of different qualitative approaches in these particular studies generated somewhat different, albeit broadly complementary findings, and the more general challenges this raises for corpus-based metapragmatics.

One issue that all three of these studies did not directly address was that of the status of these metapragmatic labels with respect to the broader "humour"-related metacommunicative lexicon. While it was acknowledged that there may well be nuanced differences in "meanings" amongst these different metapragmatic labels, in practice their "use" in metapragmatic comments was treated as more or less

interchangeable in these studies. Yet ascertaining what those meanings might be is no straightforward matter. For instance, while there is work that attests to differences in the semantics of *kidding* and *joking* (Goddard forthcoming), it remains subject to further empirical study whether these shades of meaning are retained across different discourse contexts, including when used in such phrases as *just kidding*, *only kidding*, *just joking*, *only joking* and so on.

Of course, if one assumes that the meanings of (specific senses of) words are more or less invariant across contexts, such a question might seem somewhat puzzling. However, it has long been argued that language is not a determinate object (Harris 1980; Garfinkel and Sacks 1970; Wittgenstein 1972). While "meanings" can, of course, be abstracted out from the usage of words across contexts, it does not necessarily follow that the participants' understandings of that word in a particular locally situated context is determined by such abstractions. In practice, users can accomplish understandings of the meanings of particular words to varying degrees of granularity (Bilmes 2011; Haugh 2016a, forthcoming; Rowen and Haugh 2017), as their accomplishment as meanings is invariably interlinked with "handl[ing] some local, situational, contingent matter" (Eglin 2015: 142). In order to address such issues empirically, then, corpus-based analyses of these sorts of metapragmatic labels is a must.

Two key challenges facing any researcher attempting to do this, however, are: (1) identifying a sufficiently large number of tokens that affords just such an analysis; and (2) applying tools to any such dataset which enable a proper statistical analysis of their collocational behaviour. While Skalicky, Berger and Bell (2015), for instance, identified 1,200 tokens, 90% of these tokens involved occurrences of *kidding*. The remaining 10% of tokens involved occurrences of *joking* (2015: 21), but it was not reported what proportion of these 120 tokens were instances of *just joking*, *only joking* or *joking*. It thus remains questionable whether an empirical analysis of possible differences between these different metapragmatic labels is even feasible using their dataset given the small number of tokens involving *joking*, despite their search involving more than 800 million words across the different corpora. In order to address such issues, then, it appears we must make recourse to large web-based corpora, such as the 1.9 billion word *Global Web-based English Corpus* (GloWbE) (Davies 2015) or the larger, but relatively unstructured, 23 billion word *enTenTen13 Corpus* (Jakubíček et al. 2013).[13] Searches for these metapragmatic labels in GloWbE reveal some potentially interesting differences in their relative frequency of occurrence in the American and Australian English components of the corpus, which are echoed in the results of a search in the enTenTen13

[13] The latter is freely available to subscribed users of Sketch Engine. See https://www.sketchengine.co.uk/ententen-corpus/ for further information.

corpus, as outlined in Table 1. The raw frequencies are reported along with normalised frequencies (per million words) in brackets.

Table 1: Relative frequency of tokens of [*just/only*] [*joking/kidding*] in the GloWbE and enTenTen13 corpora

	GloWbE		**enTenTen13**
	AmE	AusE	
just kidding	741 (1.92)	124 (0.84)	12,419 (0.54)
only kidding	49 (0.13)	20 (0.13)	1,393 (0.06)
just joking	108 (0.28)	35 (0.24)	2,461 (0.11)
only joking	53 (0.14)	44 (0.30)	1,675 (0.07)

It is readily apparent that *just kidding* is the collocation most frequently used by both American and Australian users of English, although it appears to be used more frequently by Americans. *Only joking*, on the other hand, seems to be used more frequently by Australians than Americans, albeit at lower levels overall. However, more detailed analyses of these metapragmatic labels remain more challenging. The Word Sketch and Distributional Thesaurus tools in Sketch Engine, for instance, can only be applied to *kidding* and *joking* as individual lexemes, not to analysing their collocations.

A second key issue for corpus-based metapragmatics that becomes apparent when one compares these studies concerns their approach to analysing the functions of these metapragmatic labels and the data itself. While Skalicky, Berger and Bell (2015) coded the functions of *just kidding* and variants using the data as it was presented in the various corpora in question, Haugh (2016b, 2017) undertook more detailed CA transcriptions of the relevant excerpts using the audio files that were available in order to undertake a CA-informed analysis. The latter more detailed transcription lent itself to a close sequential analysis that revealed additional features of the use of *just kidding* and variants that was not apparent from coding the data as it is made available in the various corpora in question, although, as a consequence, involved analysis of a smaller sample of data.[14]

Consider the following more detailed transcription of the example we discussed in the introduction to this chapter.

[14] It is important to note that Skalicky, Berger and Bell (2015) also used web-based data (GloWbE), in which case transcription is not required.

