Abstract

This dissertation explores the interplay of conventional and interactional factors in the interpretation of natural language utterances. It develops a formal framework, dynamic pragmatics, in which pragmatic inferences arise as contextual entailments in a dynamic system in which information states are updated with information about the occurrence of utterance events (in contrast to dynamic semantics, where information states are updated with the content of linguistic expressions). In this way, the framework is able to faithfully model Gricean pragmatic inference as interlocutors' reasoning about each other's utterance choices.

Linguistic utterances are analyzed as having essential effects of two distinct types: Epistemic effects (i.e., effects on the information states of the interlocutors) and normative effects (i.e., effects on the interlocutors' commitments). The latter effects are carried by extra-compositional, normative conventions of use that mediate the form–force mapping; the former arise largely due to the interlocutors' presumptions about each other's beliefs, preferences, and method of determining which (utterance) actions are best (i.e., practical reasoning).

The framework of dynamic pragmatics allows us to consistently take a thoroughly Gricean perspective on language use, and allows us to explore how the interpretation of an utterance arises through the interplay of sentential force, content, and context. At the same time, the framework of dynamic pragmatics sheds a new light on the nature of conversational implicature, and language use in general.

Acknowledgements

There is nothing I can do about it: This paragraph is going to fall short. There is no way to express how much I owe Cleo Condoravdi, and how grateful I am to her, for being my teacher, advisor, mentor, and collaborator. Whenever one leaves a place, there are people and things one leaves behind that one rather would not. I have left many places, but I feel I have never left behind anything so valuable as I will when I leave Stanford and will no longer able to work closely with Cleo. I will miss her guidance, her understanding, her generosity, her insight . . . my words fail me, so I have to say it simply. Thank you, Cleo.

While Cleo's influence on this dissertation cannot be overstated, Chris Potts also shaped it in many crucial ways. I am indebted to him for his help, advice, encouragement, guidance, enthusiasm and expertise, all of which he has always given freely and generously. He has taught me a lot, and his help was essential in making this dissertation, and its completion, a possibility. And I am grateful to Paul Kiparsky for many valuable comments, for his useful skepticism, and for many helpful discussions. I feel very lucky to have had Cleo, Chris and Paul as my dissertation committee.

I am also grateful to my former teachers, who have all influenced my thinking about the topics of this dissertation: Paul Dekker, Robert van Rooij, Jeroen Groenendijk, Frank Veltman, Peter Bosch, Carla Umbach and Graham Katz.

The ideas that form the basis for this dissertation have gestated in my mind for a long time, and so there are many colleagues and friends who have influenced them over the years. It would be futile to try and compile a complete list, but a few of them deserve special mention. In the following pages, Michael Franke will

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Chapter 1

Introduction

This dissertation is about pragmatics, in a broadly Gricean sense. It is not a dissertation about conversational implicatures, at least not in the classical sense of the term. Implicatures will play a role (Chapter 9 is dedicated to the them), but they are not the central topic. A large part of the dissertation will focus on a question that may seem quite un-Gricean, due to its focus on *linguistic convention*: What kind of linguistic convention makes it so that sentences of different types—such as declaratives, interrogatives and imperatives—are used in different ways, and support different kinds of pragmatic inferences?

This question, however, will be addressed from a very Gricean angle. Pragmatic inference is construed as language users' reasoning about utterance events. Or, more precisely, as language users' reasoning about how utterance events are *chosen*. A central aim of this dissertation is to show that consistently taking such a perspective is fruitful, indeed, necessary if we want to understand language use. The dissertation develops a formal framework, Dynamic Pragmatics, that enables us to consistently take such a Gricean perspective.

1.1 Going beyond conversational implicatures

Of course, in the theory of Grice (1975), conversational implicatures *are* (intended) inferences about utterance choices. But implicatures, at least as they are usually

understood, are only a special case of such inferences. And limiting oneself to the study of implicature excludes a large number of interesting phenomena from consideration.

Firstly, the classical cases of implicatures are almost always *strengthening inferences*.[1] A speaker utters a declarative sentence, and communicates its truth-conditions. Implicatures are *added* to this communicated meaning.

But not all inferences about utterance choice are of this kind. There are also inferences *weaken* the conveyed content. This is what happens in what Lasersohn (1999) calls Loose Talk, when a speaker utters a sentence like (1.1) in order to convey that Mary arrived around three o'clock.[2]

(1.1) Mary arrived at three.

In other cases, what is conveyed by an utterance is neither a logical strengthening nor a weakening of the semantic meaning of the sentence. This is what happens if the audience has reason to doubt the speaker's honesty. If such a speaker utters (1.1), the hearer will not come to believe its semantic content, but he will still draw inferences about why the speaker said what he said (in the way that he said it, at the time that he said it).

Secondly, the Gricean theory of implicature, as originally introduced and usually understood, presupposes a theory of how sentences of different types get associated with their force. The theory starts from the idea that a speaker uttered a declarative sentence *in order to convey information*, that is, in order to make the hearer believe that the truth-conditional content of the sentence is true. But the force of a given sentence, of a given type, in any given context, depends in part on the inferences hearers draw about the speaker's utterance choice. Taking a broader perspective on pragmatic reasoning allows us to model such cases.

Thirdly, in construing pragmatic theory as the study of conversational implicature, somewhat paradoxically, one runs a considerable risk of misunderstanding

[1] There is one notable exception, viz., instances where the quality maxim is flouted, as in **And I'm a monkey's uncle**.

[2] Loose talk will play a crucial role in Chapter 4, in particular Section 4.7.

conversational implicature itself. That is because it is tempting to think of implicatures not as instance of reasoning about language use, but rather to view them as just another kind of implication an utterance may have. That is, it is easy to slip into moving from the perspective articulated in (1.2) into the perspective articulated in (1.3), or even the one articulated in (1.4).

(1.2) *The 'inside' perspective*
Grice taught us that is useful and necessary to think of language use as a species of purposive human behavior. Implicatures are inferences that arise due to interlocutors being aware of this. Their properties follow from the way we derive them.

(1.3) *The 'outside' perspective*
There is a process/module that generates implicatures. Grice gave a theory of how this process/module works and taught us that they have certain properties (optionality, cancelability, non-detachability . . .).

(1.4) *The 'just another implication' perspective*
Conversational implicatures are implications just like at-issue entailments, presuppositions, conventional implicatures etc., which happen to have certain properties, like optionality, cancelability, non-detachability . . .

I don't mean to deny that the 'outside perspective' is useful. It is a convenient abbreviated way to think of pragmatic inference, and it allows us to set aside the details of pragmatic theory when we are working on other issues.

However, I maintain that if we are taking the 'outside' perspective, we have to keep in mind that we have taken a conceptual shortcut, and that the inferences we take for granted arise in a complex manner from factors that influence language use in general.

And I think it is hardly ever prudent to take the 'just another implication' perspective. This perspective obscures the difference between semantic facts (i.e., facts about the grammar of the language) and pragmatic facts (i.e., facts about language use). This is problematic because the reasoning giving rise to pragmatic

facts is operative on *every* occasion of language use, not just in cases where an identifiable implicature arises. It is easy to overlook this fact if one does not carefully distinguish between semantic and pragmatic implications. As I will argue, this has led to consequential misunderstandings about the nature of conversational implicature, both about what Gricean theory predicts them to be like and about how they behave empirically.

1.2 The centrality of clause typing

Clauses of different types have different uses, and they license different kinds of pragmatic inferences. A declarative like (1.5a) is typically used to convey information, an interrogative like (1.5b) is typically used to request information, while an imperative like (1.5c) is typically used to get the addressee to do something.

(1.5) a. You will come tomorrow. (declarative)
b. Will you come tomorrow? (interrogative)
c. Come tomorrow! (imperative)

There must be something *conventional* about this association of a certain class of expressions with their use, and a large part of this dissertation will be concerned with the question what this conventional association is like. This focus on the issue of clause-typing is motivated by two considerations.

Firstly, there is surprisingly little work on the conventional link between clauses of different types and their use, at least in the formally-oriented semantics literature. There was some early work on this issue in philosophy (e.g., Lewis (1975)), but soon, it seems, researchers abandoned the issue. In part this was likely due to the fact that the dominant paradigm in speech act theory (i.e., that of Searle (1969, et seq.)) made the project of assigning a conventionally-specified use to sentences based on their type seem hopeless: Sentences of any given type can be used to perform acts of almost any given Searlean illocutionary type. Perhaps because of this, work in linguistics has often focussed on declarative sentences, and tried to approach other

sentence types mainly by studying their embedded occurrences. Only in the last decade or so has there been renewed, sustained interest in understanding the uses of various clause types in the formal semantics literature.[3] Developing a systematic framework for studying the conventionally specified use of sentences of different types is thus a very timely project.