(3) CallFriend: engn6015: 3:08

102	F1:	I wrote a children's book (0.4) and (0.6)
103		I'm really happy with the way it turned out? and like,
104		>I ↑did it for my final project< for a- for a ↑final
105		project, in this .hh in this ↑class, like [you can].
106	F2:	[uh huh].
107	F1:	basically you can do anything, it's like a
108		children's >literature class< .hh so I wro:te a (.)
109		a story.=
110	F2:	=talk clearer they're recording us I'm just kid-=
111	F1:	=ohh [huh huh .hhh and]=
112	F2:	[Go o(hh)n I'(hh)m just kidding]=
113	F1:	=no:w I'm starting to illustrate it? .hh

If one compares the transcript in excerpt (1) with this one, it becomes readily apparent that they do not record exactly the same thing.[15] Of particular relevance to our understanding of what *just kidding* is doing here in this excerpt is the occurrence of *oh* in line 111 – which does not feature in the more basic transcript – whereby Jess displays she has reached a new understanding (Heritage 1984), alongside the proposal that Jess *talk clearer* (line 110). This is followed by laughter through which Jess displays an orientation to Cathy's utterance in line 110 as a non-serious tease (Drew 1987), and then a return to continuing her telling (lines 111, 113), following prompting by Cathy to do so (line 112). This display of a change in understanding indicated through the particle *oh* is arguably significant, as it is consistent with a recurrent pattern in teases where the claim to be *just kidding* (and variants) is constitutive of the prior action as a tease (Haugh 2016b). In other words, we have evidence from Jess's response that Cathy's tease was designed to be initially heard as "serious" before its "non-seriousness" is subsequently revealed through this claim to be *just kidding*. The use of this metapragmatic label here is thus not so much an instance of repair, although it can certainly be construed as such by the analyst, as it is a constitutive part of the teasing sequence itself. If one is interested in understanding the different practices by which teasing is accomplished in interaction then such details are important. However, if one's focus is on what such metapragmatic labels do more globally then such details are less relevant.

Ultimately, then, the method of qualitative analysis one should employ, in conjunction with a more quantitatively focused one in undertaking studies in

[15] It is worthwhile noting that this is not by any means the only case in which such discrepancies have arisen. However, it is important to also bear in mind that such discrepancies are a consequence, at least in part, of the affordances of different transcription systems, alongside what appear to be errors on the part of the transcriber(s). The latter are, of course, difficult to completely eliminate when constructing spoken corpora,.

corpus-based metapragmatics depends upon one's research focus and attendant research questions. It is well worth noting, however, that transcriptions in spoken corpora are not always straightforward records of the original interaction, despite considerable effort on the part of those who create such corpora. What the existence of such discrepancies highlights is the importance of making available the original recordings of spoken interactions alongside transcripts held in the corpus (Haugh 2009). In so doing, spoken corpora will arguably become more useful for those wishing to undertake corpus-based metapragmatics.

6. Concluding remarks

The focus in corpus-based metapragmatics is not on identifying instances of the pragmatic phenomenon that is being described by the metapragmatic label in question,[16] but rather on talk about pragmatic phenomena as an important object of study in its own right. What corpus-based metapragmatics offers us is a way of studying this kind of talk in a systematic way across large tracts of data, which, as a result, confers on the results of the analysis a greater degree of generalisability than they might otherwise have. Metapragmatic studies are important because they enable us to tap into the conceptual and evaluative field through which we constitute our understandings of social reality. This is of particular importance when one wishes to take more seriously pragmatic variation. It is clear that pragmatics is not only subject to significant cross-linguistic variation, but also variation at other levels of order, as well as over time not only across languages, but within languages themselves. What is needed, therefore, is the development of a variational metapragmatics that treats this variability as a serious object of study. While important studies have already been undertaken, as we have seen in this chapter, there is nevertheless still a pressing need for many more studies of the metacommunicative lexicon and metapragmatics in use across different languages, and varieties therein, as well as over time. In this way, we can go beyond the constraints of a pragmatics that is largely dominated by English as the scientific metalanguage. Corpus-based metapragmatics is arguably uniquely placed to make a critical contribution to the development of this field.

[16] See Jucker (this volume) for a useful discussion of this approach in corpus pragmatics.

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Appendix

CHAT-CA transcription conventions **(MacWhinney 2000)**

.	final intonation
,	continuing intonation
→	level intonation
↗	rising to mid intonation
hhh	aspiration
(0.5)	pause length
+≈	no break continuation (i. e. latched talk)
⌈	top begin overlap
⌉	top end overlap
⌊	bottom begin overlap
⌋	bottom end overlap

CA transcription conventions **(Jefferson 2004)**

.	final intonation
,	continuing intonation
?	rising intonation
↓ ↑	sharp falling/rising intonation
:	elongation of vowel/consonant sound
underlining	contrastive stress or emphasis
> <	talk is compressed or rushed
(.)	micropause
(0.5)	timed gap/pause
=	latched talk
-	cut-off talk
[ ]	overlapping talk
hhh	aspiration
(hh)	interpolated aspiration
.hhh	inbreathing

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