Secondly, it is this conventional connection between sentences and their use that connects *semantic content*, as it is studied in linguistics, with language use, and inferences about utterance choice. As I just pointed out, the classical Gricean account of implicatures starts from the assumption that a speaker utters a (declarative) sentence in order to convey information, and thus, as I argue in Chapter 3, presupposes an answer to the question of how sentences are conventionally associated with a certain use. And if we want to take a Gricean perspective more generally—if we want to investigate how interlocutors reason about each other's action choices—we need to know how the contents we study in linguistic semantics relate to the use of sentences. An understanding of clause typing thus is central to developing a formal framework that lets us take a pragmatic perspective in general.

1.3 Two kinds of Griceanism

I have said that this dissertation takes a Gricean perspective on language use. This is correct insofar as it construes pragmatic inference as interlocutors' reasoning about each other's utterance choices.

In another way, however, this dissertation takes a rather un-Gricean perspective. It does not involve any central appeal to the notion of *intention* and it does not construe communication and pragmatic inference as being essentially intention-recognition. This is un-Gricean, as Grice famously developed an account of speaker meaning that analyzed the concept in terms of intention (Grice 1957, Grice 1969, Grice 1982). To mean something, for Grice, was to have an intention; to understand

[3] e.g., Portner (2005, 2007), Schwager (2006), Davis (2009, 2011) Kaufmann (2012), Condoravdi and Lauer (2012) on imperatives; Zanuttini and Portner (2003), Rett (2008, 2011), Castroviejo Miró (2008) on exclamatives; Gunlogson (2003, 2008), Groenendijk and Roelofsen (2009), Davis (2009, 2011), Farkas and Roelofsen (forthcoming) on declaratives and interrogatives.

what someone means was to recognize the corresponding intention.

Now, I do not doubt that when Grice (1975) presented his theory of conversational implicature, and made clear that, for him, a speaker implicates something if he *means* it (but does not *say* it), he had in mind just this kind of speaker-meaning-as-intention. But it seems to me that the basic idea of his account of pragmatic reasoning as reasoning about utterance choices is quite independent from the idea that intentions and their recognition are central to language use.

I do not want to make a grand claim that intentions are irrelevant to understanding language use (and, undoubtedly, in certain circumstances they are), but I will not start from the assumption that intentions are central. Throughout this dissertation, I will occasionally raise the question whether anything crucial has been left unsaid because I have not appealed to intentions, and the conclusion will generally be that it has not. This does not establish the negative claim that intentions are not central to pragmatic reasoning, but it raises the question whether intentions and intention recognition is central to the kind of questions this dissertation aims to answer.

Griceans of a more linguistic bent (e.g., Levinson (2000)) are sometimes accused by Gricean philosophers (e.g., Bach (2012)) of confusing epistemological issues with ontological or metaphysical ones. For example, they are accused of confusing the question of how an addressee can infer the existence of an intended inference with the issue of how it is determined (in the metaphysical sense) whether there is an intended inference. I am sure this charge is sometimes warranted, but I am not certain it is *always* the linguists who are confused. Instead, in many cases, it seems to me that linguistic pragmaticists simply talk about, and are mainly interested in, the 'epistemological' issue of how inferences are derived on the part of the interlocutors and have nothing to say about metaphysical or ontological issues. If a philosopher reads such a linguist's work on the assumption that the linguist is talking about ontological or metaphysical issues, it is not surprising that he will think the linguist is confused.

In large part, this dissertation takes the 'epistemological' perspective, at least as far as pragmatic inference is concerned. I am interested in how interlocutors reason

about each other's utterances, what they learn from each other's utterances, and in how far what they learn is based on their *linguistic* knowledge as opposed to their knowledge about how other people generally behave. This is likely part of the reason why intentions do not seem to play such a great role in the questions I am investigating, while philosophers like Grice and Bach take them to be so central. They are investigating questions different from the ones I am concerned with here.

1.4 Utterance choice and dynamic pragmatics

The framework of Dynamic Pragmatics developed in this thesis aims to faithfully treat pragmatic inference as interlocutors' reasoning about utterance choice. Utterance choice is construed as an instance of action choice in general. As such, this dissertation is of a piece with recent game-theoretical approaches to pragmatics (Parikh 2001, van Rooij 2004, Benz and van Rooij 2007, Jäger 2007, Franke 2009, Jäger and Ebert 2009, Franke 2011, Jäger 2012, a.o.). It differs from these approaches in two ways. Firstly, it largely abstracts away from the question what the correct 'decision procedure' is that we should assume agents are using when deciding which (utterance) action to perform, while these approaches generally make very specific assumptions about the decision procedure. Secondly, in this dissertation, I will mainly be concerned with the question what *conventional* constraints on use there are, while game-theoretic treatments usually ignore this question.[4] I see the framework developed here as largely *complementary* to these game-theoretic approaches, rather than as an alternative to them.

Besides being strongly inspired, as the game-theoretic treatments are, by Grice's work, the framework developed here also owes much to the work of Stalnaker (1978, et seq.) and that of other authors building on his insights. Stalnaker's conception has sometimes been referred to as 'dynamic pragmatics' (e.g., by Schlenker (2010, p. 390)), though I am not aware that Stalnaker has used the label himself. As

[4]Most game-theoretic models of pragmatics employ a semantic interpretation function that is assumed to be given by convention, but they do not invoke any conventional constraints on use proper.

in Stalnaker's work, a crucial role is played by interlocutors *public beliefs* (though I construe this notion somewhat differently, cf. Chapter 4) and how they get updated in the course of a conversation. The conception offered here differs in that it assumes that there also are *public preferences*, and in that it emphasizes the *normative character* of both notions. Finally, it explicitly models *action choice*, and reasoning about action choice, which doesn't usually play a big role in Stalnaker's writings on language.[5]

1.5 Overview of the dissertation

The following chapters develop a formal framework for pragmatic reasoning that integrates an articulated theory of clause typing and applies the framework to a number of phenomena. The first five chapters alternate between introducing the formal set-up and conceptual and empirical considerations that motivate it, while the chapters thereafter apply the framework to specific phenomena. The progression is as follows.

Chapter 2 introduces the basic idea of a dynamic pragmatics as the term is understood here, and sets up the basics of the formal framework. The exposition uses as its running example a very simple pragmatic inference, viz., the inference to the truth of a declarative utterance.

Chapter 3 introduces some of the basic questions raised by the existence of different clause types. It argues that the association between sentences of different types and their uses must be conventional in nature, and lays out some basic assumptions about clause typing that are made in this dissertation.

Chapter 4 focuses on declarative sentences. It explores various hypotheses about what their conventionally-specified use is, and what kind of convention specifies it. The chapter concludes with an informal characterization of my own

[5]Of course, it does play a big role in his writings on the epistemic foundations of game-theory (Stalnaker 1994, Stalnaker 1996), which also have shaped, though more indirectly, some of the ideas in this dissertation.

proposal, building on work in Condoravdi and Lauer (2011, 2012) and Lauer (2012). Utterances of declaratives are argued to commit their speaker to a belief in the truth of the uttered sentence.

Chapter 5 extends the framework introduced in Chapter 2 with the tools necessary to formally implement the theory of declaratives proposed in Chapter 4. Action choice, preferences and commitment. The chapter concludes with reconstructing the account of the pragmatic inference in Chapter 2.

Chapter 6 moves beyond declarative sentences. The main focus is on *imperatives*, which are claimed to commit their speaker to a *preference* instead of a *belief*. The main focus of the chapter is to demonstrate that the framework of dynamic pragmatics allows us to show how the varied uses of imperatives arise in context from an interaction of semantic content, sentential force, and interactional reasoning.

Chapter 7 takes up the issue of *explicitly performative utterances*, which have played a great role in speech act theory. It integrates the analysis of Condoravdi and Lauer (2011) into the current framework, and shows how the central properties of these sentences arise straightforwardly from an interaction of the proposed lexical meanings with the pragmatic system.

Chapter 8 offers some preliminary considerations on the question whether *all* conventional constraints on use should be understood in terms of commitments, as the previous chapters have proposed for declaratives, imperatives and interrogatives. I argue that this is not the case, and that we should recognize different kinds of conventions, of the kind proposed by Lewis (1969), in particular for *exclamative sentences* and various 'expressive' items.

Chapter 9 deals with conversational implicatures. It shows how some standard cases can be treated in the framework of dynamic pragmatics, mainly to illustrate how various 'optimization-based' theories of implicatures (including the game-theoretic ones mentioned above) fit into the current set-up. The chapter

then goes on to show how the framework of dynamic pragmatics lets us appreciate a significant, and surprising, prediction that such optimization-based theories (including Grice's own) make. Gricean pragmatic inferences can be *mandatory*, i.e., neither cancelable nor optional. This has significant consequences, both because optionality and cancelability have often been used as tests for implicature-hood, and because it potentially extends the domain of Gricean pragmatics in a significant way. Phenomena that usually have been taken to be outside the reach of Gricean explanations may be amenable to a Gricean treatment after all.